Chapter 1

1. The immune dysregulation associated with hereditary polyendocrinopathies is due to which of the following?

A. B-cell maturation arrest in the bone marrow

B. Failure of CD8-T cells leaving the thymus

C. Failure of T regulatory cells to suppress immune responsiveness

D. Failure of immunoglobulin class switching

E. Lack of appropriate T-cell responses to regulate endocrine gland function

Answer: C

The hereditary polyendocrinopathies are associated with immune dysregulation and autoimmunity due to abnormalities in T regulatory cell differentiation. T reg cells leave the thymus as CD4□□cells and are responsible for controlling exuberant T-cell responses as well as identifying and helping clear autoreactive T cells in the peripheral blood. Failure of T reg cell differentiation leads to T-cell overresponsiveness and persistence of autoreactive cells, which can lead to autoimmune disease. While B-cell function is affected by T-cell function, these disorders are not due to B-cell lineage dysfunction. Tcell responsiveness is critical in controlling infection and in immune surveillance, but are not directly responsible for the endocrine gland function.

2. All of the following statements are true regarding malnutrition, EXCEPT?

A. Height for age reflects acute malnutrition

B. Malnutrition includes both undernutrition and overweight.

C. The greatest risk of undernutrition in children occurs during pregnancy and in the first 2 years of life.

D. Weight for height, or wasting, is a measure of acute malnutrition.

Answer: A

The greatest risk of undernutrition occurs during pregnancy and in the first 2 years of life. The term malnutrition encompasses both ends of the nutrition spectrum, from undernutrition (underweight, stunting, wasting, and micronutrient deficiencies) to overweight. In preschooland school-aged children, nutritional status is often assessed in terms of anthropometry. Height for age is useful for assessing the nutritional status of populations, because this measure of skeletal growth reflects the cumulative impact of events affecting nutritional status that result in stunting and is also referred to as chronic malnutrition. This measure contrasts with weight for height, or wasting, which is a measure of acute malnutrition. Weight for age is an additional commonly used measurement of nutritional status. Although it has less clinical significance because it combines stature with current health conditions, it has the advantage of being somewhat easier to measure.

3. An 18-month-old boy presents to the emergency department with a 4- hour history of colicky abdominal pain and vomiting. During the episodes of pain, the child is observed to have flexed hips and knees. The child appears calm but lethargic and pale in between

episodes. Physical examination is notable for the absence of palpable bowel in the right lower quadrant. Of the following, the most appropriate diagnostic test is:

A. Abdominal ultrasonography

B. Air contrast enema

C. Plain film radiograph of the abdomen

D. Technetium-99m pertechnetate scan

E. Upper gastrointestinal tract contrast study with small bowel followthrough

Answer: B

Intussusception is characterized by the telescoping of a segment of intestine (intussusceptum) into the lumen of the adjacent bowel (intussuscipiens). Lymphatic and venous drainage can be compromised by the prolapse, leading to edema, ischemia, and ultimately necrosis of the involved intestine. Intussusception is the most common cause of intestinal obstruction in children under 2 years of age, with a peak incidence between 4 and 10 months, and with a male predominance. Intussusception is idiopathic in 90% of pediatric cases, with the vast majority of these cases being the ileocolic type. Only 10% of cases can be attributed to gross pathologic lead point, such as Meckel diverticulum (most common), intestinal polyp (eg, Peutz-Jegher syndrome), and tumor (lymphoma). Both hemolyticuremic syndrome and Henoch-Schönlein purpura are vasculitic syndromes that can present with intussusceptions.The presenting signs and symptoms of intussusceptions include colicky abdominal pain, vomiting and bloody (currant jelly) stools, and an abdominal mass. Between episodes of pain, the child is usually comfortable. Lethargy may be the only presenting complaint in some young children. Initial abdominal examination usually reveals no tenderness, but a sausage-like mass may be present in the right upper quadrant or midabdomen. Stools may be normal or diarrhea-like in the beginning, but as ischemia progresses, they may become bloody. In children suspected of having an

intussusception, abdominal radiography may reveal an intestinal mass, evidence of small bowel obstruction, or intraperitoneal air when the bowel perforates. Radiographic findings can be normal, however, and do not rule out the presence of an intussusception. Abdominal ultrasonography can reveal a “target” sign with concentric layers of serosa and mucosa, but again a normal study does not exclude intussusceptions. Radiographic contrast enemas (air or hydrostatic) have the advantage of being diagnostic and potentially therapeutic. Air contrast enemas are safer than barium or gastrografin enemas in the event of perforation and are generally more successful in reducing the intussusception. Failure to reduce the intussusceptions radiographically should result in surgical consultation and management. Technetium pertechnetate radionuclide scans can identify Meckel diverticulum, but they have no role in the diagnosis or management of patients who have suspected intussusception. An upper gastrointestinal contrast study with small bowel follow-through may be helpful in the evaluation of suspected small bowel obstruction.

In cases of suspected intussusceptions, however, they are not the first diagnostic test of choice.

4. Which of the following is NOT a goal of maintenance fluids?

A. Diminish protein degradation

B. Prevent dehydration

C. Prevent electrolyte derangement

D. Prevent hunger

Answer: D

The glucose in maintenance fluids provides approximately 20% of the normal caloric needs of the patient, prevents the development of

starvation ketoacidosis, and diminishes the protein degradation that would occur if the patient received no calories. Glucose also provides added osmoles, thus avoiding the administration of hypotonic fluids that may cause hemolysis. Maintenance fluids do not provide adequate calories, protein, fat, minerals, or vitamins. This fact is typically not problematic for a patient receiving intravenous fluids for a few days. A patient receiving maintenance intravenous □uids is receiving inadequate calories and will lose 0.5-1% of weight each day.

5. A newborn baby is found to be tachypneic and cyanotic. The abdomen is scaphoid, bowel sounds heard over the left chest. Which of the following is the most likely diagnosis?

A. Congenital diaphragmatic hernia

B. Intussusception

C. Meckel diverticulum

D. Tracheoesophageal fistula

Answer: A

Congenital diaphragmatic hernia

1. GI tract segments protrude through the diaphragm into the thorax; 90% are posterior left (Bochdalek).

2. Presentation: Respiratory distress (from pulmonary hypoplasia and pulmonary hypertension); sunken abdomen; bowel sounds over the left hemithorax.

3. Diagnosis: Ultrasound in utero; confirmed by postnatal CXR.

4. Treatment: High-frequency ventilation or extracorporeal membrane oxygenation to manage pulmonary hypertension; surgical repair.

6. A 4-year-old presents with petechiae after a diarrheal illness and is found to have thrombocytopenia and hypertension. His stool studies are positive for E. coli 0157: H7. Which of these lab results would be expected?

A. Elevated creatinine

B. High haptoglobin

C. Low LDH

D. Normal RBCs

E. Positive direct Coombs test

Answer: A

This child has hemolytic uremic syndrome (HUS) secondary to enterotoxic E. coli . Children will present with abdominal pain and fever. HUS is characterized by the triad of microangiopathic hemolytic anemia, thrombocytopenia, and acute renal failure. Given this patient's hypertension, it is likely he has laboratory evidence of acute renal injury as seen with an elevated creatinine. HUS leads to intravascular hemolysis; therefore, the red blood count is expected to be low and RBC fragments (schistocytes) are often seen on a blood smear. The hemolysis often leads to low haptoglobin as it is bound with hemoglobin from hemolyzed cells and an elevated LDH due to the cell lysis. The direct Coombs test, however, would be negative as patients with HUS do not have an antibodymediated hemolysis.

7. A 11-year-old boy is brought to the doctor with left knee pain. The pain worsens with activity and improves with rest. He denies any history of trauma. Which of the following is the most likely diagnosis?

A. Duchenne muscular dystrophy

B. Osgood-Schlatter disease

C. Osteoporosis

D. Stress fracture

Answer: B

Osgood-Schlatter disease (OSD)

1. Inflammation of the insertion of the patellar tendon in the tibial tubercle (tibial tubercle apophysitis).

2. It is more common in adolescent boys active in sports.

3. OSD is characterized by pain and swelling at the tibial tubercle, the point of insertion of the patellar tendon.

4. OSD generally occurs in children 9 to 14 years of age who have undergone a rapid growth spurt. It I bilateral in 25 to 50 percent of cases, although the involvement is typically asymmetric.

5. OSD occurs most frequently in participants of sports that involve running, cutting, and jumping (eg, soccer, football, basketball, volleyball, gymnastics, figure skating, ballet).

6. OSD disease is an overuse injury caused by repetitive strain and chronic avulsion of the secondary ossiffication center (apophysis) of the tibial tubercle.

7. The most common presenting complaint is anterior knee pain that increases gradually over time, from a low-grade ache to pain that causes a limp and/or impairs activity8. Pain is exacerbated by direct trauma, kneeling, running, jumping, squatting, climbing stairs, or walking uphill, and is relieved by rest.

8. Which of the following options presents the ECG feature of a patient with an Ostium secundum atrial septal defect?

A. Sinus bradycardia

B. left axis deviation

C. prolonged PR interval

D. right axis deviation

Answer: D

An ECG demonstrates sinus rhythm, often with evidence of right atrial enlargement manifested by tall, peaked P waves (usually best seen in leads II and V2) and prolongation of the PR interval. The QRS axis is slightly directed to the right (+100º), and the precordial leads reveal right ventricular enlargement of the so-called volume overload type that is characterized by an rSR' pattern in leads V3 R and V1 with normal T waves. The QRS duration may be mildly prolonged because of right ventricular dilation. This mimics the finding in right ventricular conduction delay. A significant proportion (20-40%) of children with secundum atrial septal defect may not have abnormal ECG findings.

Uncommonly, a patient with a secundum atrial septal defect may demonstrate a superior QRS axis with right ventricular enlargement, mimicking findings observed in the ECG of a patient with an ostium primum atrial septal defect.

9. Pediatric patient has symptoms of epiglottitis with stridor and distress. What's your next step?

A. Admit to ICU and refer to ENT(No intubation in choices)

B. Adrenaline nebulization

C. IV Antibiotic

D. IV hydrocortisone

Answer: A

Epiglottitis is associated with fever, difficulty in swallowing, drooling, hoarseness of voice, and typically stridor. Stridor is a sign of upper airways obstruction and is a surgical emergency. The child often appears acutely ill, anxious, and has very quiet shallow breathing with the head held forward, insisting on sitting up in bed. The early symptoms are insidious but rapidly progressive, and swelling of the throat may lead to cyanosis and asphyxiation. Epiglottitis may require urgent tracheal intubation to protect the airway, though this is not always the case. Tracheal intubation can be difficult due to distorted anatomy and profuse secretions. Spontaneous respiration is ideally maintained until tracheal intubation is successful. A surgical airway opening (cricothyrotomy) may be required if intubation is not possible

10. A 12-year-old girl presents with lack of pubertal development, short stature, and broad chest. What are the appropriate next steps in evaluating this patient?

A. Echocardiogram and blood pressure measurement in all four extremities

B. Genetic testing for Alagille syndrome

C. Genetic testing of the genes involved in Noonan syndrome

D. MRI of the heart

E. Reassurance that there are no cardiac issues in this condition

Answer: A

The features presented here most likely represent those of Turner syndrome, or monosomy X. Approximately 25–30% of patients have associated congenital heart disease, predominately left-side obstructive lesions. Coarctation of the aorta is present in 10–20% of patients; therefore, screening for coarctation is indicated at 5-year intervals. Unlike hypoplastic aortic arches, major intracardiac anomalies are not commonly found with isolated coarctation of the aorta; however, there is a high association of this lesion with Turner syndrome and with bicuspid aortic valve. Genetic testing of the genes involved in Noonan syndrome would not be indicated unless Turner is ruled out. There can be overlap of the features between Noonan and Turner. Genetic testing for Alagille syndrome is not indicated. While an MRIof the heart may be a more sensitive way to detect subtle coartcation, it is not indicated as the first-line test.

11. A 10-year-old male presents to the emergency department with a large, erythematous targetoid lesion on his arm after returning from a family trip in Connecticut. You suspect Lyme disease. What is the first-line treatment for Lyme disease?

A. Ceftriaxone

B. Doxycycline

C. No need to treat, self-resolving illness

D. Trimethoprim–sulfamethoxazole

E. Vancomycin

Answer: B

Doxycycline is the drug of choice for treatment of early, localized Lyme disease in children 8 years of age and older. Treatment duration is for 14 days. For children under 8 years of age, amoxicillin is recommended. Precautions with doxycycline include avoidance of exposure to the sun (eg, the use of sunscreen) because a rash develops in sun-exposed areas in about 20% of persons on the drug. Treatment in early stages of Lyme, when only erythema migrans is present but systemic symptoms are lacking, almost always prevents later stages from occurring.

12. A child is observed to walk a distance of 10 feet and climb stairs. Although he cannot yet form full sentences, the child can speak a few words. The age of this child is most likely :

A. 10 months old

B. 15 months old

C. 2 years old

D. 3 months old

E. 3 years old

Answer: B

Age 12 to 18 Months Gross Motor Skills (view handouts) can get to standing position alone creeps up stairs can scoop and recover an object by 15 months, walks well alone walking, pulls a pull-toy seats self on chair Language Development (view handouts) has 10-15 words will point to one body part will point to at least one picture uses jargon, i.e., unintelligible "foreign" language with inflection imitates some words

follows simple directions accompanied by gestures answers simple questions nonverbally points to objects, pictures, and family members makes animal sounds such as "moo."

13. A patient with diagnosis of rhinosinusitis has presented to you again for his symptoms. Which of the following is most sensitive test for maxillary sinus?

A. Biopsy

B. CT

C. MRI

D. X-ray

Answer: B

hinosinusitis is typically divided among four subtypes: acute, recurrent acute, subacute, and chronic, based on patient history and a limited physical examination. In most cases, therapy is administered based on this classification. Antibiotic therapy along with hydration and decongestants is indicated for 7 to 14 days in patients with acute, recurrent acute, or subacute bacterial rhinosinusitis. For patients with chronic disease, the same treatment regimen is indicated for an additional 4 weeks or more, and a nasal steroid may also be prescribed if inhalant allergies are suspected as an etiologic agent. Nasal endoscopy and computed tomography of the sinuses are reserved for circumstances that include a failure to respond to therapy as expected, spread of infection outside the sinuses, a question of diagnosis, and when surgery is being considered. Laboratory tests are rarely needed and are reserved for patients with suspected allergies, cystic fibrosis,

immune deficiencies, mucociliary disorders, and similar disease states. X ray is best initial test. CT is most accurate test.

14. Which of the following is the most common cause of meningitis in neonates?

A. Cytomegalovirus

B. Group B Streptococcus

C. Haemophilus infuenzae

D. Listeria monocytogenes

Answer: B

Group B Streptococcusis the most common cause of meningitis in neonates. It is usually acquired from the mother during childbirth. The most common causes of bacterial meningitis in children older than 1 mo of age are Streptococcus pneumoniae and Neisseria meningitidis.

15. A 10-year-old girl present to the physician with a history of headaches for the last 3 months. She denies nausea, vomiting, chills or fevers.Her family history is significant for hypertension. Her blood pressure is 156/90 mm Hg, pulse is 80/min, and respirations are 14/min. Temperature is 36.3 C, blood pressure is 150/86 mm Hg, and pulse is 100/min. Angiography shows a "string of beads" pattern to the renal artery. Which of the following is the most likely cause of her hypertension?

A. Conn's syndrome

B. Fibromuscular dysplasia

C. Pheochromocytoma

D. Varicella Zoster

Answer: B

Fibromuscular dysplasia (FMD) is a non inflammatory, nonatherosclerotic disorder that leads to arterial stenosis, occlusion, aneurysm, and dissection. It has been observed in nearly every arterial bed. The most frequently involved arteries are the renal and internal carotid arteries, followed by the vertebral, visceral, and external iliacn arteries.

1. Renal artery stenosis is most commonly secondary to fibromuscular dysplasia (FMD).

2. The most common cause of secondary hypertension in children is fibromuscular dysplasia. It is responsible for approximately 20% of all cases of renal hypertension.

3. Fibromuscular dysplasia can present as new onset hypertension in children

4. Angiogram reveals the "string of beads" sign.

5. Fibromuscular dysplasia is usually seen in young females

16. A 37 year old patient is working in a noisy factory. What type of hearing problem he may develop?

A. Conductive hearing loss

B. Labyrynthitis

C. Non sensoryhearing loss

D. Sensory hearing loss

Answer: D

Environmental noise is a common and preventable cause of hearing loss in industrialized societies. Noise-induced hearing loss is the most common cause of tinnitus. Causes of tinnitus Noise-induced hearing loss, Meniere disease, Acoustic neuroma, Multiple sclerosis, Depression and anxiety, High blood pressure, Antibiotics, including polymyxin B, erythromycin, vancomycin and neomycin, Diuretics, Quinine medications used for malaria or other health conditions. Aspirin taken in uncommonly high doses (usually 12 or more a day).

17. Symptoms and signs of childhood leukemia include:

A. All of the above

B. Bone or joint pain

C. Lymphadenopathy

D. Pallor

Answer: A

Most children with leukemia present with symptoms of less than 4 weeks' duration. Most children with ALL have pallor, 50% have petechiae or mucous membrane bleeding, 60% have lymphadenopathy, 25% have fever, and about 25% have bone pain and arthralgias caused by leukemic infiltration of the perichondral bone or joint or by leukemic expansion of the marrow cavity.

18. Child unvaccinated developed fever, SOB and stridor. Lateral X-ray shows a thumb sign. What's the treatment?

A. Ceftriaxone

B. Erythromycin

C. Metoconazole

D. Vancomycin

Answer: A

In a 2005 retrospective review of patients with acute epiglottitis, symptoms of stridor, voice muffling, rapid clinical course, and a history of diabetes mellitus were significantly associated with the need for airway intervention. [16] The following symptoms are also reported: Sore throat (95%) Odynophagia/dysphagia (95%) Muffled voice (54%) - "Hot potato voice," as if the patient is struggling with a mouthful of hot food Adults may have preceding upper respiratory tract infection (URTI) symptoms. Ceftriaxone is the antibiotic of choice (DOC) for epiglottitis. This agent is a third-generation cephalosporin with broad-spectrum activity against gram-negative organisms, lower efficacy against grampositive organisms, and higher efficacy against resistant organisms. By binding to one or more penicillin-binding proteins, ceftriaxone arrests bacterial cell wall synthesis and bacterial growth.

19. A term 3-day-old infant was born through meconium stained amniotic fluid. Following aspiration of meconium, the infant developed respiratory failure. On current examination, he has a

systolic murmur and a loud second heart sound. His chest radiograph reveals a hyperlucent background in addition to patchy areas of opacity. Despite the use of highfrequency oscillation and an inspired oxygen fraction of 1.0, the postductal pulse oximeter does not read above 90%. Which of the following treatment options is most likely to be effective in addressing the underlying pathophysiology?

A. Albuterol

B. Diuretic therapy

C. Inhaled nitric oxide

D. Opiate therapy

E. Permissive hypercarbia

Answer: C

The infant developed persistent pulmonary hypertension of the newborn (PPHN) secondary to meconium aspiration syndrome. PPHN is characterized by persistently elevated pulmonary vascular tone causing intrapulmonary or extrapulmonary right-to-left shunting. The overall goals of therapy are to optimize lung inflation and lower pulmonary vascular resistance. High-frequency oscillation is being used to improve lung inflation. Techniques to reduce pulmonary vascular tone include avoiding hypercarbia, hypoxia, and acidosis. Another therapy is inhaled nitric oxide, a selective pulmonary vasodilator. It increases the activity of soluble guanylate cyclase, leading to increases in cyclic GMP (cGMP), an important promoter of smooth muscle relaxation. Inhaled nitric oxide has become an important therapy in the management of PPHN. Diuretics that block transporters in the nephron (chlorothiazide to block the $Na^+ – Cl^-$ symporter or furosemide to block the $Na^+ – K^+ – 2Cl^-$ cotransporter) have a limited role in PPHN. Opiates, which activate mu opioid receptors, may be used for sedating patients who have difficulty tolerating high-frequency ventilation but are not specifically therapeutic in PPHN. Albuterol, a β_2-adrenergic agonist, is used for patients with airway

hyperresponsiveness and has a role in the management of chronic lung disease.

20. A 16-year-old healthy female presents with back pain and dysuria. Her urine culture is positive for Staphylococcus . Which of the following species is the most likely organism?

A. Methicillin-resistant S. aureus (MRSA)

B. S. aureus

C. S. epidermidis

D. S. hominis

E. Staphylococcus saprophyticus

Answer: E

Urinary tract infections (UTIs) are common in girls, with an overall incidence estimated at 8%. The gold standard for diagnosing a UTI in an adolescent girl is a clean-catch midstream specimen. The most common organism to cause UTIs is E. coli , which causes over 70% of infections. S. saprophyticus is the second most common cause of uncomplicated UTIs in adolescent girls. Although asymptomatic carriage of S. saprophyticus can occur, the organism is generally detected in the presence of a symptomatic UTI. Urine culture colony counts may be falsely low with S. saprophyticus . S. epidermidis, S. hominis, S. aureus , and MRSA are not known to cause UTIs.

21. 10 year old vegan girl presents with symptoms of easy fatigability, lightheadedness, rapid heartbeat, rapid breathing and pale color to the skin.

Additionally, she has sensory and motor deficiencies (absent reflexes, diminished vibration or soft touch sensation). Which of the following deficiencies is she most likely to have

A. Ascorbic acid deficiency

B. Folate deficiency

C. Iron deficiency

D. Vitamin B12 deficiency

Answer: D

Vitamin B12 deficiency can lead to anemia and neurologic dysfunction.

[8] A mild deficiency may not cause any discernible symptoms, but as the deficiency becomes more significant, symptoms of anemia may result, such as weakness, fatigue, light-headedness, rapid heartbeat, rapid breathing and pale color to the skin. It may also cause easy bruising or bleeding, including bleeding gums. GI side effects including sore tongue, stomach upset, weight loss, and diarrhea or constipation. If the deficiency is not corrected, nerve cell damage can result. If this happens, vitamin B12 deficiency may result in tingling or numbness to the fingers and toes, difficulty walking, mood changes, depression, memory loss, disorientation and, in severe cases, dementia. The main syndrome of vitamin B12 deficiency is pernicious anemia. It is characterized by a triad of symptoms: Anemia with bone marrow promegaloblastosis (megaloblastic anemia). This is due to the inhibition of DNA synthesis (specifically purines and thymidine) Gastrointestinal symptoms: alteration in bowel motility, such as mild diarrhea or constipation, and loss of bladder or bowel control.[9] These are thought to be due to defective DNA synthesis inhibiting replication in a site with a high turnover of cells. This may also be due to the autoimmune attack on the parietal cells of the stomach in pernicious anemia. There

is an association with GAVE syndrome (commonly called watermelon stomach) and pernicious anemia.[10] Neurological symptoms: Sensory or motor de□ciencies (absent re□exes, diminished vibration or soft touch sensation), subacute combined degeneration of spinal cord, seizures,[11][12][13][14] or even symptoms of dementia[15] and or other psychiatric symptoms may be present. Deficiency symptoms in children include developmental delay, regression, irritability, involuntary movements and hypotonia. The presence of peripheral sensory-motor symptoms or subacute combined degeneration of spinal cord strongly suggests the presence of a B12 deficiency instead of folate deficiency

22. A 7-year-old girl is brought to the doctor with sore throat, poor appetite, and malaise forÂthe last 4Âdays. She also hasÂan intermittent cough, without rhinorrhea or congestion. Temperature is 37.6 C , blood pressure is 110/70 mm Hg, pulse is 104/min, and respirations are 16/min. Physical examination shows swollen tonsils which is covered with thin, white exudates. Anterior cervical lymph nodes are palpated.ÂWhich of the following is the most likely diagnosis?

A. Bacterial pharyngitis

B. Peritonsillar Abscess

C. Retropharyngeal abscess

D. Viral pharyngitis

Answer: A

Bacterial pharyngitis

1. Bacterial pharyngitis in children and adolescents is most commonly caused by Group A Streptococcus.

2. Most common in children age 5-15.

3. Presents with abrupt onset of sore throat, fever, poor oral intake, and malaise.

4. Characteristic findings include tonsillar erythema and exudates, tender anterior cervical nodes, and palatal petechiae.

5. Viral manifestations are present (eg, conjunctivitis, rhinorrhea, cough, exanthem, oral ulcers).

6. Sore throat is the chief symptom in patients with viral pharyngitis

7. Note that clinical features in children do not reliably distinguish bacterial from viral pharyngitis.

8. Edema and erythema of the pharynx are typical in viral pharyngitis.

The degree of erythema does not correlate with the degree of soreness. Exudate can be present but is generally less effusive than in bacterial pharyngitis.

9. Diagnosis is ideally made by throat culture.

10. Treatment with penicillin or amoxicillin (reduces the risk of rheumatic fever, and prevents transmission to close contacts)

23. A child came to you with Café au lait spots in face and neck. Which of the following features can strengthen your diagnosis?

A. All of the above

B. Axillary freckling

C. Erythema nodosum

D. Port-wine stain

Answer: B

Explanation:

Clinical diagnosis requires the presence of at least 2 of 7 criteria to confirm the presence of NF1. The 7 clinical criteria used to diagnose NF1 are as follows, in the absence of alternative diagnoses: Six or more café-au-lait spots or hyperpigmented macules =5 mm in diameter in pre- pubertal children and 15 mm postpubertal Axillary or inguinal freckles (>2 freckles) Two or more typical neurofibromas or one plexiform neurofibroma Two or more iris hamartomas (Lisch nodules) Optic nerve glioma Sphenoid dysplasia or typical long-bone abnormalities such as pseudarthrosis First-degree relative (eg, mother, father, sister, brother) with NF1 NF2: meningioma, schwannoma, glioma, neurofibroma, posterior subcapsular lenticular opaci- ties accompanied by external signs: hearing loss, ringing in the ears, and balance problems associated with vestibular nerve lesions, visual deficits and cranial nerve palsies

24. Child with thumb sign on lateral Xray. What is the diagnosis?

A. Epiglottitis

B. Foreign body

C. Layngotracheobronchitis

D. Measles

Answer: A

lateral soft-tissue radiograph of the neck showed a “thumb sign” This radiographic sign is a manifestation of an enlarged and edematous epiglottis, and it suggests a diagnosis of acute infectious epiglottitis.

25. A 4-year-old boy is brought into the emergencydepartment with symptoms of fever, headache, a stiff neck, and altered mental status. On examination, he is also noted to have mild hypotension and sparse areas of petechiae. His family relates that the young boy has a history of severe anaphylactic reactions to amoxicillin and cephalexin. The best IV empiric therapy for the patient would be:

A. Ampicillin and gentamicin

B. Cefotaxime

C. Vancomycin and cefotaxime

D. Vancomycin and chloramphenicol

E. Vancomycin and gentamicin

Answer: D

The patient in the clinical scenario presents with symptoms consistent with a bacterial meningitis. For patients who have severe β-lactam allergies, such as this young boy, a good alternative for gram-negative coverage would be chloramphenicol. Vancomycin, which is commonly used anyways in areas of high penicillin-resistant pneumococcal strains, would also be a good agent for patients with severe β-lactam allergies. Cefotaxime and ampicillin cannot be used in this patient without desensitization, and in this patient who is on the verge of severe sepsis, antibiotic administration should not be delayed. Gentamicin, while commonly used in neonatal infections where GBS is a more common etiology, and also used for synergistic purposes in children with meningitis caused by gram-negative rods, should not be the primary agent for gram-negative coverage in older children.

26. A 4950-g female neonate is delivered vaginally after a 38 6/7 weeks' gestation complicated by poorly controlled type 2 diabetes. The obstetrician reported shoulder dystocia during the delivery. On examination at 4 hours of age, the baby's left arm is internally rotated, and the forearm is extended and pronated. The baby does not move her left arm when the examiner assesses the Moro reflex. Which of the following physical examination findings is most associated with the findings in the arm?

A. A 2-vessel umbilical cord

B. A constricted left pupil

C. A hyperpigmented patch on the left chest

D. An absent left thumb

E. An enlarged left fifth finger

Answer: B

The infant in this vignette has evidence of an Erb's palsy, an acquired injury of the upper portion (cervical roots 5 and 6) of the brachial plexus secondary to avulsion or lateral traction during delivery. This phenomenon often occurs in infants during deliveries associated with shoulder dystocia (ie, deliveries of macrosomic babies). The injury leads to paralysis of the deltoid, biceps, and brachialis muscles of the affected arm and shoulder, resulting in positioning of the affected arm as described in the question. Associated findings include ptosis, miosis, and enophthalmos of the ipsilateral eye due to cervical sympathetic nerve injury (Horner syndrome) and diaphragmatic paralysis (due to ipsilateral phrenic nerve injury). The other physical findings are congenital anomalies not associated with Erb's palsy.

27. A 5-month old boy brought to the emergency room with constipation, hypo tonia, and poor feeding after reported exposure to honey. Which of the following is the most likely diagnosis?

A. Absence seizure

B. Botulism

C. Duchenne muscular dystrophy

D. Infantile spasms

Answer: B

Infant botulism

1.Ingestion of honey or exposure to soils increases the Risk

2.Age between 3 weeks and 6 months

3. Symptoms develop 3–30 days from the time of exposure

Clinical presentation

1. Constipation usually is the initial finding

2. Feeding difficulty is a common presenting symptoms

3. Hypotonia

4. Increased drooling

5. Weak cry

6. Truncal weakness

7. Cranial nerve palsies

8. Generalized weakness with ventilatory failure

Treatment: Botulism immune globulin (BIG) IV should be started as early as possible if clinically suspected.

28. 14 years old boy comes to your clinic with swollen lips. He reports tingling in the area before the swelling starts He has similar episodes since 3 or 5 years. Deficiency of which of the following caused his presentation?

A. Albumin

B. Anaphylatoxin inhibitor

C. C1 esterase inhibitor

D. Factor D

Answer: C

Explanation: Hereditary angioedema is an autosomal dominant disease caused by low levels of the plasma proteins C1 inhibitor (C1-INH). + (Hereditary angioedema (HAE) is a disease characterized by recurrent episodes of angioedema, without urticaria or pruritus, which most often affect the skin or mucosal tissues of the upper respiratory and gastrointestinal tracts. Although the swelling is self-limited, laryngeal involvement may cause fatal asphyxiation. HAE results from mutations in the gene for C1 inhibitor Hereditary angioedema usually presents in late childhood or adolescence and is not associated with other underlying diseases). Physical signs of HAE include overt, non inflammatory swelling of the skin and mucous membranes. They are referable to the following prominent sites: Subcutaneous tissues: Face,

hands, arms, legs, genitals, and buttocks Abdominal organs: Stomach, intestines, bladder, and urethra; may manifest as vomiting, diarrhea, or paroxysmal colicky pain and can mimic a surgical emergency Upper airway (larynx) and tongue: May result in laryngeal edema and upper airway obstruction In approximately 25% of patients, erythema marginatum may precede the occurrence of edema

29. You are awakened in the night by your 24 month-old nephew, with a history of recent onset noisy inspiratory sound, marked chest wall retractions nasal flaring and a barking cough. He also has a 2 day history of a mild upper respiratory tract infection. Which of the following is the most likely diagnosis is :

A. Asthma

B. Bronchiolitis

C. Epiglottitis

D. Foreign body in the right mainstem bronchus

E. Viral croup

Answer: E

Correct answer is Viral Croup (Laryngotracheobronchitis). Croup is characterized by an acute onset, barking cough, hoarseness and inspiratory stridor. Croup is also more common in male children. Foreign body will present with expiratory stridor and will ussually not be associated with acute illness. Asthma is commoner in children older than 2 years and will present with a history of wheeze and exposure to an allergen. Bronchiolitis will present with rales, an expiratory wheeze and no hoarseness. Additionally will have apnoea or tachypnoea as opposed to chest wall retraction. Epiglotitis is commoner between 2-6 years ols and will have a more rapid onset and will be associated with

high grade fever and drooling and inspiratory stridor. It is rarer and is caused by a bacteria HIB.

30. A 4-year-old girl is brought to the physician for high fever, cough, coryza, conjunctivitis, maculopapular rash spread from the head down. Physical examination reveals splenomegaly and lymphadenopathy.Which of the following is the most likely diagnosis?

A. Measles

B. Meningitis

C. Rubella

D. Shigella

Answer: A

Measles

1. Mode of transmission: respiratory droplets (airborne).

2. The virus is infectious for 3–4 days before the onset of morbilliform rash and 4 days after the exanthem.

Diagnosis

1. IgM level serology (most reliable test)

2. Antigen detection in respiratory epithelial cells

3. Tissue by immunofluorescent method or PCR

Clinical presentation

1. Coryza

2. Cough

3. Conjunctivitis

4. High fever

5. Koplik spots

6. Rash is erythematous maculopapular rash spread from up–down and disappear the same way

Prevention:

1. Intramuscular (IM) immunoglobulin prophylaxis should be given to unimmunized child if exposed to measles infection

2. Children received measles vaccine before 1 year do not count and need to receive two doses of MMR after 12 months for full immunization.

3. Infected child with measles should be placed under air borne precaution transmission and isolated for 4 days after the rash and for all duration of illness if immuno - compromised.

Complications

1. Otitis media is the most common

2. Pneumonia (common cause of death)

3. Encephalitis

31. A 10-year old obese boy brought to the physician by his parents with hyperphagia, small hands and feet, small penis, cryptorchidism, and cognitive deficiency.

Which of the following is the most likely diagnosis?

A. Albright hereditary osteodystrophy

B. Fragile X Syndrome

C. Hypogonadism

D. Prader Willi syndrome

Answer: D

Prader-Willi syndrome is the most common syndromic form of obesity. The syndrome is caused by absence of expression of the paternally active genes on the long arm of chromosome 15. The vast majority of cases occur sporadically.

Clinical features:

1. Diminished fetal activity

2. Severe hypotonia at birth

3. Failure to thrive initially

4. Hyperphagia

5. Obesity

6. Short stature

7. Small hands and feet

8. Hypogonadism

9. Intellectual disability

10. Strabismus

32. Which of the following agents can increase fetal hemoglobin in sickle cell anemia:

A. All of the above

B. Amoxicillin

C. Folate

D. Hydroxyurea

Answer: D

The hbf inducers: - can be grouped in several classes based on their chemical structures and mechanisms of action including Hypomethylating agents (eg; 5-azacytidine and decitibine) Short chain fatty acids: histone deacetylase inhibitors (eg; sodium butyrate) Chemotherapeutic agents (eg; hydroxyurea) Stem cell factor and erythropoietin .

33. Which of the following is associated with down syndrome, bilious vomiting and double bubble sign on x ray?

A. Duodenal atresia

B. Meckel diverticulum

C. Pyloric stenosis

D. Volvulus

Answer: A

Duodenal atresia

1. Presents with bilious vomiting within the first 2 days of life.

2. Complete or partial failure of the duodenal lumen to recanalize during gestational weeks 8–10.

3. Duodenal atresia is strongly associated with Down syndrome.

4. The abdomen is not distended due to inability for gas to pass the duodenum.

5. Prenatal ultrasound shows polyhydramnios due to inability to swallow and remove amniotic fluid.

6. X-ray shows air trapped in the stomach and the first portion of the duodenum ("double bubble sign"} and no distal intestinal gas.

34. which of the following congenital heart disease is secondary to failure of spiral rotation of the heart septum ?!

A. ASD

B. PDA

C. VSD

D. transposition of great artery

Answer: D

-Dextro-Transposition of the great arteries (complete) is caused by abnormal neural crest cell migration such that there is nonspiral development of the aorticopulmonary septum. BRS BOARD REVIEW SERIES: Embryology, 5th edition. P39 -Misalignment of the septum can cause the congenital heart conditions tetralogy of Fallot, persistent

truncus arteriosus, dextro-Transposition of the great arteries, tricuspid atresia, and anomalous pulmonary venous connection. Wikipedia-Aorticopulmonary septum

35. Mixed Parotid tumor is ?

A. Acinic cell tumor.

B. Adenoma.

C. Mucoepidermoid tumor.

D. Pleomorphic adenoma.

E. warthin tumor.

Answer: D

Pleomorphic adenoma is one of the few tumors with more than one type of cells proliferating within the tumor. All other mentioned tumor are monoclonal i.e. proliferation of single type of cells.

36. One of your patients is going to the operating room tomorrow for cardiac surgery. The surgeon asks you to get consent from the family for possible blood transfusion. Which of the following is not routinely screened at the blood bank?

A. Hepatitis A

B. Hepatitis B

C. Hepatitis C

D. Human T-lymphotrophic virus-1 (HTLV-1)

E. Human immunodeficiency virus

Answer: A

Hepatitis A is not tested routinely in blood banks and is rarely transmitted through blood products. It is most often transmitted through the fecal–oral route. All blood products undergo testing for hepatitis B surface antigen (HBsAg), hepatitis B core antibody (HBcAb), hepatitis C antibody (HepCAb), and HIV antibody. Improved testing for HIV has reduced the risk of transmission to 1 in 3 million. HTLV-1 is a retrovirus that is implicated in causing T-cell leukemia, and has been screened by blood banks since the late 1980s.

37. Diabetic foot ulcers

A. Are typically polymicrobial

B. Rarely become infected

C. Require topical antibiotics

D. Should not be debrided because of the risk of bacteremia

Answer: A

Foot ulcers in diabetic patients result from a diminished sensation associated with peripheral neuropathy and peripheral vascular disease (which is also usually present). Persistent pressure from ill-fitting shoes or skin cracking secondary to tinea pedis may predispose the patient’s

feet to infection. Diabetics who smoke should be encouraged to stop, and alcohol use should be discouraged. Infections associated with the feet are usually caused by Staphylococcus, Streptococcus, anaerobes, and gram-negative organisms. Aerobic and anaerobic cultures should be taken when signs of infection, such as purulence or inflammation, are present. Cultures are best taken from purulent drainage or curetted material from the ulcer base. Because all ulcers are contaminated, culture of noninfected wounds is generally not recommended. Polymicrobial infections predominate in severe diabetic foot infections and include a variety of aerobic gram-positive cocci, gram-negative rods, and anaerobes. Treatment involves debridement of nonvital and necrotic tissue, as well as oral or intravenous antibiotics. In severe cases, amputation may be necessary. Topical antibiotics are of little help and may delay healing. Osteomyelitis should always be considered in severe and persistent cases. Periodic examinations and treatment by a podiatrist are recommended.

38. A 3-year-old girl presents to the emergency room after her mother discovered her on the bathroom floor with an open, mostly empty bottle of acetaminophen tablets. N -Acetylcysteine is administered and she is admitted to the intensive care unit for observation. Although each of the following might be considered appropriate investigations during the course of her illness, which is most useful for monitoring the synthetic function of this patient's liver?

A. Acetaminophen level

B. Prothrombin time (PT)

C. Serum alanine aminotransferase

D. Serum alkaline phosphatase

E. Ultrasound of the abdomen

Answer: B

Although commonly referred to as “liver function tests,” the majority of serum tests measure the enzymes that are produced within the hepatocytes or biliary system but are not measures of physiologic function. Serum alanine aminotransferase is a marker of hepatocellular injury and may be markedly elevated after exposure to hepatotoxins such as acetaminophen. Serum alkaline phosphatase may be elevated in cholestasis and also in conditions unrelated to hepatic function such as bone injury or growth. Ultrasound of the liver is useful for detecting changes in echotexture that may be due to infiltrative diseases, as well as cystic or solid tumors. It is not useful for evaluating hepatic function. Conjugated bilirubin, glucose, ammonia, albumin, PT/ international normalization ratio (INR), factor V, factor VII, and fibrinogen are all markers of hepatic synthetic function. Prolonged PT and INR may be seen in both acute and chronic liver injury and, when present, suggest liver dysfunction.

39. The recommended treatment for active pulmonary tuberculosis in children is:

A. Isoniazid and rifampin for 6 months

B. Isoniazid and rifampin for 6 months, with pyrazinamide during the first 2 months

C. Isoniazid for 9 months

D. Isoniazid, rifampin, and pyrazinamide for 6-9 months

Answer: B

The American Academy of Pediatrics and the Centers for Disease Control and Prevention recommend that children with pulmonary tuberculosis be treated with 6 months of isoniazid and rifampin supplemented with pyrazinamide for the first 2 months.

40. A 5-year-old boy presents with foul-smelling diarrhea along with mild abdominal pain and loss of appetite for 2 weeks. He returned from a science camp over a week ago and he is now about to return to kindergarten. Evaluation of the patient's stool sample taken that day is positive for Giardia lamblia by EIA. The best treatment for the patient's condition would be:

A. Furazolidone

B. Metronidazole

C. Nitazoxanide

D. Paromomycin

E. Tinidazole

Answer: E

There are multiple drugs to treat Giardia , although most individuals who are asymptomatic generally do not require treatment. However, in this case, given the patient's symptoms and potential to spread the infection to fellow classmates, treatment is advisable. Currently the most effective agent, and recommended by most as first-line therapy, is tinidazole, which can be given as a single dose and has an efficacy of 90% to 95%. It is FDA approved for those older than 3 years of age. Metronidazole, while only slightly less effective (80%-95% efficacy), is taken for 5 to 7 days. It can be used in younger children, although it currently is unlicensed in the United States for treatment of Giardia . Furazolidone was the first agent approved for treatment of Giardia

available in suspension and has an efficacy of 77% to 92%. As it is taken 4 times a day for 7 to 10 days, it is also not the best treatment of choice for this patient but is a viable alternative. Nitazoxanide is FDA approved to treat Giardia in adults and children and has an efficacy of 70% to 85%. Paromomycin (efficacy of 50%-70%) is used to treat symptomatic Giardia in pregnancy given its lack of systemic absorption.

41. The lifetime prevalence for depression starting in adolescence is ?

A. 15-20%

B. 2-4%

C. 35-50%

D. 6-8%

E. 60-70%

Answer: A

There is 15-20% prevalence of depression in adolescnece.

42. Most children are able to copy a circle at which age?

A. 1 year

B. 2 years

C. 3 years

D. 4 years

Answer: C

Developmental Milestones (3 years)

1. Balances on one foot for 3 seconds

2. Goes upstairs alternating feet, no rails

3. Pedals tricycle

4. Copies circle

5. Puts on shoes without laces

6. Draws a two to three part person

7. Knows own gender and age

8. Uses 200 + words9. Uses three - word sentences

43. A child with foul smelling breath and seed like structures coming out of the mouth. He is also a mouth breather. No history of fever. What's the most likely diagnosis?

A. Acute Suppurative Otitis Media

B. Epiglotitis

C. Focal tonsillitis

D. Pulmonary disease

Answer: C

Tonsillitis most commonly affects children between preschool ages and the mid-teenage years. Common signs and symptoms of tonsillitis include: Red, swollen tonsils White or yellow coating or patches on the tonsils Sore throat Difficult or painful swallowing Fever Enlarged, tender glands (lymph nodes) in the neck A scratchy, muffled or throaty voice Bad breath Stomachache, particularly in younger children Stiff neck Headache

44. A 7 year old's mother seeks your opinion regarding her child who has been having recurrent fractures. She reports that the fractures occur after very minimal trauma. Additionally, the child has blus sclera and sometimes seem not hear well. What is the most likely diagnosis?

A. Marfan syndroma

B. Non-accidental injury

C. Osteogenesis imperfecta

D. Rickets

Answer: C

Patients most commonly present with fractures after minor trauma. In severe cases, prenatal screening ultrasonography performed during the second trimester may show bowing of long bones, fractures, limb shortening, and decreased skull echogenicity. Patients may bruise easily. They may have repeated fractures after mild trauma. However, these fractures heal readily. Deafness is another feature. About 50% of patients with type I OI (see Physical Examination) have deafness by age 40 years. Type I OI is the mildest and most common form. Patients present with blue sclerae (often described as dark blue with a gray tinge), variable degrees of bone fragility, moderate bone deformity, and

premature deafness. Height is usually normal. Exercise tolerance and muscle strength are significantly reduced, even with mild OI. Birth weight tends to be normal, though one or more bones may be fractured.

45. You are supervising a resident who is seeing a newborn in their clinic for the first visit at 2 weeks. The resident observed the absence of a red reflex on the right. There is a family history of congenital cataracts. You confirm the resident's examination. In addition to an urgent referral to ophthalmology, which of the following would be appropriate anticipatory guidance for the parents?

A. Congenital cataracts do not require intervention as they will recede spontaneously.

B. It is important to correct the pathology to improve visual acuity.

C. Surgery may be required, only if the child has a retinoblastoma.

D. The child's vision will be unaffected by the timing of the intervention.

E. Visual acuity is determined by prenatal brain development.

Answer: A

Although the initial development of the visual cortex occurs prenatally and is independent of experience, the full elaboration and differentiation of the development of vision is dependent on experience. Infants who have congenital cataracts removed within the first few months of life have signi□cantly better outcomes in visual acuity compared with infants whose lenses are replaced later in infancy. Prompt intervention is necessary to improve vision. Congenital cataracts do not resolve spontaneously.

46. Which of following statements is incorrect regarding fat intake for

children?

A. Hair loss, diarrhea, and poor wound healing are all symptoms of essential fatty acid deficiency.

B. Linoleic acids comprise a smaller percentage of total calories in human milk compared with typical commercial infant formulas.

C. Linoleic deficiency can be diagnosed by low plasma linoleic acid levels, as well as a high buildup of serum levels of arachidonic acid.

D. Prematurity and fat malabsorption are risk factors for essential fatty acid deficiency.

Answer: C

Linoleic acid is an essential fatty acid and can be lengthened to form arachidonic acid. For the diagnosis of linoleic acid de□ciency, there are low serum levels of linoleic acid, as well as a decrease in arachidonic acid levels.

47. Which of the following statements regarding the structure of the liver is correct?

A. Each portal tract contains branches of the hepatic artery, bile ductule, and central vein.

B. The cystic duct joins the common hepatic duct to form the common bile duct.

C. The hepatic artery supplies 75% of the blood flow to the liver.

D. The hepatocytes in zone 1 of the acinus are the most prone to ischemic injury.

E. The portal vein carries blood from the liver to the inferior vena cava.

Answer: B

At the porta hepatis, the right and left hepatic ducts coalesce to form a common hepatic duct, which is joined by the cystic duct to create the common bile duct. The liver has a dual blood supply. Seventy-five percent of the blood is supplied by the portal vein, which carries nutrients from the gastrointestinal tract. The remainder of the blood is supplied by the hepatic artery and is highly oxygenated. The hepatic veins drain blood from the liver and connect to the inferior vena cava. Microscopically, the functional unit of the liver is the acinus, with the most highly oxygenated blood located closest to the portal tracts. Each portal tract contains branches of the hepatic artery, bile ductule, and portal vein. Zone 1 hepatocytes are located closest to the portal tracts and are the last to die and the first to regenerate. Zone 3 hepatocytes, which are farthest from the blood supply, are the most prone to toxic, viral, or anoxic injury.

48. A 7-year-old boy presents to your office after being bitten by his pet cat. He has puncture wounds to the dorsal and volar aspects of his hand. There are no signs of infection. Which of the following is TRUE?

A. Amoxicillin/clavulanate should be prescribed to prevent infection.

B. Cat bites are the most common type of animal bite.

C. This patient will require rabies immunization

D. You should obtain x-rays to rule out fracture.

E. Your next step in management is to irrigate and suture the patient's wounds.

Answer: A

Infection occurs in approximately 30% of hand wounds, with cat bite scarrying the highest risk of infection. Cat bite wounds are often deep puncture wounds and common infecting organisms are Pasteurella multocida and Staphylococcus aureus; Bartonella hensaelae , which causes cat scratch fever is less common. Amoxicillin/clavulanate prophylaxis is therefore recommended in most cases of hand wounds due to bites. Approximately 80–90% of animal bites are inflicted by dogs, with only 5–15% being inflicted by cats. In the case of dog bites, 75% of bites are inflicted by the family pet or a neighbor's dog. Wounds are typically left open due to the risk of abscess formation. Contamination, length of time since the injury, signs of infections, and location of the wound all contribute to management. Dog bites in contrast to cat bites, tend to be more crushing, and may be associated with tissue loss or even underlying fracture. Rabies is uncommon in domesticated pets within the United States and rabies postexposure prophylaxis will likely not be necessary.

49. Which of the following statements about bile is true?

A. Bilirubin is a hydrophilic molecule.

B. Bilirubin is formed in part from the degradation of cytochromes and muscle myoglobin.

C. Bilirubin secretion is inhibited by phenobarbital and enhanced by estrogens and anabolic steroids.

D. Contraceptive steroids and anticonvulsants can increase UDG-GT activity, leading to an increase in bilirubin conjugation.

E. The rate of bilirubin formation in healthy infants is lower than the rate of bilirubin formation in adults.

Answer: D

UDP-GT is the enzyme that conjugates glucuronic acid with bilirubin within the hepatocyte. Narcotics, anticonvulsants, contraceptive steroids, and bilirubin itself can increase UDP-GT activity.Healthy term infants form bilirubin at a rate of 6 to 8 mg/kg/day compared with healthy adults, who form bilirubin at a rate of 3 to 4 mg/kg/day; the higher rate in infants is attributable to increased red blood cell mass and shorter red blood cell life span compared with adults. Bilirubin is a lipophilic, nonpolar, hydrophobic molecule. It is formed from the degradation of heme products including hemoglobin, cytochromes, catalases, tryptophan pyrrolate, and muscle myoglobin. Conjugated bilirubin secretion is enhanced by phenobarbital and inhibited by estrogens and anabolic steroids.

50. A 10-day-old former 3.02-kg full-term infant presents for a routine follow-up visit. The infant is breastfeeding. He was discharged at 2 days of age from the nursery. His discharge weight was 2.85 kg. At 4 days of age, his weight reached a nadir of 2.79 kg. Parents report that stools transitioned from meconium to yellow/mustard-colored by 3 days of age. He is now 3.03 kg today at his 10-day-old visit. He has several wet diapers per day. All of the following are signs of the adequacy of breast-feeding except :

A. All of the above

B. Loss of less than 10% of birth weight

C. Regaining birth weight by 10 days of age

D. Transition to mustard-colored stools by 5 days of age

Answer: C

All of the following options suggest adequate breast-feeding. Average weight loss should not exceed 10% for the term infant. This weight should be regained by 10 to 14 days of life. On average, weight loss in the first 3 days of life is about 7% of birth weight.

51. Which of the following is TRUE regarding the epidemiology of submersion injury?

A. Alcohol is rarely involved in submersion injury.

B. Submersion injury is more common in males than females.

C. The peak of pediatric submersion injury occurs in the 10–14 year-old age range.

D. Toddlers most commonly suffer from submersion injury in oceans where the strength of the tides overpowers their strength.

E. Unintentional injuries such as submersion are second only to childhood cancers as the most common cause of childhood mortality

Answer: B

Unintentional injuries such as submersion are second only to childhood

cancers as the most common cause of childhood mortality

52. Which of the following tests is the most appropriate to diagnose carbon monoxide (CO) poisoning?

A. Arterial blood gas

B. CBC

C. Carboxyhemoglobin levels

D. Chest radiograph

E. Lactic acid levels

Answer: C

CO poisoning is a dangerous but relatively common occurrence. It usually occurs during the winter months in cold regions of the United States. The affinity of CO for hemoglobin is 240 times greater than that of oxygen; it shifts the oxygen dissociation curve to the left, which impairs hemoglobin release of oxygen to tissues and inhibits the cytochrome oxidase system.

Symptoms include headache, confusion, fatigue, and nausea; in more severe cases, seizures, rhabdomyolysis, parkinsonian-type symptoms, coma, and death may occur. In many cases, the initial symptoms are attributed to a flulike illness, and CO poisoning is overlooked.

The diagnosis is usually made by obtaining a history of exposure (usually a fuel oil furnace or exhaust fumes in a poorly ventilated enclosure) and laboratory testing, which shows elevated carboxyhemoglobin levels.

Treatment involves the use of 100% oxygen and, in severe cases, hyperbaric oxygen. Prolonged exposures usually have a worse prognosis. Patients with CO poisoning necessitating treatment need follow-up neuropsychiatric examinations.

53. A 12-year-old child presents with painful, erythematous nodules on the

anterior leg. His past medical history is significant for ulcerative colitis.

Which of the following is the most likely diagnosis?

A. Erythema nodosum

B. Pityriasis alba

C. Stevens–Johnson syndrome

D. Tinea versicolor

Answer: A

ERYTHEMA NODOSUM (EN) 1. It is characterized by reddish painful,

subcutaneous, nodules that usually develop in the anterior surface of both legs (with areas of hyperpigmentation suggestive of old, healed nodules). 2. EN occurs most often in women ages 15-40 years. 3. Recent streptococcal infection is the most common cause of EN4. Other important causes include; sarcoidosis, tuberculosis (TB), histoplasmosis and in□ammatory bowel disease.5. In the majority of cases, painful, erythematous nodules develop on the anterior surfaces of both legs, and evolve into bruise-like lesions that resolve without scarring over a two- to eight-week period

54. Which of the following organisms is the cause of infectious mononucleosis?

A. Epstein Barr virus

B. Pasteurella multocida

C. Streptococcal pharyngitis

D. Streptococcus pneumoniae

Answer: A

Infectious Mononucleosis

1. Infectious mononucleosis (IM) is characterized by a triad of fever, tonsillar pharyngitis, and lymphadenopathy

2. Caused by Epstein–Barr virus (EBV)

3. EBV is transmitted via intimate contact with body secretions, primarily oropharyngeal secretions (e.g., kissing, intercourse).

4. Most patients with Epstein-Barr virus (EBV) infectious mononucleosis are asymptomatic.

5. Diagnosis : Monospot test (“heterophile antibody”)

6. Treatment: Supportive

Clinical presentation

1. Fever, pharyngitis, and lymphadenopathy

2. Symmetric cervical adenopathy (posterior triangle nodes most commonly)

3. Axillary and inguinal nodes also may be involved.

4. Fatigue, malaise, splenomegaly

55. A 12 -year old boy brought to the physician with persistent pain and swelling above the knee. The pain is worse at night. X- ray shows sun burst pattern. Serum alkaline phosphatase is elevated.

Which of the following is the most likely diagnosis?

A. Ewing's sarcoma

B. Giant cell tumor

C. Osteosarcoma

D. Trochanteric bursitis

Answer: C

1. Osteosarcoma is a primary malignant tumor of bone with malignant osteoid formation arising from bone forming mesenchymal cells.

2. The strongest genetic predisposition to osteosarcoma is found in patients with hereditary retinoblastoma. In hereditary retinoblastoma, mutations of the RB1 gene are common.

3. The most common malignant bone tumor in youth.

4. It is more common in femur (distal end), humerus (proximal end) and shin (proximal end).

5. The most common symptom initially is pain

6. X-ray shows “Codman’s triangle” and “sun-burst” appearance.

56. Which of the following conditions is associated with recurrent episodes of hematuria, sensorineural deafness and a family history of renal failure?

A. Acute Poststreptococcal Glomerulonephritis

B. Alport syndrome

C. Fragile X syndrome

D. Polycystic Kidney Disease

Answer: B

1. Hereditary nephritis (or Alport syndrome) is an inherited progressive form of glomerular disease that is often associated with sensorineural hearing loss and ocular abnormalities.

2. Alport syndrome is a primary basement membrane disorder arising from mutations in genes encoding several members of the type IV collagen protein family.

3. Xlinked transmission accounts for the majority of affected patients.

4. Characterized by recurrent episodes of hematuria, sensorineural deafness and a family history of renal failure.

5. Treatment is supportive and consists of control of proÂ teinuria.

57. In children with newly diagnosed non-Hodgkin lymphoma, which of the following laboratory studies provides an indirect measure of tumor burden?

A. Absolute lymphocyte count

B. Erythrocyte sedimentation rate

C. Serum lactic dehydrogenase (LDH)

D. Serum uric acid

Answer: C

Elevation of the level of serum lactate dehydrogenase (>500 U/L) correlates with tumor mass and has proved useful for stratifying therapy intensity.

58. A 3-year-old boy is brought to your office because he has become irritable and his mother has noticed him to be limping. You note mild swelling and point tenderness in the midtibia on the left and you observe that the child is avoiding bearing weight on this extremity. Radiographs of the tibia and fibula are negative. The most likely diagnosis is which of the following?

A. Growing pains

B. Nonaccidental trauma

C. Osteomyelitis

D. Rickets

E. Toddler's fracture

Answer: E

Toddler's fractures are occult or nondisplaced spiral fractures of the tibia that occur typically in the first 2 to 3 years of ambulation. Point tenderness in the area of the fracture can be present, although radiographs can be negative until the bone starts to heal. While nonaccidental trauma should be considered in the context of any fracture, the absence of other signs of abuse would make this less

likely. Rickets is a cause of persistent genu varum and worsens with weight-bearing, but should cause bilateral, rather than unilateral, symptoms. Osteomyelitis is most common in this age group, but should be accompanied by fever and signs of systemic inflammation. Growing pains are more common in the 5- to 12-year age group and are described as nonspecific leg pain that is typically bilateral and accompanied by a normal examination. The point tenderness found on this examination makes the diagnosis of growing pains less likely.

59. Which of the following is the most common CNS tumor in children?

A. Astrocytoma

B. Glioblastoma multiforme

C. Mixed Glioma

D. Schwannoma

Answer: A

Astrocytoma

1. 40 % of all CNS tumors.

2. The most common types of brain tumors in children are astrocytoma,

3. Headaches, seizures, memory loss, and changes in behavior are the most common early symptoms of astrocytoma. Other symptoms may occur depending on the size and location of the tumor.

4. Most astrocytoma tumors in children are low grade.

5. Presents with seizures, focal deficits, or headache; has a protracted course. Has a better prognosis than glioblastoma multiforme.

6. The three most common primary CNS tumors in children are astrocytoma (benign), medulloblastoma (malignant), and ependymoma.

60. A 7 year old child presents with foul smelling urine and lower abdominal pain. What's the most likely causative organism?

A. E. Coli

B. Enterobacter

C. Klebsiella

D. Proteus

Answer: A

Urinary tract infections remain the most common bacterial infection in childhood. Escherichia coli is responsible for over 80% of Pediatric UTIs. Other common gram negative organisms include Kleibsiella, Proteus, Enterobacter and occasionally Pseudomonas.

61. A 12 year-old patient presented with bleeding from ear, pain, tinnitus and increasing deafness. Examination revealed red swelling/mass behind the intact tympanic membrane that blanches on pressure with pneumatic speculum. Treatments for her include all EXCEPT?

A. Interferons

B. Preoperative embolisation

C. Radiotherapy

D. Surgery

Answer: A

This is glomus tumor that is tumor of glomus body and is full of blood. Its characteristic blanching on pressure makes a clinical diagnosis. Its treatment comprise of different techniques including embolization, radiotherapy and surgery. Interferons have no role in its treatment.

62. Which of the following is indication for tonsillectomy?

A. Acute tonsillitis

B. Large asymptotic tonsils

C. Obstructive apnea

D. Retro pharyngeal abscess

Answer: C

The 2 most common indications for tonsillectomy in children are OSA & recurrent bacterial tonsillitis. Other less common indications for tonsillectomy include the need for tissue diagnosis in malignancies (lymphoma, oropharyngeal scc). While peritonsillar abscess that is refractory to medical treatment and drainage may indicate the need for tonsillectomy, retropharyngeal abscess does not.

63. 15 month old boy with meningitis. What's the best antibiotic choice for him?

A. Ampicillin (or penicillin?) + gentamicin

B. IV Amoxicillin/clavulanic acid (Augmentin)

C. IV meropenem+Amikacin

D. Vancomycin + ceftriaxone

Answer: D

In infants and children: Initial antibiotic selection should provide coverage for the 3 most common pathogens: S pneumoniae, N meningitidis, and H influenzae. According to the 2004 Infectious

Diseases Society of America (IDSA) practice guidelines for bacterial meningitis, vancomycin plus either ceftriaxone or cefotaxime is recommended for those with suspected bacterial meningitis

64. A 2-year-old male is brought to the office with a reluctance to move his left arm. This began when the mother was crossing the street with him, and while holding his hand the mother pulled on his arm to prevent a fall. Examination reveals mild tenderness at the radial head but is otherwise normal. X-rays are ordered and are normal. Which of the following is the most likely diagnosis in this child?

A. Colles'fracture

B. Dislocation of the shoulder

C. Lunate subluxation

D. Radial head subluxation

Answer: D

1. Nursemaid's elbow, also called as subluxed radial head, is one of the most common elbow injuries in children between the ages of 1-5 years. Radial head subluxation, common among toddlers, is caused by traction on the forearm and usually manifests as refusal to move the elbow (pseudoparalysis).

2. Symptoms may include pain and tenderness. Most patients cannot describe their symptoms and simply present with unwillingness to move the affected arm. The radial head may be only mildly tender.

3. The child typically keeps the hand in a pronated position, and refuses (cries out in pain) attempted forearm supination.

4. Pulling causes axial traction on the forearm, which causes the radial head to slip through parts of the annular ligament.

5. Diagnosis is made clinically as radiographs are often normal

6. Treatment: Forearm hyperpronation or Forearm supination & elbow flexion

65. A 5 year old Child is brought to casualty by the father in a wheelchair complaining of knee swelling and history of falling on his knee. What is the best investigation ?

A. Joint Aspiration

B. MRI of affected joint

C. Ultrasound of affected joint

D. X-ray.

Answer: D

A plain radiograph of the affected joint should be performed to rule out fractures, periostitis, avascular necrosis, bone tumors, and bone dysplasias. Joint aspiration if there is fever, signs of inflammation (hotness, redness, …).

66. 13 year old boy with delayed puberty. His growth parameters are normal and he has fair hair in the groin. How will you manage him?

A. Measure free testosterone level

B. Measure growth hormone level

C. Testicular ultrasound

D. Wait

Answer: D

In most patients, however, the distinction between congenital GnRH deficiency and constitutional delay of puberty remains uncertain, and can be resolved only with serial observations. In view of these diagnostic difficulties, the initial therapeutic approach is similar for both disorders [14,15].

The two major options are:

● "Watchful waiting" with reassurance and psychological support for the patient and family

● Administration of gonadal steroids.Short-term hormonal therapy with testosterone in boys and with estrogen in girls may be appropriate when the pubertal delay is severe or the patient's psychosocial concerns about the delay play a prominent role that cannot be addressed by reassurance

and education alone.Except under unusual circumstances, therapy should be restricted to boys older than 14 years and girls older than 12 years who show few or no signs of puberty and are expressing considerable anxiety about their delay. The short-term use of exogenous testosterone in boys or estrogen in girls does not appear to have any longtermsequelae except for the potential of skeletal maturation that might result in some loss of adult

67. A nine day-old infant presents to a Well-Baby Clinic. The infant was born at 40 weeks' gestation by spontaneous vaginal delivery and had an uneventful birth and nursery course. The infant is breastfed and nursing well. On examination, the infant is mildly jaundiced with a yellow colouration to the face down to the mid-chest. The extremities do not appear jaundiced. The examination is otherwise normal.What is the most likely diagnosis?

A. Breast milk jaundice

B. Deficiency of glucuronyl transferase

C. Hepatitis

D. Resolution of birth trauma

Answer: A

Jaundice is a yellow discoloration of the skin and eyes caused by hyperbilirubinemia (elevated serum bilirubin concentration). Some jaundice is normal in neonates. Breast milk jaundice is different from breastfeeding jaundice. It develops after the first 5 to 7 days of life and peaks at about 2 wk. It is thought to be caused by an increased concentration of β-glucuronidase in breast milk, causing an increase in the deconjugation and reabsorption of bilirubin.Breast milk jaundice is a type of neonatal jaundice associated with breastfeeding.It should be

differentiated from breastfeeding jaundice, which manifests in the first 3 days of life and is caused by insufficient production or intake of breast milk. Breastfeeding jaundice develops in one sixth of breastfed infants during the first week of life. Breastfeeding increases enterohepatic circulation of bilirubin in some infants who have decreased milk intake and who also have dehydration or low caloric intake. The increased enterohepatic circulation also may result from reduced intestinal bacteria that convert bilirubin to nonresorbed metabolites.Neurotoxicity is the major consequence of neonatal hyperbilirubinemia.Treatment depends on cause and degree of bilirubin elevation; the more preterm the infant, the lower the threshold level for treatment.

68. A 4 year-old-child presented with voice change and progressive dyspnea for the past 3 months. On examination, there was mild stridor with suprasternal retraction. Under general anesthesia, multiple softgrowths were removed from the glottis. The parents were instructed to bring the child every six months to check for recurrence of the growths.Which of the following viruses is implicated in these growths?

A. Adenovirus

B. Coxsackie virus

C. Herpes simplex virus

D. Human papilloma virus

Answer: D

Laryngeal papillomatosis, also known as recurrent respiratory papillomatosis, is a rare medical condition in which benign tumors (papilloma) form along the aerodigestive tract. The tumors are caused

by human papillomavirus (HPV) infection of the throat. The tumors may lead to narrowing of the airway, which may cause vocal changes or airway obstruction. Laryngeal papillomatosis is initially diagnosed through indirect laryngoscopy upon observation of growths on the larynx and can be confirmed through a biopsy. Treatment for laryngeal papillomatosis aims to remove the papillomas and limit their recurrence. Due to the recurrent nature of the virus, repeated treatments usually are needed. Laryngeal papillomatosis is primarily treated surgically, though supplemental nonsurgical and/or medical treatments may be considered in some cases.

69. All of the following statements concerning childhood lymphocytic and myelogenous leukemias are true Except:

A. Acute lymphocytic leukemia accounts for approximately 75% of cases

B. Leukemias as a group are the most common childhood cancer

C. The clinical features at presentation are similar

D. The responses to therapy and prognoses are similar

Answer: D

The clinical features of the childhood leukemias are similar, because all involve severe disruption of bone marrow function. There is marked variability in response to therapy and in the prognosis.

70. A 20-mo-old girl is noted by her parents to have a unilateral white pupil. Funduscopic examination reveals a very large white mass that fills most of the eye. All of the following statements regarding this patient are correct Except:

A. A CT scan may demonstrate calcium within the lesion

B. A biopsy should be performed as soon as possible

C. Genetic counseling is indicated for this family

D. Removal of the eye may be required

Answer: B

This patient is most likely to have a retinoblastoma. Because it can be a hereditary tumor, genetic counseling is indicated. Treatment of a large unilateral tumor may require enucleation. Appropriate work-up may include a CT scan to demonstrate calcium within the eye. Examination of the other eye for smaller tumors should always be performed. Biopsy of the suspected tumor is contraindicated, as it may lead to spread of the tumor cells.

71. A 15-year old female with 1-year history of fatigue, multiple areas of pain, tenderness. Labs are within the normal limits. Which of the following is the most likely diagnosis?

A. Familial Mediterranean fever

B. Fibromyalgia

C. Osteosarcoma

D. Vitamin D deficiency

Answer: B

1. Fibromyalgia is a chronic widespread pain disorder associated with fatigue, poor sleep, irritable bowel syndrome and depression for more than 3 months.

2. More frequent in girls

3. It is most prevalent in girls 13–15 years of age

4. Fibromyalgia pain worsens with exercise.

5. The only other drug other than tricyclic antidepressants studied extensively in fibromyalgia is cyclobenzaprine (either amitriptyline or cyclobenzaprine are the initial drugs of choice)

Clinical presentation

1. 3 months of chronic pain

2. Body aching and stiffness

3. Pain may be described as sharp, dull, constant, intermit tent, burning, heavy or numb

4. They toss and turn at night from the pain

5. Tender points, aggravated by cold, humidity, fatigue, relieved by heat, massage, dry weather, activity

72. A 2-week-old male presents with a white adherent coating of his tongue and buccal mucosa. There is some associated erythema and the lesion bleeds when you try to remove the white coating. Which of the following is the most likely diagnosis?

A. Glossitis

B. Hairy leukoplakia

C. Leukoplakia

D. Oral candidiasis

Answer: D

Oral candidiasis, or thrush, is a common finding in newborn infants. It may develop due to exposure to maternal vaginal candidiasis, gastrointestinal colonization of the infant, or as a result of antibiotic usage. Leukoplakia is a whitish patch or plaque that cannot be clinically or pathologically characterizedas any other disease and is not associated with any physical or chemical causative agent, exceptthe use of tobacco.These lesions have a risk of transformation into squamous cell carcinoma.

73. Which of the following conditions is a contraindication to influenza vaccination?

A. Allergy to dust mites

B. Allergy to eggs

C. Allergy to milk

D. Allergy to penicillin

E. Allergy to red dye

Answer: B

Influenza immunizations are administered yearly to help prevent outbreaks of different strains of viral influenza. The inactivated vaccine

is derived from purified egg protein, which harbors the viral protein. The vaccine is developed on the basis of the preceding year's outbreak of virus, those viruses seen in other parts of the world, and the antibody response of persons previously vaccinated. Persons who are allergic to eggs or neomycin (a component of the vaccine) should not receive the vaccine. In those individuals, amantadine may be considered. Protective vaccine should be administered to immunocompromised individuals; individuals with underlying medical conditions such as asthma, COPD, and diabetes; and individuals older than 50 years. (Other recommendations follow.) Otherwise healthy patients may also elect to receive vaccination. Side effects, including fever, fatigue, cough, and headache, are no more common in those who received a placebo in double-blinded studies; however, arm soreness was reported more frequently in vaccine recipients.

Recommendations for the administration of influenza vaccine include the following categories and specific indications:

Age

• Persons 6 months or older with an underlying medical condition (e.g., cardiac, pulmonary) who are at increased risk for complications of influenza or who required regular medical follow-up or hospitalization during the preceding year (see Medical conditions as follows)

• Healthy children ages 6 to 23 months and close contacts of healthy children ages 6 to 23 months

• Persons 50 years or older

• Any person 6 months or older to reduce the chance of influenza infection

Occupations

• Physicians, nurses, and other personnel in hospital and outpatient care settings, including emergency response workers

• Employees of health care facilities (e.g., nursing homes, chronic care facilities) who have contact with residents

• Persons who provide home care to people in high-risk groups

Medical conditions

• Alcoholism and alcoholic cirrhosis

• Long-term aspirin therapy in children and teenagers (6 months to 18 years of age) who may be at risk for Reye's syndrome after influenza virus infection

• Chronic cardiovascular disorders in adults and children

• Hemoglobinopathies

• Immunocompromised conditions (e.g., congenital immunodeficiency, malignancy, HIV infection, organ transplantation, immunosuppressive therapy)

• Chronic metabolic diseases (e.g., diabetes)

• Chronic pulmonary diseases, including asthma and COPD

• Chronic renal dysfunction

• Pregnancy beyond 14 weeks of gestation during the influenza season

• Pregnancy in women with medical conditions that increase their risk for complications from influenza, regardless of trimester

• Persons who can transmit influenza to high-risk individuals

• Household members (including children) in close contact with persons who are at high risk for influenza

• Residents of nursing homes and other chronic care facilities, regardless of age, who have chronic medical conditions

Vaccination ideally should occur approximately 2 weeks before chemotherapy or immunosuppressive therapy is started. If a patient is vaccinated during or within 2 weeks before the initiation of immunosuppressive therapy, influenza vaccine should be given again approximately 3 months after treatment ends.

74. A 2 year old female child developed fever, cough and respiratory distress. On chest x-ray consolidation is seen in right lower lobe. She improved with antibiotics but on follow up at 8 weeks was again found to have increasing consolidation in right lower lobe and fever. Your next investigation would be:

A. Allergen sensitivity test

B. Bacterial culture of the nasopharynx

C. Bronchoscopy

D. CT scan of the chest

Answer: C

Bronchoscopy with bronchioalveolar lavage (BAL) will help in isolation of organism causing consolidation and thus will help in management. In this question type the lesion is already defined as consolidation. If type of lesion was not well defined on CxR then CT may be the 1st investigation followed by bronchoscopy with bronchioalveolar lavage (BAL).

75. A 5 year old patient is scheduled for tonsillectomy. On the day of surgery he had running nose, temperature 37.5°C and dry cough. Which of the following should be the most appropriate decision for surgery ?

A. Can proceed for surgery if chest is clear and there is no history of asthma

B. Cancel surgery for 3 weeks and patient to be put on antibiotics

C. Should get Xray chest before proceeding for surgery

D. Surgery should be cancelled

Answer: B

Preoperative examination of the patient is useful for surgical procedure and post operative healing. The principal of nonmaleficience comes before beneficiency. so doing no harm is more important than doing benefit of the patient. In this case, there is infection of the upper respiratory tract and doing surgery will complicate the case. So delaying surgery is best option to avoid surgical and post surgical complication.

76. Which of the following statements regarding thermoregulation in neonate is correct? .

A. Brown fat stores are less abundant in the neonate than in the adult.

B. Circulating free fatty acids serve as an acute source of energy during cold stress in the neonate.

C. Heat production in the neonate (controlling for body weight) is greater than heat production in the adult.

D. Heat production in the neonate (relative to body weight) must be lower in the neonate to maintain a normal body temperature.

E. The capacity for neonatal adaptation to cold stress is similar to that of an adult.

Answer: C

In general, due to the increased surface area of the newborn relative to newborn's body weight, heat production in the neonate is greater than heat production in the adult. Non-shivering thermogenesis is generally accepted as the major source of heat generation in neonates. An important protein involved in non-shivering thermogenesis is UCP1, an ion transport protein that generates heat through entry of protons into mitochondria. Brown fat, the major tissue involved in nonshivering thermogenesis, also is relatively more abundant in the neonate than in the adult. Energy generation in neonates is also augmented by intracellular free fatty acids, which are produced by elevated levels of lipoprotein lipase at birth. Circulating free fatty acids replenish depleted intracellular energy stores but do not serve as an acute source of energy. The neonate, however, has thermogenic disadvantages relative to adults. Due to an increased surface area relative to body weight, newborns must generate more heat to maintain a normal body temperature. Additionally, the absolute extent to which a neonate can maintain a normal body temperature during cold stress is limited.

77. A 40 years old man presents with increased hearing in his right ear. Examination shows facial deviation on the left side and there are vesicles in the external right ear. What is the likely diagnosis?

A. Bell's palsy

B. Multiple sclerosis

C. Ramsay hunt's syndrome

D. Stroke

Answer: C

Ramsay Hunt syndrome (RHS) is a complication of shingles. It is the name given to describe the symptoms of a shingles infection affecting the facial nerve. Shingles is caused by the same virus that causes chickenpox (varicella zoster virus, or VZV). As a result of this infection, the facial nerve becomes inflamed and irritated. Bell's palsy is a type of facial paralysis that results in an inability to control the facial muscles on the affected side. The cause is usually unknown. And there are no vesicles on examination. Stroke can involve facial nerve but associated with certain neurological deficit. Multiple sclerosis is white matter lesion and affect primarily optic nerve.

78. The initial treatment of choice for a symptomatic patient with isolated pulmonic stenosis is:

A. Balloon catheter valvuloplasty

B. Blalock-Taussig shunt

C. Closed surgical blade valvotomy

D. Open surgical valvotomy

Answer: A

Balloon valvuloplasty has greatly improved the management of stenotic lesions of the pulmonic and aortic valves and is the treatment of choice for isolated pulmonary stenosis.

79. A 2-month-old infant is presented with umbilical bernia. On examination, the hernia is of moderate size easily reducible. The abdominal wall defect admits one finger. Otherwise, the baby is normal.Which of the following is the most appropriate next step in management?

A. Instruct the parents to tape the defect

B. Order thyroid function tests

C. Reassure the parents

D. Refer the infant to a surgeon

Answer: C

Umbilical hernias are commonly found in infants and children. An umbilical hernia is a bulge of intraabdominal organs through an opening in at the base of the umbilicus (belly button). This occurs when abdominal muscles fail to come together forming an opening called an umbilical ring. The size of umbilical hernias varies from child to child.

Many umbilical hernias close on their own by 3 to 4 years of age. t is generally recommended to wait for an umbilical hernia to close on its own. This occurs as the child grows and the abdominal muscles strengthen, closing the hernia off naturally. This usually happens by the age of 3 or 4 years, if not sooner. Techniques such as taping or strapping a coin on the umbilicus to close the hernia are not effective and are not recommended. Surgery is not advised unless the hernia does not go away by the age of 4, becomes strangulated, or the hernia is very large and is therefore unlikely to close on it's own.

80. An infant born at 26 weeks' gestation with a birth weight of 900 g is now 42 weeks postmenstrual age (PMA). He had respiratory distress syndrome (RDS) in his early neonatal intensive care unit

(NICU) course and continues to have a supplemental oxygen requirement. Which of the following characteristics of his past or current neonatal course would support the diagnosis of bronchopulmonary dysplasia (BPD) in this infant?

A. He developed Bacteroides fragilis sepsis at 2 weeks of age and required mechanical ventilation until 34 weeks PMA

B. He requires 1 LPM nasal cannula oxygen with an FiO 2 of 0.45 to maintain oxygen saturations of 91% to 93%

C. He requires 2 liters per minute (LPM) of nasal cannula oxygen with an FiO 2 of 0.6 to maintain oxygen saturations of 98% to 100%

D. He was born due to maternal chorioamnionitis and was mechanically ventilated for 21 days

E. He was mechanically ventilated for 2 weeks, and now requires an FiO 2 of 0.5 via CPAP (+5 cm H 2 O) to keep his saturations >97%

Answer: B

BPD is defined as the need for supplemental oxygen at 36 weeks postconceptional age. However, due to inconsistent practice among clinicians, supplemental oxygen use and target saturations vary widely in clinical practice. Walsh and colleagues developed an oxygen-need test to make the diagnosis of BPD more uniform. The infant in this vignette would meet the “Walsh criteria” for BPD if he met the conditions of choice e (saturations between 90% and 96% while receiving an FiO 2 of over 0.3). If maintained on an FiO 2 of greater than 0.3 to keep saturations greater than 96%, he would require a room air challenge (with demonstration of oxygen saturations of 90% or less) to be diagnosed with BPD. During a room air challenge, those infants who cannot maintain saturations >90% during weaning and in room air for over 30 minutes were also diagnosed with BPD. The diagnostic definition of BPD as oxygen need at 36 weeks does not require antecedent exposures (eg, RDS, mechanical ventilation), abnormalities on a chest radiograph, antecedent infectious exposures (antenatal chorioamnionitis or postnatal sepsis), or any laboratory test.

81. A 15-year-old girl is brought by her mother because she did not get her period yet. On examination she has breast buds, normal pubic hair and her height has increased during the last year. Which one of the following will support your diagnosis?

A. Bone age estimation

B. Onset of menstruation

C. Serum estrogen level

D. Serum progesterone level

Answer: B

Puberty timeline in girls

● Breast buds are first to develop for girls.

● Shortly after breasts bud (a sign of circulating estrogen), she will begin to have vaginal discharge (also estrogen-driven).

● Pubic hair is second for most girls.

● The biggest, most rapid growth spurt follows.

● About 6 months after she has grown the fastest (sometimes 2-3 inches in a matter of months), she will start her period.

● Once the period begins, most of her growth is finished, but she will continue to grow in her trunk and there may still be some lengthening in her legs.

82. A 7-year-old girl is brought to the doctor with sore throat, poor appetite, and malaise for the last 4 days. She also has an intermittent cough, without rhinorrhea or congestion. Temperature is 37.6 C , blood pressure is 110/70 mm Hg, pulse is 104/min, and respirations are 16/min. Physical examination shows swollen tonsils which is covered with thin, white exudates. Anterior cervical lymph nodes are palpated. Which of the following is the most likely diagnosis?

A. Bacterial pharyngitis

B. Peritonsillar Abscess

C. Retropharyngeal abscess

D. Viral pharyngitis

Answer: A

Bacterial pharyngitis

1. Bacterial pharyngitis in children and adolescents is most commonly caused by Group A Streptococcus.

2. Most common in children age 5-15.

3. Presents with abrupt onset of sore throat, fever, poor oral intake, and malaise.

4. Characteristic fiindings include tonsillar erythema and exudates, tender anterior cervical nodes, and palatal petechiae.

5. Viral manifestations are present (eg, conjunctivitis, rhinorrhea, cough, exanthem, oral ulcers).

6. Sore throat is the chief symptom in patients with viral pharyngitis

7. Note that clinical features in children do not reliably distinguish bacterial from viral pharyngitis.

8. Edema and erythema of the pharynx are typical in viral pharyngitis.

The degree of erythema does not correlate with the degree of soreness. Exudate can be present but is generally less effusive than in bacterial pharyngitis.

9. Diagnosis is ideally made by throat culture.

10. Treatment with penicillin or amoxicillin (reduces the risk of rheumatic fever, and prevents transmission to close contacts)

83. A 5-year-old boy is brought by his mother to the emergency room with low-grade fever and joint pain. Physical examination reveals enlarged cervical lymph nodes, splenomegaly and petechiae. Which of the following is the most likely diagnosis?

A. Acute lymphoblastic leukemia

B. Burkitt lymphoma

C. Multiple myeloma

D. Myelodysplastic syndrome

Answer: A

1. **Acute lymphocytic leukemia** (ALL) is the most common pediatric cancer; it also strikes adults of all ages.

2. Malignant transformation and uncontrolled proliferation of an abnormally differentiated, long-lived hematopoietic progenitor cell results in a high circulating number of blasts, replacement of normal marrow by malignant cells, and the potential for leukemic infiltration of the CNS and abdominal organs.

3. **Symptoms** include fatigue, pallor, infection, bone pain, and easy

bruising and bleeding.

Other presenting signs and symptoms of pediatric ALL include the following:

1. Patients with B-precursor ALL: Bone pain, arthritis, limping; fevers (low or high); neutropenia; fatigue, pallor, petechiae, and bleeding; lymphadenopathy and hepatosplenomegaly

2. Patients with mature-B ALL: Extramedullary masses in the abdomen or head/neck; CNS involvement (eg, headache, vomiting, lethargy, nuchal rigidity)

3. Patients with T-lineage ALL: Respiratory distress/stridor due to a mediastinal mass

Examination of peripheral blood smear and bone marrow is usually diagnostic.

Treatment typically includes combination chemotherapy to achieve remission, intrathecal chemotherapy for CNS prophylaxis and/or cerebral irradiation for intracerebral leukemic infiltration, consolidation chemotherapy with or without stem cell transplantation, and maintenance chemotherapy for up to 3 yr to avoid relapse.

84. Most children are able to copy a triangle at which age?

A. 2 years

B. 3 years

C. 4 years

D. 5 years

Answer: D

Developmental Milestones (5 years)¨

1. Walks down stairs with rail, alternating feet

2. Skipping

3. Balances one foot for > 8 s

4. Walks backward heelÂ toe

5. **Copies triangle**

6. Cuts with scissors

7. Builds stairs from model

8. Draws eight to ten part person

9. Names ten color and count to ten

10. Plays board or card games

11. Apologizes for mistakes

12. Knows right and left on self

13. Repeats six to eight word sentence

14. Responds to why questions

85. Otitis externa is:

A. All of the above

B. Best treated with topical antibiotic drops

C. Commonly related to swimming

D. Most commonly caused by Pseudomonas aeruginosa

Answer: A

Otitis externa, also called swimmer's ear,

[1] is inflammation of the ear canal.

[2] It often presents with ear pain, swelling of the ear canal, and occasionally decreased hearing.[2] Typically there is pain with movement of the outer ear.

[3] A high fever is typically not present except in severe cases. Acetic acid ear drops may be used as a preventative measure.[3] Treatment of acute cases is typically with antibiotic drops, such as ofloxacin or acetic acid.[2][3] Steroid drops may be used in addition to antibiotics.[2] Pain medications such as ibuprofen may be used for the pain.[2] Antibiotics by mouth are not recommended unless the person has poor immune function or there is infection of the skin around the ear.

86. A 4-year-old comes for his well-child check up. On exam you auscultate an ejection click and a 3/6 harsh systolic murmur that increases with squatting. What is the most likely lesion and what is the best treatment?

A. Bicuspid aortic valve and coarctation; coarctation repair

B. Congenital aortic stenosis; balloon valvoplasty

C. Pulmonary stenosis; balloon valvoplasty

D. Subaortic stenosis due to hypertrophic cardiomyopathy; close observation

E. Ventricular septal defect; surgical repair

Answer: B

The heart murmur described above is most consistent with aortic stenosis. This is a loud crescendo–decrescendo systolic murmur, often grade 4 to 5 in intensity and associated with a suprasternal notch thrill.

Additionally, a prominent apical third sound is frequently heard. Balloon valvoplasty has become the treatment of choice. Although a bicuspid valve may also cause an ejection click, the coarctation would result in a blood pressure and pulse intensity differential not noted in the case. In subaortic stenosis due to hypertrophic cardiomyopathy, when the patient squats this increases venous return and causes left ventricular dilation, which results in a softer murmur. The murmur of PS is an ejection systolic murmur of the crescendo–decrescendo type best heard at the upper left sternal border, with radiation to the left infraclavicular area. A PS murmur does not change with squatting, although it does decrease with Valsalva. The murmurof a moderatesized VSD would be holosystolic and blowing in character and should not appreciably change with Valsalva.

87. An 18 month old baby diagnosed with meningitis. What is the most appropriate management?

A. Amikacin and Ampicillin

B. Cefotaxime and vancomycin

C. Gentamicin and penicillin

D. Vancomycin alone

Answer: B

According to the 2004 Infectious Diseases Society of America (IDSA) practice guidelines for bacterial meningitis, vancomycin plus either ceftriaxone or cefotaxime is recommended for those with suspected bacterial meningitis, with targeted therapy based on the susceptibilities

of isolated pathogens. [2] This combination provides adequate coverage for most penicillin-resistant pneumococci and betalactamase– resistant Hib.

88. There is loss of forehead frowning in a patient with nasopharyngeal carcinoma. which nerve is affected?

A. Fascial nerve

B. Mandibular nerve

C. Maxillary nerve

D. Supra orbital nerve

Answer: A

Facial nerve leave the skull via stylomastoid process and has sensory and motor supplies. The closure of eye, circum oral, facial expressen, forehead frowning are major motor supplies. Nasolacrimal secretion will also be decreased because it is also supplied by facial nerve. Loss of maxillary sensation is due to maxillary branch of trigeminal nerve. It exits the skull at foramen rotundum. Loss of mandubular sensation is due to mandibular branch of trigeminal nerve which exits the brain at foramen ovale. The ophthalmic branch of trigeminal, the supra orbital nerve, takes sensory sensation from the forehead.

89. An old patient with a history of vertigo, imbalance, tinnitus with hearing loss what is the most accurate investigation for his diagnosis?

A. Auditory brainstem response

B. CT temporal

C. MRI of cerebelloponitine angle

D. Otoscopic exam

Answer: C

Acoustic neuromas: Benign tumor of Schwann cells of CN 8 that can lead to hearing loss secondary to nerve compression. Acoustic neuromas are intracranial, extra-axial tumors that arise from the Schwann cell sheath investing either the vestibular or cochlear nerve. Presents with hearing loss, dizziness, tinnitus; unilateral facial palsy; decreased sensation may be seen on examination. Acoustic neuroma may produce vertigo and tinnitus. Imaging: MRI can localize tumor. Treat with surgical excision if functional impairment fails to respond medications.

90. A mother brought her child to ED with itchy skin lesions that appeared after intake of some food. The lesions appear in a certain area and stay for 2 hours then disappear then appear in another area. What is it called?

A. Burrow

B. Purpura

C. Urticatia

D. Wheal

Answer: D

Source: Wheal: A wheal is a rounded or flat-topped, pale red papule or plaque that is characteristically evanescent, disappearing within 24 to 48 hours.

91. Which of the following interventions is used in the management of croup?

A. Inhaled salbutamol

B. Nebulized epinephrine

C. hypertonic saline nebulisation

D. inhaled betamethasone

Answer: B

Corticosteroid therapy benefits patients with croup presumably by decreasing edema in the laryngeal mucosa, and is usually effective within six hours of treatment. Corticosteroid therapy decreases the need for additional medical care, hospital stays, and intubation rates and duration. A recent randomized controlled trial found that a single dose of an oral corticosteroid benefited children with mild croup.29 Therefore, corticosteroids should be considered even for mild illness.28,29 The optimal type of corticosteroid, route of administration, and dose are unclear. Oral and intramuscular administration provide similar degrees of benefit, and both are equivalent or superior to inhaled corticosteroids. However, the addition

of inhaled corticosteroids to either systemic therapy does not provide further benefit.30,31,36,37 Oral corticosteroids are the preferred route unless oral intake is not possible. A number of small randomized controlled trials have shown that nebulized epinephrine is an effective treatment for moderate to severe croup, with benefits such as reduction in croup severity, various objective pathophysiologic measures, and need for intubation reference: AAFP

92. Which of the following is NOT a criteria for admitting patients with Henoch Schonlein Purpura?

A. For rehydration for recurrent emesis

B. Severe joint pain/swelling limiting ability to weight bear and mobilize

C. To control Severe abdominal pain

D. age younger than 2 years

E. to monitor renal function

Answer: D

The criteria for admission of patients with HSP include:

-Severe joint pain/swelling that limits ability to bear weight or mobilize affected joint

-Abdominal pain that is severe in nature

-Gastrointestinal hemorrhage

- Renal involvement, evidence of Nephritic or Nephrotic syndrome

–CNS symptoms from Neurological involvement

93. Which of the following is considered a first-line medication in the treatment of hypertension?

A. Chlorthalidone

B. Clonidine

C. Lisinopril

D. Losartan

Answer: A

A 2009 Cochrane review was undertaken to compare the effects of thiazide diuretics, β-blockers, ACE inhibitors, and CCBs with placebo. Thiazide diuretics (e.g., chlorthalidone, hydrochlorothiazide) loweredmortality and morbidity from stroke, heart attack, and heart failure more than β-blockers. ACE inhibitors (e.g., lisinopril) and CCBs (e.g., amlodipine) reduced mortality and morbidity as much as thiazide diuretics, but the evidence is less robust. Because the use of thiazide diuretics is supported by a strong body of evidence and no other class of antihypertensive medications has been shown to be better at improving outcomes, they are the □rst-line drugs for most patients with hypertension.

Doxazosin is an α-blocker and is not indicated for first-line treatment.

Losartan is an angiotensin-receptor blocker (ARB), which should be reserved for patients who cannot tolerate ACE inhibitors. Unfortunately, there are no high-quality randomized controlled trials (RCTs) to fully evaluate the effects of ARBs or α-blockers and current evidence does not support using β-blockers as first-line therapy for hypertension.

Diuretics remain the preferred first-step drug and an important part of any multidrug regimen for the treatment of hypertension. ACE

inhibitors and CCBs appear to be as effective as thiazide diuretics, but the evidence is not as strong.

94. Which of the following conditions are Pastia's lines often seen in?

A. Chicken Pox

B. Measles

C. Scarlet fever

D. Staphylococcal Toxic Shock Syndrome

E. Syphillis

Answer: C

It is a clinical sign in which pink or red lines formed of confluent petechiae are found in skin creases, particularly the crease in the antecubital fossa, the soft inside depression on the inside of the arm; the folding crease divides this fossa where the forearm meets the (upper) arm (the biceps, triceps, humerus section of the upper extremity); the inside of the elbow (the inside flexor depression (fossa) of the elbow. It occurs in patients with scarlet fever prior to the appearance of the rash and persists as pigmented lines after desquamation. it is characteristically seen with scarlet fever

95. A 3-year-old boy presents with ongoing wheezing and rhonchi with intermittent fevers for several weeks. The patient's chest radiograph is nonspecific and a complete blood count reveals marked eosinophilia but otherwise no abnormalities. Further evaluation reveals an elevated erythrocyte sedimentation rate (ESR). The patient is tested for antihemagglutinin titers and has an elevated anti-B. He is from a low-income household. You also learn on further questioning of the parents that the family has several dogs. In addition, the patient has been seen eating dirt outside on occasion. The best treatment for this patient's condition should include:

A. Albendazole

B. Iron

C. Mebendazole

D. Praziquantel

E. Vitamin B 12

Answer: A

Toxocariasis (visceral larva migrans) is a nematode infection most commonly caused by the dog ascarid Toxocara canis and occasionally the cat ascarid Toxocara cati . Often these infections are subclinical, although as in this case, some children present with symptoms of asthma and wheezing. Children are infected by ingestion of infective eggs of the parasite in soil. Children with exposure to dogs (and especially puppies) are at higher risk of infection. Children with pica have an increased likelihood of ingestion of the embryonated eggsand also an increased risk of toxocariasis. In terms of diagnosis, elevated antihemagglutinins are helpful indicators of infection. EIA testing is also available. Iron deficiency has been related to pica, but no laboratory evidence in this clinical scenario supports iron supplementation presently. Further evaluation of the patient's iron status may be warranted however. Vitamin B 12 deficiency is associated with Diphyllobothrium latum , not Toxocara infections.

Praziquantel is used for tapeworm infections and generally not for roundworms. Albendazole is the preferred agent. Mebendazole can be used, but it has poor gastrointestinal absorption and may not reach therapeutic levels for tissue-dwelling larvae.

96. Newborn with severe jaundice at birth. He was found to be O+ and his mother is A-. What is the mechanism?

A. Fetal antibody agglutinating fetal antigen

B. Fetal antibody agglutinating maternal antigen

C. Maternal antibody agglutination fetal antigen

D. None of the above

Answer: C

isoimmunizationThe disease ranges from mild to severe, and typically occurs only in some second or subsequent pregnancies of Rh negative women where the fetus's father is Rh positive, leading to a Rh+ pregnancy. If the mother is Rh negative and the baby is Rh positive, the mother produces antibodies(including IgG) against the rhesus D antigen on her baby's red blood cells. During this and subsequent pregnancies the IgG is able to pass through the placenta into the fetus and if the level of it is sufficient, it will cause destruction of rhesus D positive fetal red blood cells leading to the development of Rh disease.

97. A 9 year old girl presents with 2 days of sore throat and fevers of 102oF. Physical exam reveals an erythematous pharynx with a white, creamy exudate covering the left tonsil. Palpation of the neck reveals an extremely tender left submandibular lymph node. Throat cultures were taken and reveal beta-hemolytic colonies on blood agar. Susceptibility analysis show growth is not inhibited by amoxicillin, and erythromycin. Growth is inhibited by bacitracin. Which of the following is the mostly likely causal organism ?

A. Epstein-Barr virus

B. Rhinovirus

C. Streptococcus agalactiae

D. Streptococcus pyogenes

Answer: D

Streptococcus pyogenes is one of the most frequent pathogens of humans. It is estimated that between 5-15% of normal individuals harbor the bacterium, usually in the respiratory tract, without signs of disease. As normal flora, S. pyogenes can infect when defenses are compromised or when the organisms are able to penetrate the constitutive defenses. When the bacteria are introduced or transmitted to vulnerable tissues, a variety of types of suppurative infections can occur. In the last century, infections by S. pyogenes claimed many lives especially since the organism was the most important cause of puerperal fever (sepsis after childbirth). Scarlet fever was formerly a severe complication of streptococcal infection, but now, because of antibiotic therapy, it is little more than streptococcal pharyngitis accompanied by rash The naming and classification of streptococci is cumbersome and confusing. Streptococci can be characterized in the laboratory by the type of hemolytic reaction displayed on the blood agar on which they are grown; complete (β), incomplete (α), or no (γ) hemolysis. S. pyogenes causes β hemolysis

98. Which of the following conditions is a contraindication to breastfeeding?

A. Active untreated TB

B. Hepatitis B-positive mothers

C. Hepatitis C-positive mothers

D. Smoking

Answer: A

The following are considered definitive contraindications to breastfeeding:

1. Active untreated TB

2. Maternal HIV infection

3. Herpetic breast lesions

4. Varicella infection <5 days before or 2 days after delivery

5. Chemotherapy

6. Undergoing radiation therapies

7. Active abuse of alcohol or drugs

8. An infant diagnosed with galactosemia (galactose 1-phosphate uridyltransferasen deficiency)Hepatitis C is not a contraindication for breastfeeding, but reconsider if nipples are cracked or bleeding.

99. A 1-day-old infant is born prematurely. The birth was induced secondary to maternal hemodynamic instability and septic-like picture following a nonspecific flu-like illness and gastroenteritis. The baby in the newborn nursery suddenly becomes septic. A full workup is performed including CSF analysis that shows: total cells 120, nucleated cells 100, 75% neutrophils, 13% lymphocytes, and 12% monocytes. CSF glucose is 39; CSF protein is 160 mg/dL. The mother reported a history of nonspecific flu-like illness around the time of delivery. What is the most likely diagnosis?

A. Aseptic meningitis

B. Galactosemia

C. Hypoglycemia

D. Listeriosis

E. Necrotizing enterocolitis

Answer: D

Listeria monocytogenes is primarily a foodborne pathogen that can affect neonates, pregnant women, the elderly, and the immunocompromised host.Neonatal listeriosis is uncommon, but severe. There is an early and a late-onset presentation. Early onset disease usually presents at 1 to 2 days of age and typically exhibits a septiclike picture, although respiratory distress, pneumonia, and, rarely, meningitis and granulomatosis infantisepticum (diffuse granulomas in the liver, skin, and placenta as well as other organs) are described.

Late-onset disease typically presents at 2 weeks of age, most commonly as meningitis. The case fatality rate in neonates is 20% to 30%. Maternal listeriosis presents with a nonspecific illness (flu-like or gastrointestinal symptoms) and may progress to amnionitis, preterm labor, or septic abortion. Perinatal listeriosis results in neonatal death or stillbirth in 22% of the cases. Group B Streptococcus and E. coli remain the most common causes of neonatal sepsis. The history of maternal

flu-like illness points toward an infectious cause for this baby's decompensation. Galactosemia usually presents with jaundice and vomiting in the □rst few days of life after birth and initiation of breast milk or cows' milk–based formula feedings. NEC usually presents with change in feeding tolerance first, and then abdominal distention, and may progress into a sepsislike picture if diagnosis is delayed.

100. A female infant born at 38 weeks' gestation becomes ill appearing 6 hours after birth. An evaluation for sepsis is begun. Laboratory evaluation reveals the following abnormalities: white blood cell count 17,100, platelets 37,000, international normalized ratio 6.8, alanine aminotransferase 121 U/L, total bilirubin 18.1 mg/dL, direct bilirubin 9.0 mg/dL, and serum ferritin 8000. The following day the infant's physical examination is notable for jaundice, abdominal distension, and a large bruise at the site of her intravenous catheter. The neonatologist correctly suspects neonatal hemochromatosis. Which of the following statements regarding this condition is correct?

A. It is caused by a mutation in the same gene that is implicated in hereditary hemochromatosis.

B. Liver biopsy reveals increased iron deposition and findings consistent with acute hepatitis.

C. Ninety percent of infants with this condition will recover spontaneously with supportive care.

D. This condition results from a gestational alloimmune response.

E. This infant's future siblings will not have an increased risk of having the disease.

Answer: D

Neonatal hemochromatosis is a form of neonatal liver failure characterized by an in utero onset of hepatic and extrahepatic iron deposition. It is unrelated to the iron accumulation caused by hereditary hemochromatosis that is seen in adults. Neonatal hemochromatosis results from a gestational alloimmune response to a fetal liver antigen that crosses the placenta. The occurrence of severe neonatal iron storage disease in at-risk pregnancies can be significantly reduced by treatment with high-dose intravenous immunoglobulin during gestation. The rate of recurrence in subsequent newborns after the index case is 60% to 80%. Liver biopsy in these patients reveals changes consistent with chronic liver disease.

Extrahepatic siderosis can be demonstrated by either biopsy of a minor salivary gland or magnetic resonance imaging of the pancreas and/or heart. Infants with neonatal hemochromatosis have an expected mortality of more than 90% unless prompt treatment and/or liver transplantation is undertaken.

101. A 2200-g infant was born at 39 6/7 weeks' gestation (via spontaneous vaginal delivery) to a 34-year-old woman with a history of chronic hypertension. In the nursery at 2 hours of age, the baby's blood glucose was 24 mg/dL before feeding. After taking 20 mL of age appropriate formula, the blood glucose increased to50 mg/dL. What is the most likely cause for the initial hypoglycemia in this infant?

A. Decreased glycogen stores

B. Decreased neonatal insulin sensitivity

C. Increased gluconeogenesis

D. Increased placental transport of maternal insulin in utero

E. Increased serum epinephrine levels

Answer: A

hypoglycemia increases with the severity of intrauterine growth restriction. The risk of hypoglycemia is greatest during the first 3 postnatal days, but fasting hypoglycemia may occur repetitively for several days after birth. This early hypoglycemia usually results from insufficient hepatic and skeletal muscle glycogen content and is exacerbated by the lack of alternative energy sources (because of scant adipose tissue and decreased lactate concentrations). Early enteral feeding usually can prevent hypoglycemia. Less commonly, hyperinsulinemia and/or increased sensitivity to insulin may also contribute to hypoglycemia. This insulin is fetally/neonatally derived, as maternal insulin does not cross the placenta. Finally, deficient catecholamine responses to low blood sugar levels (seen in SGA infants) may also result in persistent hypoglycemia. Increased gluconeogenesis would decrease, not increase, the incidence of hypoglycemia in this infant.

102. What is the most common cause of hearing loss in children?

A. Eustachian tube dysfunction

B. Malignant otitis externa

C. Otitis media with secretion

D. Prenatal maternal infection

Answer: C

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media.

Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

Treatment: High-dose amoxicillin (10 days for empiric therapy).

Resistant cases may require amoxicillin/clavulanic acid.

103. Which of the following is the most common cause of congenital heart disease?

A. Atrial Septal Defect

B. Patent ductus arteriosus

C. Tetralogy of Fallot

D. Ventricular septal defect

Answer: D

Congenital heart disease

1. Disease is classified by the presence or absence of cyanosis.

2. Acyanotic (“pink babies”): Have left-to-right shunts e.g VSD, ASD and PDA.

3. Cyanotic (“blue babies”): Have right-toleft shunts e.g tetralogy of Fallot (ToF), transposition of the great vessels, tricuspid atresia and pulmonic stenosis.

4. VSD is the most common cause of congenital heart disease.

7. Intrauterine risk factors for congenital heart disease include:

1. Maternal illness (DM, PKU)

2. Maternal drug use (Alcohol, lithium, thalidomide, phenytoin)

3. Maternal infections (Rubella)

104. A one-day old term neonate presents with lethargy, irritability and fever. CSF analysis is suggestive of meningitis.Which of the following is the most likely causative organism?

A. Group B streptococcus

B. Listeria monocytogens

C. N.meningitidis

D. Staph aureus

Answer: A

antibiotics Early-Onset Meningitis Despite the institution of maternal intrapartum prophylaxis, Group B Streptococcus (GBS) has remained the most common cause of neonatal sepsis and meningitis since the early 1980s, responsible for >40% of all early-onset infections.2, 6, 20 Escherichia coli (E. coli) is the second most common pathogen and is isolated in 30% of all early-onset infections.6 Since the 1990s, E. coli has emerged as the most common cause of early-onset sepsis and meningitis among very low birth weight (VLBW, <1500 g birth weight) infantse

105. What is the treatment of post-streptococcus glomerulonephritis in children with edema and HTN?

A. Diuretic for HTN

B. Diuretic for edema

C. High dose of antibiotics

D. High dose of steroids

Answer: B

medication#1Administer antibiotics (penicillin or erythromycin) for 10 days to ensure eradication of the streptococcus if the disease is believed to be acute poststreptococcal glomerulonephritis and if riskof contamination is presentFurosemide is a loop diuretic that is useful in patients with acute glomerulonephritis who are edematous. This agent also has some BP-lowering effect by increasing excretion of salt and water via interfering with the chloride-binding cotransport system in the ascending loop of Henle. In acute hypertensive states, administer furosemide intravenously (IV). 17/10/17568Loop diuretics generally provide a prompt diuresis with reduction of blood pressure and edema. In our practice, intravenous furosemide is given at an initial dose of 1 mg/kg (maximum 40 mg).Patients with evidence of persistent group A streptococcal infection should be given a course of antibiotic therapy.

106. Which of the following conditions are not associated with nephroblastoma in children.

A. Beckwith-Wiedemann syndrome

B. Denys-Drash syndrome

C. Russel Silver

D. WAGR syndrome

Answer: C

The WT1-related Wilms tumor (WT) syndromes are a group of hereditary disorders caused by alterations in a gene known as WT1. This group of disorders includes: WAGR (Wilms tumor-Aniridia-Genitourinary malformation-Retardation) syndrome Denys-Drash syndrome (DDS) Frasier syndrome (FS) Genitourinary anomalies (abnormalities of the reproductive and urinary systems) syndrome In addition to the WT1-related Wilms tumor syndromes, there are a number of other genetic conditions associated with the development of WT. Some of these conditions include: Beckwith-Wiedemann syndrome Li-Fraumeni syndrome Neurofibromatosis type 1 Sotos syndrome Fanconi anemia syndrome Bloom's syndrome Simpson-Golabi-Behmel syndrome Perlman syndrome Trisomy 18

107. Which site of respiratory disease is NOT matched with the common clinical presentation?

A. Bronchiolitis—wheezing, prolonged expiration, chest wall retractions

B. Pneumonia—rapid shallow respirations, chest wall retractions, grunting

C. Status asthmaticus—wheezing, prolonged expiration

D. Subglottic stenosis—rapid shallow respiration, grunting, chest wall retractions

Answer: D

Clinical examination is important in localizing the site of pathology.

Extrathoracic airway obstruction occurs anywhere above the thoracic inlet. Inspiratory stridor, suprasternal, chest wall, and subcostal retractions, and prolongation of inspiration are hallmarks of extrathoracic airway obstruction. By comparison, features of intrathoracic airway obstruction are prolongation of expiration and expiratory wheezing. Typical manifestations of alveolar interstitial pathology are rapid, shallow respirations, chest wall retractions, and grunting. The site of pathology can be localized and the differential diagnosis established on the basis of the clinical signs and symptoms.

108. The highest incidence of retinoblastoma has been noted in which of the following age groups?

A. Adolescents

B. Children 2-5 years of age

C. Children 5-10 years of age

D. Infants

Answer: B

The median age at diagnosis is approximately 2 yr, and more than 90% of cases are diagnosed in children younger than 5 yr of age.

109. A 50 year old woman has dizziness, vertigo and progressive hearing loss for last two years. What are the likely □ndings on CT?

A. Demyelinization

B. Hemorrhage

C. Normal CT

D. Stroke

Answer: C

Meniere disease is an inner ear disorder that causes vertigo, fluctuating sensorineural hearing loss, and tinnitus. Meniere disease typically causes vertigo with nausea and vomiting, unilateral tinnitus, and chronic, progressive hearing loss. There is no reliable diagnostic test.

Menier's disease of the inner ear is characterized is diagnosed by following criteria:

1. Two or more spontaneous episodes of vertigo, each lasting 20 minutes to 12 hours

2. Audiometrically documented low- to medium-frequency sensorineural hearing loss in the affected ear on at least 1 occasion before, during, or after one of the episodes of vertigo

3. Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear

4. Not better accounted for by another vestibular diagnosis

110. Regarding collection of breast milk, which of the following statements is TRUE:

A. Expressed breast milk can be frozen and used for up to 6 months

B. Frozen milk should be thawed by microwave prior to giving to the child.

C. Glass or plastic containers should not be used to collect the milk

D. Manual expression is more efficient and better tolerated by mothers than mechanical pumps or electric pumps.

Answer: A

Electric breast pumps are more efficient and better tolerated by mothers than mechanical pumps or manual expression. Collection kits should be rinsed, cleaned with hot soapy water, and air dried after every use. Glass or plastic containers should be used to collect the milk, and milk should be refrigerated and then used within 48 hr.

Expressed breast milk can be frozen and used for up to 6 mo. Milk should be thawed rapidly by holding under running tepid water and used completely within 24 hour after thawing. Milk should not be microwaved.

111. A 16-year-old healthy female presents for routine primary care. While talking alone with the patient, she discloses to you that she is sexually active with her boyfriend. She has been using condoms, but wants to start taking oral contraceptive pills. You discuss her history and side effects of the medication and determine that she is a good candidate for this method.

Her last menstrual period was 2 days ago. When should the patient begin taking the pill?

A. After she has a negative pregnancy test

B. After she has a normal pelvic examination

C. After you have discussed the plan with the patient's parents

D. At the time of her next menses

E. Immediately

Answer: E

Effective use of a hormonal method is enhanced if the adolescent can initiate her contraceptive method right away rather than waiting for her next menses. This is termed the "quick start" approach and means starting the patient on their method immediately. Waiting for the patient's next menses is not necessary and delays the patient's use of an effective contraceptive method. With the quick start method, a pregnancy test is only necessary if it has been greater than 5 days since the last menstrual period. Since the patient in the vignette had a period 2 days ago, a pregnancy test is unnecessary. The primary reason adolescents hesitate or delay obtaining family planning or contraceptive services is concern about confidentiality. Without confidentiality, adolescents may forego necessary health care, especially those teens at greatest risk. As a result, professional health organizations recommend that clinicians provide confidential contraceptive care. Therefore, the provider does not need to discuss the plan for prescribing oral contraceptive pills prior to initiating the method. A pelvic examination is not necessary prior to initiating oral contraceptive pills.

112. Which of the following congenital heart defects is a cyanotic lesion?

A. Atrial septal defect

B. Coarctation of the aorta

C. Tetralogy of Fallot

D. Ventricular septal defect

Answer: C

Congenital heart disease is classi□ed by the presence or absence of cyanosis.

Acyanotic "Left to right shunt":

1-VSD

2-ASD

3-PDA

Cyanotic "Right to left shunt":

1-Tetralogy of Fallot

2-Tricuspid atresia

3-Transposition of the great vessels

4-Truncus arteriosus

5-Total anomalous pulmonary venous drainage

113. A 12-yr-old child with a history of allergy to yellow jackets is stung and immediately begins experiencing tightness in the chest and wheezing. The drug of first choice for management of this child is :

A. Inhaled albuterol

B. Intramuscular diphenhydramine

C. Intramuscular epinephrine

D. Oral corticosteroids

E. Subcutaneous epinephrine

Answer: C

Administer epinephrine immediately. This is the most important medication and the only medication that has been shown to decrease mortality due to anaphylaxis. Epinephrine maintains blood pressure, antagonizes the effects of the released mediators, and inhibits further release of mediators. Epinephrine is the first medication that should be used to reverse effects of systemic vasodilation and increased vasopermeability observed with anaphylaxis. Although not the first choice for bronchoconstriction, epinephrine can also relieve some symptoms of bronchospasm and rhinitis. In the past, protocols called for subcutaneous or intravenous administration of epinephrine.

However, studies have shown that intramuscular epinephrine leads to higher plasma levels than subcutaneous delivery. Intramuscular administration is now preferred over subcutaneous administration.

114. Which of the following syndromes is not associatedwith craniosynostoses?

A. Apert syndrome

B. Carpenter syndrome

C. Cleidocranial dysplasia

D. Crouzon syndrome

E. Pfeiffer syndrome

Answer: B

Cleidocranial dysplasia is associated with brachycephaly, frontal and parietal bossing, wormian bones, persistent open anterior fontanelle, maxillary hypoplasia, delayed eruption of deciduous and permanent teeth, supernumerary and fused teeth, hypoplastic to absent clavicles, brachydactyly, and joint laxity

115. In a 14-month-old patient who is on chronic total parenteral nutrition due to short gut syndrome. Which of the following complications is she most likely to develop?

A. Air emboli

B. Irreversible atrophy of the mucosa of the small intestine

C. Liver disease

D. Pulmonary emboli

E. Sepsis

Answer: E

The commonest complication in Pediatric parenteral nutrition is sepsis especially in cases where a central line catheter is placed.

116. An 8-year-old boy, with sickle cell disease, is presented with fever, chest pain and shortness of breath. There isalso painful swelling of his hands and feet. He has a 2-day history of runny nose. Chest x-ray shows infiltrationin the right middle lung lobe.Which of the following should be the first step in management?

A. Analgesics

B. Culture and sensitivity

C. IV fluids

D. Oxygen

Answer: C

A vaso-occlusive crisis is a common painful complication of sickle cell anemia in adolescents and adults. It is a form of sickle cell crisis. Sickle cell anemia – most common in those of African, Hispanic, and Mediterranean origin – leads to sickle cell crisis when the circulation of blood vessels is obstructed by sickled red blood cells, causing ischemic injuries. The most common complaint is of pain, and recurrent episodes may cause irreversible organ damage. One of the most severe forms is the acute chest syndrome which occurs as a result of infarction of the lung parenchyma. Other types of vaso-occlusive crisis in sickle cell anemia include dactylitis, priapism, abdominal pain, and jaundice. Vaso-occlusive crisis is treated with vigorous intravenous hydration and analgesics. Intravenous fluids should be of sufficient quantity to correct dehydration and to replace continuing loss, both insensible and due to fever. Normal saline and 5% dextrose in saline may be used. Treatment must be in an inpatient setting. Oxygen therapy is often used routinely in the management of vaso-occlusive crises, despite lack of evidence supporting the effectiveness of these measures in all patients. Oxygen therapy has not been shown to affect the duration of a pain crisis or to be useful in patients with acute chest syndrome whose partial pressure of arterial oxygen (PaO2) is in the normal range. analgesia shoulld also be instituted.

117. Which of these fractures is the most specific for childhood abuse:

A. A buckle fracture of the left distal tibial metaphysis

B. A classic metaphyseal lesion of the right distal radius

C. A linear skull fracture of the right parietal bone

D. An oblique fracture of the right femoral diaphysis

Answer: B

Two types of fractures that are specific for abuse are classic metaphyseal fractures (also called bucket handle or corner fractures related to their appearance depending on the angle of the x-ray) and posterior (or lateral) rib fractures. Linear skull fractures would be consistent with a simple fall onto a hard surface, and an underlying epidural (and even localized subdural) hematoma could be consistent with this mechanism of injury, assuming no other suspicious findings. An oblique fracture of the femur, though concerning, could potentially be caused by a fall onto a hard surface. A transverse clavicle fracture could be associated with birth trauma in an infant, although a fall could cause this. Birth fractures would usually be healed, and certainly would not be acute appearing (without callus formation) at 5 months of age. A buckle (sometimes called torus) fracture implies longitudinal forces, which could occur from a fall directly onto the foot. Buckle fractures occur in the metaphyseal region of the bone, but are different than the type of classic metaphyseal lesion with strong specificity for abuse.

118. A 2-year old is diagnosed with measles. She has had the rash for 4 days now. How many days would you advice the parents to keep her off school to prevent infecting other children with the measles virus?

A. 1 day

B. 10 days

C. 4

D. 8 days

Answer: C

Measles is transmitted from person to person primarily by the airborne route as aerosolized droplet nuclei. Infected people are usually contagious from 4 days before until 4 days after rash onset.

119. Which of the following statement is TRUE regarding a vegetarian diet:

A. Breast-feeding by vegan mothers can place an infant at risk for

vitamin B12 deficiency

B. Iron deficiency is less common in vegetarian, vegan women and children.

C. Vegetarian diets offer a higher levels of saturated fat, cholesterol, and animal protein.

D. Vegetarians tend to have higher body mass index, higher cholesterol, and higher blood pressure than non-vegetarians.

Answer: B

Vegetarianism is considered a healthful and viable diet, and both the American Dietetic Association and the Dietitians of Canada have found that a properly planned vegetarian diet can satisfy the nutritional goals for all stages of life. Various reports find lower risks of cancer and ischemic heart disease. Vegetarians also tend to have lower body mass index, lower cholesterol, and lower blood pressure than nonvegetarians. Vegan diets are low in iron; iron stores are lower in vegetarians than non-vegetarians; and iron deficiency is more common in vegetarian and vegan women and children. Plants are not generally a good source of B12. Additional vitamin B12 can be obtained through dairy products and eggs, and vegans typically need fortified foods or supplements. Breast-feeding by vegan mothers can place an infant at risk for vitamin B12 deficiency. Vegans are at risk for impaired bone mineralization unless they consume enough leafy greens, a good source of calcium, to meet the age and gender recommendations.

120. A 2-year old child presented with fever, a stridor and barking cough. Xray revealed a pencil sign. What is the most likely diagnosis?

A. Epiglotittis

B. Laryngotracheobronchitis

C. None of the above

D. Viral rhinitis

Answer: B

A barking cough, stridor, and fever are characteristic symptoms; laryngotracheobronchitis is the most common cause of stridor in children.X-ray-anteroposterior film reveals a steeple or pencil sign of the proximal trachea evident on this

121. Which of the following is associated with failure to thrive and rectal prolapse?

A. Cystic fibrosis

B. Hirschsprung disease

C. Intussusception

D. Volvulus

Answer: A

Cystic Fibrosis is the most common life shortening autosomal recessive disease due to mutation on the long arm of chromosome 7. It is caused by a mutation in the CFTR gene. Cough is the most constant symptom dry at times, frequently productive. The most common initial presentation of cystic fibrosis is meconium ileus. Characterized by recurrent pulmonary infections (especially with Pseudomonas and S aureus) with subsequent cyanosis, digital clubbing, chronic cough (the most common pulmonary symptom), dyspnea, bronchiectasis, hemoptysis, chronic sinusitis, rhonchi, rales, hyper-resonance to percussion, and nasal polyposis. Failure to thrive is from malabsorption. Best initial and most specific test: Elevated sweat chloride concentrations (> 60 mEq/L) obtained on separate days. Confirmed by genetic testing.

122. A 6-year-old boy presents to the doctor with a neck swelling that moves when he protrude his tongue. Which of the following is the most likely diagnosis?

A. Branchial cleft cyst

B. Laryngocoele

C. Ranula

D. Thyroglossal Cyst

Answer: D

A thyroglossal cyst is a fibrous cyst that forms from a persistent thyroglossal duct. Thyroglossal cysts can be defined as an irregular neck mass or a lump which develops from cells and tissues left over after the formation of the thyroid gland during developmental stages. Thyroglossal cysts are the most common cause of midline neck masses and are generally located caudal to (below) the hyoid bone. These neck masses can occur anywhere along the path of the thyroglossal duct, from the base of the tongue to the suprasternal notch. Other common causes of midline neck masses include lymphadenopathy, dermoid cysts, and various odontogenic anomalies. Branchial cleft cysts are congenital epithelial cysts, which arise on the lateral part of the neck from a failure of obliteration of the second branchial cleft in embryonic development. ranula is a type of mucocele found on the floor of the mouth. Ranulas present as a swelling of connective tissue consisting of collected mucin from a ruptured salivary gland caused by local trauma. If small and asymptomatic further treatment may not be needed, otherwise minor oral surgery may be indicated. Laryngoceles refer to dilatations of the laryngeal ventricular saccule located in paraglottic space of supraglottis. laryngocele does not move on deglutition

123. One-week-old newborn is presented with hypotonia and poor feeding. On examination, there were flat face occiput, low set ears, microcephaly, and cleft palate.Which of the following investigations will most likely be helpful to reach the diagnosis?

A. Echocardiography

B. Head MRI

C. Hormonal assay

D. Karyotyping

Answer: D

The clinical features de□ne a genetic condition. Karyotyping is the most appropriate analysis. Karyotyping can be used to detect a variety of genetic disorders.Karyotypes describe the chromosome count of an organism and what these chromosomes look like under a light microscope. Attention is paid to their length, the position of the centromeres, banding pattern, any differences between the sex chromosomes, and any other physical characteristics

124. A 32 week preterm baby born at 32 has now been discharged from hospital after a neonatal admission for 6 weeks. Baby is currently in good health. When should you give vaccinations?

A. Correct for chronological age.

B. Give vaccine as scheduled.

C. Give vaccine half the dose

D. start after 1 year

Answer: B

Whether full-term or preterm, the vaccination schedule doesn't change.

125. A 2-day old newborn is being evaluated for extensive purulent eye discharge and eyelid edema. Which of the following is the most likely diagnosis?

A. Dacryocystitis

B. Fungal Keratitis

C. Gonococcal conjunctivitis

D. Primary Congenital Glaucoma

Answer: C

Gonococcal conjunctivitis is acquired through contact with infected genital secretions. It occurs 2-5 days after birth. The most common cause of neonatal conjunctivitis is Chlamydia (transmission during passage in birth canal). It presents as copious purulent eye discharge with swollen eyelids and chemosis. Treatment of gonococcal conjunctivitis: Parenteral ceftriaxone; Prevention: Erythromycin ointment on eyes

126. A 3690-g male infant was born vaginally after a 38 6/7 weeks' gestation. The pregnancy was notable for polyhydramnios. He required only suctioning, drying, and stimulation in the delivery room. He passed meconium on the delivery room table. Apgar scores were 8 and 9 at 1 and 5 minutes, respectively. At 6 hours of age, the mother tells the postpartum nurse that the baby is "spitty" with feeding. The nurse notes the infant has copious clear secretions from the mouth. The nasopharynx and oropharynx appear normal on physical examination. A large-bore nasogastric tube is placed; a subsequent chest x-ray shows the tube ending at the level of the sixth cervical vertebrae. The most appropriate initial step in management of this neonate is:

A. Barium enema

B. Contrast study of the upper gastrointestinal tract

C. Intravenous antibiotics

D. Oral airway placement

E. Suction applied to the nasogastric tube

Answer: E

The neonate in this vignette has findings consistent with isolated esophageal atresia, which can present prenatally with polyhydramnios (due to inability of the fetus to swallow amniotic fluid). Postnatal findings include excessive oral secretions and respiratory distress.

Radiographic findings include failure of a nasoenteric tube to pass to the stomach,with curling of the tube in the proximal esophageal pouch.

Initial management involves decompression of the proximal pouch by suctioning the nasogastric tube (to prevent pooling of oral secretions).

Subsequent steps in management may include contrast imaging of the proximal pouch and esophagus (to delineate anatomy) and intravenous antibiotics (if pneumonia is suspected due to aspiration of secretions).

A barium enema is not indicated for isolated esophageal atresia. An oral airway is not needed in this infant with normal pharyngeal findings

127. You get called to the bedside of a 6-hour-old infant secondary to abdominal distension. The infant had meconium aspiration at birth requiring endotracheal suctioning and bag mask ventilation. Over the course of the last few hours she has developed more abdominal distension and lethargy, and has fed poorly on 2 attempts. The patient has no respiratory distress and currently has normal blood pressure and heart rate. You obtain an abdominal radiograph and find a large pneumoperitoneum. What is your next step in management?

A. Transfer to the NICU for nasogastric decompression and paracentesis.

B. Transfer to the NICU for nasogastric decompression and sepsis workup.

C. Transfer to the NICU for nasogastric decompression with a follow-up abdominal radiograph to evaluate for improvement.

D. Transfer to the NICU for nasogastric decompression, administration of antibiotics, and an operative evaluation and management.

E. Transfer to the neonatal intensive care unit (NICU) for nasogastric decompression prior to refeeding.

Answer: D

This neonate has likely experienced a gastric perforation due to trauma from esophageal intubation and bag mask ventilation. The pneumoperitoneum is confirmed by an abdominal radiograph.

Symptoms include poor feeding, lethargy, and abdominal distension.

Treatment includes nasogastric decompression, antibiotics, and surgical management. Refeeding would not occur until surgical repair has occurred. A sepsis workup would not be the first course of action prior to surgical repair. Monitoring with repeated radiographs would not be appropriate, as the diagnosis has already been confirmed. A paracentesis would be the appropriate step preoperatively if the patient is experiencing hemodynamic instability or respiratory compromise, which this patient does not demonstrate.

128. A 2-year-old boy is brought by his mother to the emergency room with excessive drooling after he swallowed a coin. Radiograph showed the coin still in the esophagusWhich of the following is the most appropriate management for this patient?

A. CT scan of the abdomen

B. Immediate removal

C. Observation

D. Ultrasound

Answer: B

Coins are the most commonly ingested foreign body encountered in the pediatric population. Coins that are in the esophagus and are causing symptoms (cough, stridor, respiratory distress, drooling or pain) are managed with immediate removal via various methods.

Asymptomatic coins have been a perplexing problem to the clinician for decades, with some advocating for immediate removal while others are proponents of "watchful waiting"

129. A 15-day-old infant presents with difficulty breathing and grunting. The diagnosis of pertussis is confirmed via polymerase chain reaction (PCR) testing on nasopharyngeal swab specimen. You decide to hospitalize the patient. What is the best isolation plan for this patient?

A. Airborne isolation

B. Contact isolation

C. Droplet isolation

D. No isolation

E. Routine hand washing

Answer: C

Contact transmission can be direct or indirect. Direct contact transmission occurs through direct body surface contact to body surface contact. Indirect contact transmission involves an intermediate object, such as a toy or instrument. Contact isolation precautions include gowns and gloves for providers. Droplet transmission occurs when droplets containing the organisms are generated by the infected patient (eg, coughing or sneezing). Droplet isolation precautions include masks for providers. These relatively large droplets do not remain suspended in the air; as a result, special ventilation is not needed. Airborne transmission occurs by spread of airborne droplet nuclei (particles ≤5 μm in size that remain suspended in air) or small particles containing spores that can be inhaled. As a result, airborne isolation precautions include single-patient rooms, special ventilation, and the use of personally fitted respirators, such as N95 respirators. B. pertussis is highly contagious. The organism has been recovered from the nasopharynx of infected individuals after 5 days of macrolide therapy.

As a result, hospitalized patients should be managed in respiratory isolation (droplet precautions) until 5 days after the initiation of macrolide therapy. A private room is preferred; however, multiple patients who are culture positive may be cohorted in the same area. Patients who are not being treated should remain in isolation until 3 weeks after the onset of paroxysms.

130. A 14-year-old boy comes to the clinic with unilateral gynecomastia. His past medical history is unremarkable. Examination shows left gynecomastia with very mild tenderness. The right breast and the rest of the examination are unremarkable. What is the most appropriate next step in the management of this patient?

A. Biopsy of left breast

B. Mammography

C. Observation with reassurance

D. Serum prolactin

Answer: C

1. Gynecomastia is a benign enlargement of the male breast (usuallybilateral but sometimes unilateral) resulting from a proliferation of the glandular component of the breast.

2. It can occur in up to 213 of pubertal boys

3. Patients with physiologic gynecomastia do not require further evaluation. Similarly, asymptomatic and pubertal gynecomastia do not require further tests and should be reevaluated in 6 months.

4. Pubertal gynecomastia resolves spontaneously within several weeks to 3 years in most patients; breasts larger than 4 cm in diameter may not regress completely

5. Persistent gynecomastia after that time may require evaluation to exclude other causes

131. Trendelenburg gait caused by weakness of which of the following?

A. Gluteus muscle weakness

B. Psoas muscle weakness

C. Quadratus lumborum weakness

D. Quadriceps muscle weakness

Answer: A

1. The Trendelenburg test is used to assess hip stability.

2. Trendelenburg sign is caused by weakness or paralysis of the gluteus medius and minimus muscles, which are innervated by the superior gluteal nerve.

3. Drooping of the contralateral hemipelvis below its normal horizontal level during monopedal stance constitutes a positive Trendelenburg sign.

132. Which of the following is the most common cause of gastroenteritis in

infants and young children?

A. Adenoviruses

B. Campylobacter jejuni

C. Norovirus

D. Rotavirus

Answer: D

Gastroenteritis: Inflammation of the gastrointestinal tract (Stomache and Small Intestine)

1. Viral spread from person to person occurs by fecal-oral transmission of contaminated food and water. Some viruses, like noroviruses, may be transmitted by an airborne route.

2. Rotavirus is the most common cause of gastroenteritis in infants and young children worldwide.

3. Rotavirus is the most common cause of acute diarrhea in children.

4. The clinical manifestations of viral gastroenteritis include diarrhea, vomiting, fever, anorexia, headache, abdominal cramps, and myalgia.

5. Typical presentation is Vomiting followed by Diarrhea

6. Viral gastroenteritis generally manifests with loose, watery stools that can be normal in color or relatively pale colored.

7. The diagnosis of acute viral gastroenteritis is made clinically. Clinical features suggestive of viral gastroenteritis include: age younger than 2 years; watery diarrhea; absence of gross blood, mucus, and fecal leukocytes; stool pH <6; and the presence of reducing substances.

8. Once the diagnosis of acute gastroenteritis is made, initial therapy is directed toward correcting fluid deficit and electrolyte imbalance.(Fluid

repletion and replacement of ongoing fluid losses are the goals of therapy.)

133. What is the most common lysosomal storage disease ?

A. Gaucher's Disease

B. Hunter Syndrome

C. Niemann-Pick Disease

D. Tay-Sachs Disease

Answer: A

The lysosomal storage disorders (LSDs) are due to deficiencies of lysosomal enzymes caused by mutations of genes that encode the enzyme proteins and related cofactors. Lysosomal enzymes degrade most biomolecules. The products of this degradation are recycled. This process is crucial for the health and growth of cells and tissues. LSDs result in accumulation (storage) of undegraded products in lysosomes. This causes enlargement of cells (ballooning), cellular dysfunction, and cell death. LSDs are rare. The most common among them are the mucopolysaccharidoses (MPS), which affect one in every 100,000 to 200,000 liveborn infants. The single most common LSD is Gaucher disease.

134. A two year old presents with a an abdominal mass that the mother discovered while bathing him. A detailed medical work up reveals hypospadias, aniridia, horseshoe shaped kidneys and renal hemihyperplasia. Which of the following conditions is this patient most likely to have?

A. Hepatoblastoma

B. Neuroblastoma

C. Splenomegally

D. VACTERL

E. Wilms tumor

Answer: E

The answer is C: Wilm's tumor Patients with an unusual complex of congenital developmental abnormalities, such as aniridia , genitourinary (GU) malformations, and mental retardation, are at high risk (>30%) of having a Wilms tumor. At birth, the association is aniridia, GU malformations, and mental retardation (AGR) syndrome. With the discovery of a Wilms tumor in these patients, the association is referred to as WAGR syndrome. These syndromes result from the loss of chromosomal material from the short arm of chromosome 11.

An abdominal mass is palpable in about 85% of patients with an abdominal mass. Othe common symptoms include hypertension, hematuria and abdominal pain. Wilms tumour, when associated with aniridia is most likely due to defects on chromosome 11. Neuroblastoma though also associated with an abdominal mass, is more likely to present with additional symptoms such as fever, irritability, diarhea and bone pain. The association with aniridia and hemihyperpalsia however makes this less likely. The signs are mostly renal and less likely to be hepatoblastoma or splenomegally. The late onset of detecting signs and only renal involvement makes this unlikely to be VACTERL.

135. You are counseling a father about the treatment options for his child with β-thalassemia major.In addition to the increased risk of infection, splenectomized patients are at an increased risk of which of the following?

A. Aplastic anemia

B. Cancer

C. Increased bleeding

D. Renal failure

E. Thrombosis

Answer: E

Splenomegaly can be a complication of chronic transfusions, which is the mainstay of treatment for thalassemia major.Chronic transfusions can decrease extramedullary hematopoiesis and prolong and improve quality of life. However, patients who develop splenomegaly have an increased transfusion requirement due to the associated hypersplenism and increased RBC clearance. As a result, splenectomy can be recommended. It is well known that asplenic patients are at higher risk of infection from encapsulated organisms, and should be immunized prior to splenectomy. However, these patients are also at higher risk for thrombosis and pulmonary hypertension. There is no known association between splenectomy and renal failure, malignancy, aplastic anemia, or increased bleeding.

136. The initial management of a hemodynamically stable 2-mo-old infant with supraventricular tachycardia should include :

A. Cardioversion

B. Defibrillation

C. Digitalization

D. Intravenous verapamil

E. Vagal stimulation

Answer: E

Supraventricular tachycardia (SVT) is an umbrella term used to describe certain types of abnormal heartbeats, which cause the heart to beat quickly and sometimes irregularly. SVT includes conditions like atrial flutter and atrial tachycardia. Acute management of paroxysmal supraventricular tachycardia (PSVT) includes controlling the rate and preventing hemodynamic collapse. If the patient is hypotensive or unstable, immediate cardioversion with sedation must be performed. If the patient is stable, vagal maneuvers can be used to slow the heart rate and to convert to sinus rhythm. If vagal maneuvers are not successful, adenosine can be used in increasing doses. If adenosine does not work, atrioventricular (AV) nodal blocking agents like calcium channel blockers or beta-blockers should be used, as most patients who present with PSVT have AV nodal reentrant tachycardia (AVNRT) or AV reentrant tachycardia (AVRT). These arrhythmias depend on AV nodal conduction and therefore can be terminated by transiently blocking this conduction.

137. An 18 month child has a precordial heave on examination. ECG shows a Right Bundle Branch Block. On Echo, there is right ventricle motion abnormality and right ventricle hypertrophy. What is the most likely cause?

A. ASD

B. Coarctation of aorta

C. Mitral prolapse

D. VSD

Answer: A

Patients may have a hyperdynamic right ventricular impulse by palpation, especially in older children and adults with a large left-toright shunt.- ECG shows normal or tall p waves indicating RA enlargement or R-wave voltages in lead V1 greater than the upper limit of normal for age, suggesting right ventricular hypertrophy, may be present in larger defects.- Two-dimensional echocardiography demonstrates right atrial and ventricular enlargement, as well as the defect itself, especially for secundum-type defects.

138. An 18-mo-old is discovered with his mouth over a storage bottle containing a strong alkali. The parents remove the bottle, and the boy seems well. Some fluid is missing from the bottle, but no external signs are found on the child's clothing, and the child has no burns on his face or his lips. The most appropriate advice to give the parents, who are on their way to the hospital, is to:

A. Administer ipecac

B. Administer milk

C. Administer toast

D. Dilution by water or milk is recommended as acute treatment of caustic ingestion. Neutralization, induced emesis (ipepac is an antiemetic), and gastric lavage are contraindicated.

E. None of the above

Answer: E

Do not induce emesis or attempt to neutralize the substance by using a weak acid or base. This induces an exothermic reaction, which can compound the chemical injury with a thermal injury. It may also induce emesis, re-exposing tissue to the caustic agent. Small amounts of a diluent may be beneficial if administered as soon as possible after a solid or granular alkaline ingestion, to remove any particles that are adhering to the oral or esophageal mucosa. Water or milk may be administered in small amounts. It is very unlikely to be of any benefit after more than 30 minutes. This practice is controversial: Some of the literature available on this topic discourages the use of diluents because of the concern of inducing emesis resulting in re-exposure of tissue to caustic agent. Diluents should not be used with any acid ingestion or liquid alkaline ingestion. The risk of vomiting with reexposure of the oral or esophageal mucosa to the offending substance can result in worsening injury or perforation.

139. The best approach to prevent congenital anomalies in infants of diabetic mothers is to:

A. Discontinue insulin and begin glyburide

B. Maintain periconceptional tight control of maternal blood glucose levels

C. Provide continuous insulin infusion during labor and delivery

D. Switch from an oral hypoglycemic agent to insulin until 36-wk of gestation

Answer: B

Periconception control and control during the early period of organogenesis help reduce the risk of congenital malformations.

Common anomalies affect the heart and musculoskeletal system.

140. A patient presents to you with allergic rhinitis with congestion. He requests some intranasal decongestant for relief. Which of the following is drug of choice?

A. Dexamethasone

B. Loratidine

C. PSeudoephedrine

D. Xylometazoline

Answer: D

Xylometazoline is pure alpha agonist and used as decongestant by causing constriction of the arterioles resulting in the decreased airflow and decreased congestion. One of the complication is rebound phenomena. That is due to decreased sensitivity of the alpha receptors results in upregulation of the receptors. When exogenously administered alpha agonist is stopped then increased receptors are unbounded and results in greater congestion than before. This is called rebound phenomena.

141. Which of the following is a complication of mumps?

A. Encephalitis

B. Facial palsy

C. Hearing loss

D. both A and B are complications of mumps.

Answer: D

Complications include: inflammation of the testicles (orchitis) in males who have reached puberty; rarely does this lead to fertility problems. inflammation of the brain (encephalitis) inflammation of the tissue covering the brain and spinal cord (meningitis)

142. A healthy, term infant male is born to a 27-year-old woman with known untreated syphilis. Which of the following describes the best initial management strategy?

A. Full physical examination and RPR or VDRL serum testing

B. Full physical examination, FTA-ABS serum testing, CBC, and long bone radiographs

C. Full physical examination, FTA-ABS serum testing, CSF testing, CBC, and long bone radiographs

D. Full physical examination, RPR or VDRL serum testing, CSF testing,

CBC, and long bone radiographs

E. RPR or VDRL serum testing

Answer: D

All infants born to mothers with known syphilis that has been inadequately treated should be evaluated for congenital syphilis initially with a full physical examination and a nontreponemal serum test, such as RPR or VDR. The titer of the nontreponemal test needs to then be compared with maternal titers. When the mother is inadequately treated, CSF analysis, CBC, and long bone radiographs are also indicated. Physical examination findings may include skin lesions, saddle nose deformity, osteomyelitic lesions, jaundice, pneumonia, splenomegaly, and lymphadenopathy.

143. A 15-year old female with 1-year history of fatigue, multiple areas of pain, tenderness. Labs are within the normal limits. Which of the following is the most likely diagnosis?

A. Familial Mediterranean fever

B. Fibromyalgia

C. Osteosarcoma

D. Vitamin D deficiency

Answer: B

1. Fibromyalgia is a chronic widespread pain disorder associated with fatigue, poor sleep, irritable bowel syndrome and depression for more than 3 months.

2. More frequent in girls

3. It is most prevalent in girls 13–15 years of age

4. Fibromyalgia pain worsens with exercise.

5. The only other drug other than tricyclic antidepressants studied extensively in fibromyalgia is cyclobenzaprine (either amitriptyline or cyclobenzaprine are the initial drugs of choice)

Clinical presentation

1. 3 months of chronic pain

2. Body aching and stiffness

3. Pain may be described as sharp, dull, constant, intermit tent, burning, heavy or numb

4. They toss and turn at night from the pain

5. Tender points, aggravated by cold, humidity, fatigue, relieved by heat, massage, dry weather, activity

144. A boy who took primaquine developed symptoms of anemia. Deficiency of which of the following caused his symptoms?

A. B- G-6-P dehydrogenase

B. C- Glucose 6 phosphatase

C. D- Pyruvate kinase

D. None of the above

Answer: A

Glucose-6- phosphate_dehydrogenase_deficiency Triggers :
Antimalarial drugs that can cause acute hemolysis in people with G6PD deficiency include primaquine, pamaquine, and chloroquine.

145. A 12-year-old boy is brought to the emergency room with the sudden onset dyspnea and a swollen face. Physical examination shows an edematous swelling of his face including the lips, hands, arms, legs, and genitals without a rash. Which of the following is the most likely diagnosis?

A. Acute Urticaria

B. Anaphylaxis

C. Hereditary angioedema

D. Scabies

Answer: C

1. Hereditary angioedema (HAE) is a rare autosomal dominant disorder.

2. Characterized by recurrent episodes of well-demarcated angioedema without urticaria, which most often affect the skin or mucosal tissues of the upper respiratory and gastrointestinal tracts.

3. Although swelling resolves spontaneously in two to four days in the absence of treatment, laryngeal edema may cause fatal asphyxiation, and the pain of gastrointestinal attacks may be incapacitating.

4. The most common forms of HAE (types I and II) are caused by deficiency or dysfunction in C1 inhibitor (C1INH).

5. Usually present in childhood or adolescence with a mean age at onset between 8 and 12 years

6. Laryngeal edema that may lead to death by asphyxiation.

7. The swelling can occur anywhere on the body, including lips, eyelids, hands, feet, and genitals.

8. The swelling usually develops over the course of 24 h and then resolves spontaneously in the next 24−36 h.

146. A 13-year-old boy presented with high fever and tender swelling behind the right ear. He had history of right acute otitis media that was treated with amoxicillin. Tympanic membrane was opaque and light reflex was absent. There was sagging of deep part of posterior meatal wall.Which of the following is the likely diagnosis?

A. Acute mastoiditis

B. Glue ear

C. Otitis externa

D. Tuberculous otitis media

Answer: A

Acute mastoiditis in children develops when acute otitis media (AOM) spreads into the mastoid air cells inside the temporal bone. The diagnosis is based on clinical findings of AOM with simultaneous signs of infection in the mastoid area. The most common pathogen causing acute mastoiditis in children is Streptococcus pneumoniae. Intravenous antimicrobial medication, tympanostomy and microbial sample are the cornerstones of the treatment. If a complication of mastoiditis is suspected, imaging studies are needed, preferably with magnetic resonance imaging. The most common complication of acute

mastoiditis is a subperiosteal abscess.Symptoms of acute mastoiditis include: Pain in or behind the ear Swelling of the area behind the ear Ear discharge Fever Headache The most common cause of mastoiditis is an untreated inner ear infection (otitis media).

147. The presence of polymorphonuclear fecal leukocytes in stool samples most likely supports the diagnosis of a

A. Bacterial infection

B. Fungal infection

C. Parasitic infection

D. Viral infection

Answer: A

Acute diarrhea is defined as stools occurring with increased frequency or decreased consistency. There are many different organisms.

Bacterial agents include E. coli, Salmonella, Shigella, Campylobacter, Clostridium, Yersinia, and Vibrio cholerae . Viral agents include rotavirus, enterovirus, and Norwalk agent. Parasitic infections include Giardia lamblia, Entamoeba histolytica, Cryptosporidium, and Strongyloides. Fungal agents include Candida, Histoplasma, and Actinomyces. Diagnosis is accomplished with stool culture and sensitivity studies; however, the presence of polymorphonuclear cells supports a bacterial cause. In most cases of acute diarrhea, the use of antibiotics is unnecessary; however, the empiric use of antibiotics, including TMP-SMX, ciprofloxacin, or erythromycin, may be appropriate (although controversial) in severe cases in which stool

cultures are pending, especially for those at risk for transmitting the offending organism to others.

148. At what age does a baby develops the social smile?

A. 2 months

B. 4 months

C. 6 months

D. 8 months

Answer: A

Often newborns will smile in their sleep. Sometimes a smile in the early weeks of life is simply a sign that your little bundle is passing gas.

But starting between 6 and 8 weeks of life, babies develop a "social smile" -- an intentional gesture of warmth meant just for the parent

149. Which of the following routes presents the MOST COMMON means of transmission of Mycobacterium tuberculosis

A. Ingestion of organisms originating from soil or other environmental sources

B. Inhalation of organisms originating from soil or other environmental sources

C. Person-to-person spread by direct contact with infected discharge or contaminated fomite

D. Person-to-person spread by infected airborne droplets

Answer: D

In almost all cases, transmission of M. tuberculosis is from person-toperson spread by airborne mucus droplet nuclei, usually from an actively infected person with cavitary tuberculosis and coughing.

150. 12-yr-old girl receives cranial, neck, and spinal irradiation for cancer. All of the following are likely long-term sequelae of the radiotherapy Except:

A. All of the above

B. Interstitial fibrosis

C. Pituitary dysfunction

D. Scoliosis

Answer: C

Many sequelae of radiation do not become apparent until the child is fully grown. Irradiation can result in infertility, second cancers, scoliosis, pulmonary dysfunction (interstitial fibrosis), leukoencephalopathy, impaired cognition and intelligence, hypothyroidism, isolated growth hormone deficiency, and pan-hypopituitarism. Cardiomyopathy is classically associated with the anthracyclines (doxorubicin and daunomycin) but can also occur with irradiation.

151. A child that can raise his head slightly when prone and smiles. He turns his head 180 degrees and has head lag when you pull him to sit. How old is he?

A. 12 weeks

B. 16 weeks

C. 4 weeks

D. 8 weeks

Answer: D

Two-month-old babies are gaining more control over their bodies. That means they can hold their head a little steadier while lying on their tummies or being supported upright. In the second month of life, babies continue to have a strong sucking reflex. You may notice your baby likes to suck on a first or a few fingers. This is one of the best ways babies have of comforting themselves.

152. A 7-year-old female is admitted with jaundice and fatigue. Laboratory evaluation reveals elevated AST, ALT, bilirubin, prolonged INR, and a positive anti–liver kidney microsomal type 1 (LKM-1) antibody titer. Which of the following is the most likely diagnosis?

A. Intrahepatic cystic biliary dilation (Caroli disease)

B. Lupus

C. Primary sclerosing cholangitis

D. Type I autoimmune hepatitis (AIH)

E. Type II AIH

Answer: E

This patient most likely has type II AIH, which is characterized by positive anti-LKM-1 antibody and/or anti-liver cytosol-1 antibody. Compared with patients with type I AIH, patients with type II AIH tend to present at a younger age and to have a higher incidence of partial IgA deficiency and acute liver failure at presentation (which is suggested by this patient's coagulopathy). Type I AIH is more common than type II AIH and is characterized by positivity for antinuclear antibody (ANA), anti–smooth muscle antibody (SMA), or anti–F-actin antibodies. Primary sclerosing cholangitis is an autoimmune inflammatory condition targeting the extrahepatic bile ducts The most useful indicator of this child's hepatic synthetic function is the PT, which will be prolonged if the liver fails to synthesize clotting factors. Cortisol level, total and free carnitine and acylcarnitine, and antinuclear antibody are second-tier diagnostic tests that should be sent for the well-appearing or ill-appearing child in which the etiology of direct hyperbilirubinemia remains unestablished after first-tier tests return with normal results. Complete blood count with platelets is an appropriate firsttier test to send in a child with direct hyperbilirubinemia, but abnormalities in this test do not necessarily indicate hepatic synthetic dysfunction.

153. What is the cause of hereditary angioedema?

A. Antibody-mediated hypersensitivity

B. C1 inhibitor deficiency

C. Depressed C1 q

D. Immune complex-mediated hypersensitivity

Answer: B

1. Hereditary angioedema (HAE) is a rare autosomal dominant disorder.

2. Characterized by recurrent episodes of well-demarcated angioedema without urticaria, which most often affect the skin or mucosal tissues of the upper respiratory and gastrointestinal tracts.

3. Episodes usually follow an infection, dental procedure, or trauma.

4. The most common cause of acquired isolated angioedema is due to angiotensin-converting-enzyme inhibitor use.

5. Although swelling resolves spontaneously in two to four days in the absence of treatment, laryngeal edema may cause fatal asphyxiation, and the pain of gastrointestinal attacks may be incapacitating.

6. The most common forms of HAE (types I and II) are caused by deficiency or dysfunction in C1 inhibitor (C1INH).

7. Usually present in childhood or adolescence with a mean age at onset between 8 and 12 years

8. Laryngeal edema that may lead to death by asphyxiation.

9. The swelling can occur anywhere on the body, including lips, eyelids, hands, feet, and genitals.

154. Which of the following is the most common chromosomal abnormality among liveborn infants?

A. Down syndrome

B. Gastroschisis

C. Omphalocele

D. Trisomy 18

Answer: A

Children with Down syndrome have one extra chromosome. The incidence is 1 per 700-1,000 births, making it the most common trisomy among liveborn infants. Physical characteristics include a protruding tongue, thick lips, flat nose, short neck, wide gaps between toes, short fingers, specific health problems, and risks for heart problems and hearing loss. Mental retardation can range from mild to severe. Children often have good visual discrimination skills and may be better at understanding verbal language than producing it.

155. An example of an inborn error of metabolism with X-linked recessive inheritance and significant variability in clinical phenotype is:

A. Biotinidase deficiency

B. Methylmalonic acidemia

C. Ornithine transcarbamylase (OTC) de□ciency

D. Propionic acidemia

Answer: C

Most IEM are inherited as autosomal recessive conditions. A significant minority are inherited as X-linked recessive and a few as dominant disorders. However, in developed countries, where consanguinity is rare and the size of sibships small, many cases appear to be sporadic with a negative family history. It is important to remember OTC deficiency, the most common urea cycle defect, is an X-linked disorder with a very variable phenotype in females that can lead to fatal hyperammonemia in both affected males and females.

156. A newborn got the injury of stylomastoid foramen near the base of the skull. Which of the following clinical feature help in diagnosis?

A. Loss of eye closure

B. Loss of mastication function

C. Loss of maxillary sensation

D. Loss of sensation in mandibular region

Answer: A

Facial nerve leave the skull via stylomastoid process and is likely to be damaged in this patient. The orbicularis oculi muscle, supplied by facial is likely to be paralysed resulting in failure of closure of the eye. It is usually associated with facial palsy, shifting of face to the opposite side. Nasolacrimal secretion will also be decreased because it is also supplied by facial nerve. Loss of maxillary sensation is due to maxillary branch of trigeminal nerve. It exits the skull at foramen rotundum. Loss of mandubular sensation is due to mandibular branch of trigeminal nerve which exits the brain at foramen ovale. Loss of muscles of mastication is also caused by damage to trigeminal nerve.

157. A 2 year old child in Sub Saharan Africa is found to have meningitis with negative diplococci. The parents are concerned about the 4 year old brother also becoming infected. Which of the following prophylactic medication would you recommend?

A. Active immunization

B. Oral augmentin

C. Oral ciprofloxacin

D. Stat dose of amikacin

Answer: C

Antibiotic prophylaxis for close contacts, when given promptly, decreases the risk of transmission. Outside the African meningitis belt, chemoprophylaxis is recommended for close contacts within the household. In the meningitis belt, chemoprophylaxis for close contacts is recommended in non-epidemic situations. Ciprofloxacin antibiotic is the antibiotic of choice, and ceftriaxone an alternative.

158. Which of the following scenarios should prompt you to evaluate further for a possible underlying metabolic disorder:

A. A 3-week-old with feeding intolerance, increased anion gap metabolic acidosis, and significant ketosis (urinary ketones 4+)

B. A 5-year-old with lethargy, increased anion gap metabolic acidosis, and blood glucose of 354 mg/dL

C. A 7-month-old with a 3-day history of persistent diarrhea and hyperchloremic, normal anion gap, metabolic acidosis

D. A neurocognitively normal, healthy 3-year-old, in the care of his grandmother, with sudden onset of lethargy and increased anion gap metabolic acidosis

E. A previously healthy 2-year-old with increasing fever for 5 days, poor oral intake for 2 days, and metabolic acidosis

Answer: A

Metabolic acidosis can result from a large variety of acquired conditions, including infections (patient described in “A”), severe catabolic state, severe dehydration and intoxication (patient described in “C”). Evaluation of patients with metabolic acidosis includes calculating the anion gap. In patients with metabolic acidosis caused by loss of bicarbonate (GI or renal loss), the plasma chloride is elevated and the anion gap normal (patient described in “E”). The patient described in “D” most likely has diabetic ketoacidosis.Metabolic acidosis in IEMs often develops as a result of accumulation of a fixed anion, like lactate, ketone bodies, organic acid, or a combination of these, leading to increased anion gap metabolic acidosis. Ketonuria should always be considered abnormal in a neonate and when associated with metabolic acidosis should prompt evaluation for metabolic disease.

159. A 7-yr-old girl experiences fullness of the right upper eyelid and downward displacement of the eye over a 2-mo period. The right eye also appears to be proptotic. Which of the following is the most likely diagnosis?

A. Hypothyroidism

B. Myasthenia gravis

C. Rhabdomyosarcoma

D. Right superior oblique palsy

Answer: C

Rhabdomyosarcoma of the face, orbit, and sinus often presents early because of the space-occupying and displacement effects of tumor growth.

160. A 3440-g male neonate is delivered vaginally after a 39 6/7 weeks' gestation complicated by fetal bradycardia. On arrival at the delivery room table, the baby has no respiratory effort or spontaneous movement. He is covered in particulate meconium. The nurse palpates the pulse in the umbilical cord stump and detects 5 beats in 6 seconds. Which of the following steps is next indicated in resuscitation of this neonate?

A. Catheterization of the umbilical vein

B. Initiation of chest compressions

C. Intubation and suctioning the trachea

D. Placement of a 5 French nasogastric tube

E. Suctioning of the mouth and nose with a bulb syringe

Answer: C

The nonvigorous infant in this vignette requires intubation and aspiration of the trachea for aspirated meconium from the amniotic fluid. He demonstrates signs of secondary apnea at birth (apnea,

hypotonia, and bradycardia [heart rate 50 beats/min]), putting him at risk for meconium aspiration syndrome. This baby requires endotracheal intubation and suctioning on arrival at the delivery room table. Suctioning of the mouth and nose of a meconium-stained infant would be performed only if the infant was vigorous (ie, demonstrating normal respiratory effort, muscle tone, and heart rate [over 100 beats/min]). Chest compressions and umbilical vein catheterization (for epinephrine administration) are indicated only if the infant remainsbradycardic after tracheal aspiration and ventilation. Nasogastric tube placement would be indicated to decompress the stomach after prolonged bag–mask ventilation.

161. A 7-year-old boy presents to the emergency department after multiple episodes of frank bloody emesis. The attending physician observes that he is pale and listless. His heart rate is 140 bpm, and blood pressure is 80/35 mm Hg. His physical examination is notable for a firm liver edge and an enlarged spleen. Laboratory evaluation reveals hemoglobin 6 mg/dL, platelets 60,000, and international normalized ratio 1.4. Which of the following is the most appropriate immediate next step in management?

A. Emergent endoscopic evaluation to determine the source of bleeding

B. Insertion of a large-bore intravenous cannula followed by the

administration of packed red blood cells

C. Placement of a Sengstaken-Blakemore tube

D. Placement of a nasogastric tube for lavage of the stomach

E. Placement of a transjugular intrahepatic portosystemic shunt

Answer: B

This patient has physical examination findings compatible with endstage liver disease and is likely having a variceal upper gastrointestinal bleed. Placement of a nasogastric tube may puncture a varix and is relatively contraindicated when a variceal bleed is suspected. The first step in management is hemodynamic stabilization via the administration of isotonic crystalloid or packed red blood cells. Concurrently, an intravenous infusion of octreotide may be started to reduce splanchnic blood flow. Once this is achieved, endoscopic evaluation is indicated to determine the source of bleeding and to perform therapeutic intervention. Endoscopic band ligation is the method of choice in larger children; in those under 10 kg sclerotherapy is generally performed. Surgical management such as placement of a transjugular intrahepatic portosystemic shunt or splenic embolization is indicated for recurrent or uncontrollable bleeding. Placement of a Sengstaken-Blakemore tube, designed to balloon tamponade gastroesophageal variceal bleeding, is a temporizing measure used for uncontrollable bleeding.

162. A 1-week-old presents with bruising and coffee ground emesis. She was a term baby who was born at home, and is now exclusively breastfed. Her PT is >100 seconds, and her PTT is 160 seconds.This patient has:

A. Cystic fibrosis

B. Factor V Leiden

C. Low factor V level

D. Low factor VII level

E. Low factor VIII level

Answer: D

Classical vitamin K deficiency bleeding in newborns presents in the first week of life. Typical symptoms include easy bruising, mucus membrane bleeding, and hematemesis. Risk factors include babies who have not been given vitamin K treatment, are breastfed, or are poor feeders. Such patients will have low levels of vitamin K– dependent factors: II, VII, IX, and X. Factor V and VIII levels are unaffected. Factor V Leiden is a prothrombotic mutated factor V that is resistant to degradation by activated protein C. While neonates with pancreatic disease such as cystic fibrosis are at risk for vitamin K deficiency bleeding due to poor absorption of fat-soluble vitamins, this is an unlikely presentation of CF during the first week of life. Of note, early onset vitamin K deficiency bleeding occurs in the first 24 hours of life due to placental transfer of antibodies that interfere with vitamin K.

Late-onset vitamin K deficiency bleeding presents at 2 weeks to 6 months.

163. A baby who can elevate his head 45° when. He's also cooing and smiling. How old is he?

A. 1 month

B. 3 months

C. 6 months

D. 9 months

Answer: B

At about age 2 mo, the emergence of voluntary (social) smiles and increasing eye contact mark a change in the parent–child relationship, heightening the parents' sense of being loved reciprocally. During the next months, an infant's range of motor and social control and cognitive engagement increases dramatically. Increasing control of truncal flexion makes intentional rolling possible.

164. A 5 year old girl came with history of progressively increasing pallor since birth and hepatosplenomegaly. Which of the following is the most relevant test for achieving diagnosis ?

A. Bone marrow examination

B. Hb electrophoresis

C. Osmotic fragility test

D. Peripheral smear examination

Answer: B

Sickle cell disease can be diagnosed in newborns, as well as older persons, by hemoglobin electrophoresis, isoelectric focusing, highperformance liquid chromatography or DNA analysis (Table 1). In general, these tests have comparable accuracy. The testing method should be selected on the basis of local availability and cost. Solubility testing methods (Sickledex, Sick-lequik) and sickle cell preparations are inappropriate diagnostic techniques. Although these tests identify sickle hemoglobin, they miss hemoglobin C and other genetic variants.

Furthermore, solubility testing is inaccurate in the newborn, in whom fetal hemoglobin is overwhelmingly predominant. Solubility testing methods also fail to detect sickle hemoglobin in persons with severe anemia.

165. Which of the following is true regarding osgood schlatter disease?

A. It occurs between ages of 50-60 years

B. Surgery is typically required in patients with osgood schlatter disease.

C. The exact cause is unknown, although overuse and trauma play an important role.

D. The pain improves with activity and worsens with rest.

Answer: C

Osgood-Schlatter disease (OSD)

1. Inflammation of the insertion of the patellar tendon in the tibial tubercle (tibial tubercle apophysitis).

2. It is more common in adolescent boys active in sports.

3. OSD is characterized by pain and swelling at the tibial tubercle, the point of insertion of the patellar tendon.

4. OSD generally occurs in children 9 to 14 years of age who have undergone a rapid growth spurt. It is bilateral in 25 to 50 percent of cases, although the involvement is typically asymmetric.

5. OSD occurs most frequently in participants of sports that involve running, cutting, and jumping (eg, soccer, football, basketball, volleyball, gymnastics, figure skating, ballet).

6. OSD disease is an overuse injury caused by repetitive strain and chronic avulsion of the secondary ossi□cation center (apophysis) of the tibial tubercle.

7. The most common presenting complaint is anterior knee pain that increases gradually over time, from a low-grade ache to pain that causes a limp and/or impairs activity

8. Pain is exacerbated by direct trauma, kneeling, running, jumping, squatting, climbing stairs, or walking uphill, and is relieved by rest.

9.The diagnosis of Osgood-Schlatter disease is made by clinical examination.

10.While there are no prospective studies evaluating the treatment of OSD, including the recommended conservative treatments

166. Infant recently shifted to cow's milk presented with abdominal pain and diarrhea. What is the most appropriate measure to take?

A. Continue cow milk

B. Milk-free diet

C. Mix cow milk with goat milk

D. Stop cow milk

167. Children under 1 year of age should not be given honey because of possible contamination with which one of the following?

A. Clostridium botulinum

B. Clostridium dificile

C. Escherichia coli

D. Staphylococcus aureus

Answer: A

1. Botulism is poisoning that is due to Clostridium botulinum toxin and that affects the peripheral nerves.

2. Botulism may occur without infection if toxin is ingested, injected, or inhaled.

3. Although there are several possible sources of infection for infant botulism, sporecontaminated honey has been associated with a number of cases. Parents and caregivers are therefore warned not to feed honey to the infants before the age of 1 year.

4. Symptoms are symmetric cranial nerve palsies accompanied by a symmetric descending weakness and flaccid paralysis without sensory deficits.

5. Diagnosis is clinical and by laboratory identification of toxin.

6. The diagnosis should be suspected in infants with bilateral bulbar palsies (eg, ptosis, sluggish papillary response to light, poor suck and gag reflexes) followed by symmetric descending flaccid paralysis (hypotonia). Constipation and drooling due to autonomic dysfunction also occur.

7. Treatment involves respiratory support, nasogastric tube feeding, and intravenous human-derived botulism immune globulin. Botulism immune globulin should be administered as soon as possible, even before diagnostic confirmation of stool spores or toxin.

Answer: D

In Infants, up to age 12 Months, If the diagnosis of Cow milk protein allergy is confirmed, then the infant should be maintained on an elimination diet using a therapeutic formula for at least 6 months or until 9 to 12 months of age. Infants/children with severe immediate IgE-mediated reactions may remain on the elimination diet for 12 or

even 18 months before they are re challenged after repeated testing for specific IgE.

168. Calculate the maintenance fluid of a 5 year old child whose weight is 19 kg.

A. 1400 mls

B. 1450 mls

C. 1900 mls

D. 2000 mls

Answer: B

- Frist 10 KG multiply 100
- Second 10 KG multiply 50
- So 10*100=1000
- 9*50=450
- Total: 1000+450=1450ml

169. A 23 year old patient has congestion in tonsils, difficulty in eating and pain. Examination shows protrusion of tonsils into oral cavity. What is the most likely diagnosis?

A. Cryptic tonsillitis

B. Quinsy

C. Tonsillar abscess

D. Tonsillitis

Answer: B

Quinsy: Streptococcus pyogenes is the most commonly associated organism with peritonsillar abscess. Presents with fever, unilateral sore throat, neck pain,referred earache,dysphagia and muffled voice.

There is excessive salivation due to inability to swallow leading to drooling. Symptoms are typically present for at least 3 days before abscess is formed. The tonsils are swollen, which pushes the uvula to the contralateral side. This may cause difficulty in jaw movements and eating or drinking. Management includes needle drainage (patient should be in the Trendelenburg position), monitoring, and intravenous antibiotics. Crypt tonsillitis is a condition that occurs when the tonsils get some furrowing and develop some small pouches called crypts. These crypts provide space for entrapment of food which later degrade and accumulate to form small growths called tonsilliths or tonsil stones. These tonsil stones are accumulation of bacteria and other dead cells that often carry an unpleasant order to them as well. Typical symptoms are bad breath and patient often complain passing stones from the mouth.

170. A 4-year-old boy is brought to the emergency room by his parents with 2-day history of diarrhea followed by progressing ascending weakness and loss of deep tendon reflexes with CSF showing elevated protein.Which of the following is the most likely diagnosis?

A. Duchenne’s muscular dystrophy

B. Guillain Barre syndrome

C. Sturge Weber syndrome

D. Transverse myelitis

Answer: B

Guillain-Barré syndrome: autoimmune demyelinating disorder of peripheral nerves associated with recent viral infection, surgery, or vaccination (rare)

Clinical features:

1. Rapidly progressive bilateral weakness initially in distal extremities in “stocking-glove” distribution and extending proximally with decreased sensation and possible absent DTRs; possible severe neuropathic pain

2. Recent history of viral infection, vaccination, or surgery

3. Blood pressure, heart rate, or core temperature may be labile.

4. Severe cases may include respiratory muscle weakness.

Diagnosis: LP shows increased protein with normal pressure and glucose.Treatment: self-resolving within 1 month; plasmapheresis or IV immunoglobulin may accelerate resolution; patients must be watched for signs of respiratory failure; adequate analgesia for neuropathic pain.

171. A patient presents with a cough, fever, rhinorrhea, malaise, with conjunctival suffusion. There are small, grayish, irregular lesions surrounded by an erythematous base, on the buccal mucus membrane near the second molar teeth. What is the most likely diagnosis?

A. Measles

B. Parainfluenza

C. Respiratory syncytial infection

D. Rubella

Answer: A

Measles is a highly contagious infectious disease caused by the measles virus. Symptoms usually develop 10–12 days after exposure to an infected person and last 7–10 days. The classic signs and symptoms of measles include four-day fevers (the 4 D's) and the three C's—cough, coryza (head cold, fever, sneezing), and conjunctivitis (red eyes)—along with fever and rashes. Fever is common and typically lasts for about one week; the fever seen with measles is often as high as 40 °C (104 °F). Koplik's spots seen inside the mouth are pathognomonic (diagnostic) for measles, but are temporary and therefore rarely seen.Recognizing these spots before a person reaches their maximum infectiousness can help physicians reduce the spread of the disease. The characteristic measles rash is classically described as a generalized red maculopapular rash that begins several days after the fever starts. It starts on the back of the ears and, after a few hours, spreads to the head and neck before spreading to cover most of the body, often causing itching. The measles rash appears two to four days after the initial symptoms and lasts for up to eight days. The rash is said to "stain", changing color from red to dark brown, before disappearing. Overall, the disease from infection with the measles virus usually resolves after about three weeks.

172. Which of the following statement correctly localizes the genetic defect in Cystic fibrosi?

A. chromosome 7 long p arm

B. chromosome 7 long q arm

C. chromosome 7 short p arm

D. chromosome 7 short q arm

Answer: B

Answer: chromosome 7 called CFTR *autosomal recessive, CFTR gene found on the long (q) arm of chromosome 7 resulting in a dysfunctional chloride channel on the apical membrane of cells. Reference:

173. 5 yr child have RTI attacks after virus infections, now complains of cough at night and takes inhaled beta agonist twice a night next step would be ?

A. Inhaled b agonist

B. Inhaled corticosteroids

C. Leucotriene

D. Oral beta agonist

Answer: B

Daily long-term control medication is recommended for patients who have persistent asthma. The long-term control medication should be one with anti-inflammatory effects. Of the available medications, ICSs are the most effective single agents

174. A man working in factory with loud noises has come to you for hearing protection because his father and grandfather worked here and got some hearing loss in the old age. What is best thing to tell him?

A. Ask for pay rise due to hearing problem

B. Familial hearing loss and nothing to do

C. Leave the job and look for other one

D. Use cover protection for ear

Answer: D

The best approach for people working in noisy environment is to use sound dampening headphones. This is the standard protocol in noisy industries and all the staff members are encouraged to use that. One does not need to ask for pay raise due to hearing problem. However, one can have insurance in case of harm. This is noise induced hearing problem in the family NOT a familial illness. One does not need to leave the job and look for other one when there is no harm in doing the job with sound dampening headphones.

175. Which of the following is a true statement concerning the 5-unit PPD skin test for tuberculosis.

A. It is administered by subcutaneous injection.

B. Persons with tuberculosis meningitis often do not react to the PPD

skin test

C. Reaction is measured by the amount of erythema and induration.

D. The reaction is measured 12 to 24 hours after administration.

Answer: B

44. Which of the following is a true statement concerning the 5-unit PPD skin test for tuberculosis. a) It is administered by subcutaneous injection. b) The reaction is measured 12 to 24 hours after administration. c) Persons with tuberculosis meningitis often do not react to the PPD skin test d) Reaction is measured by the amount of erythema and induration. The 5-TU PPD skin test is administered by intradermal injection and is read by measuring the amount of induration (not erythema) 48-72 hours after administration. Up to 50% of persons with tuberculous meningitis or disseminated disease do not react initially to PPD; most become reactive after several months of therapy

176. A 4-week old boy brought to the doctor with projectile vomiting for the past few days. The emesis occurs with every feed. On examinations an olive shaped mass is seen in the right upper quadrant.Which of the following is the most likely diagnosis?

A. Celiac Disease

B. Gastroesophageal Re□ux Disease

C. Intussusception

D. Pyloric stenosis

Answer: D

Pyloric stenosis

1. Hypertrophy of pyloric sphincter causing obstruction of gastric outlet.

2. Male four times than females especially the first newborn

3. Symptoms begin a few weeks after birth; nonbilious emesis, projectile emesis; palpable epigastric olive-sized mass.

Clinical presentation

1. Nonbilious vomiting immediately after feeding may be intermittent

2. May or may not be projectile initially but usually progres - sive

3. After vomiting, infant is hungry and wants to eat again

4. More common after 3 weeks of age

5. Can be as early as one week or as late as 5 months Lab: Hypochloremic, hypokalemic metabolic alkalosis.

Dx:

1-Barium swallow shows thin pyloric channel (i.e., string sign); US shows increased pyloric muscle thickness

2-Abdominal x-ray is less useful in identifying pyloric stenosis

3-The best initial test is ultrasound of the abdomen

Management

1. The infant should remain nothing by mouth (NPO)

2. Immediate treatment requires correction of fluid loss, electrolytes, and acid- base imbalance

3. Pyloromyotomy is the procedure of choice.

177. A patient has sinusitis for 3 months. He now underwent CT scan and sphenoidal sinus is filled with thick mucous material. Which of the following meatus will drain sphenoidal sinus?

A. All three

B. Inferior

C. Middle

D. Superior

Answer: D

The nose has three meatuses i.e. superior, middle and inferior meatus. The superior nasal meatus drains sphenoidal and posterior ethmoidal sinus. The middle nasal meatus drains anterior ethmoidal and maxillary. Inferior meatus drains nasolacrimal duct.

178. A 3-month-old male infant presents with loss of developmental milestones, hypotonia, seizures, and failure to thrive. He has short, sparse, and twisted hair. What is the most likely metal metabolism defect associated with these symptoms?

A. Copper

B. Iron

C. Magnesium

D. Manganese

E. Zinc

Answer: A

The above scenario describes the characteristic presentation of classic Menkes disease, which is due to mutations in the ATP7A gene that encodes a copper-transport protein required for the efflux of copper from cells. Diagnostic tests include low levels of copper and ceruloplasmin in serum, followed by DNA-based testing. Subcutaneous injections of copper histidine or copper chloride before age 10 days normalizes developmental outcome in some children and improves the neurologic outcome in others.

179. Advantages of inactivated poliovirus vaccine over live poliomyelitis vaccine include:

A. Induction of a high level of intestinal mucosal immunity

B. Longer duration of immunity

C. No association with vaccine-associated paralytic poliomyelitis (VAPP)

D. Oral administration

Answer: C

Vaccine-associated paralytic poliomyelitis (VAPP) is not associated with the inactivated poliovirus vaccine. Inactivated polio is given intravenously.Induction of a high level of intestinal mucosal immunity is associated with the oral polio.

180. While examining a young girl receiving total parenteral nutrition through a peripherally inserted central catheter, an area of induration along the catheter's subcutaneous path is noted. The patient reports it is mildly painful. There is no sign of redness or pain at the catheter exit site. She is otherwise feeling well without any fevers or systemic symptoms. Cultures taken from the catheter and peripherally are negative The most appropriate next step would include:

A. A trial of topical antibiotics

B. Removal of the catheter

C. Treatment with IV cefepime

D. Treatment with IV vancomycin

E. Treatment with IV vancomycin and IV cefepime

Answer: E

This young girl has a tunnel infection of her central venous catheter. However, she does not show signs of bacteremia, and, as such, would be a candidate for a trial of IV antibiotic therapy covering S. aureus and Pseudomonas . If no improvement was noted, or if she developed signs of systemic infection or bacteremia, the catheter should be removed and the tract cultured for more tailored antibiotic treatment. Treatment alone with either vancomycin or cefepime is not preferred. Topical antibiotics can be used for catheter exit site infections not associated with bacteremia.

181. A 5 year old boy presents with tender, swollen and painful testicle. O/E there was absent cremasteric reflex. Which of the following is the correct diagnosis?

A. Epididymo-orchitis.

B. Hydrocele

C. Incarcerated inguinal hernia

D. Testicular torsion.

Answer: D

The most sensitive physical finding in testicular torsion is the absence of the cremasteric reflex.

182. A child is born with bilateral microtia, colobomata of the lower eyelids, absent zygomata, micrognatia, and a high but intact palate. What is the most likely diagnosis?

A. CHARGE syndrome

B. Goldenhar syndrome

C. Pierre Robin sequence

D. Smith–Lemli–Opitz syndrome

E. Treacher Collins syndrome

Answer: E

The description is most consistent with Treacher Collins syndrome. Persons with Treacher Collins syndrome are typically cognitively normal, but they often have conductive hearing loss. Goldenhar

syndrome, or Oculoauriculovertebral (OAV) syndrome, is also associated with anomalies involving the head and neck. The phenotype includes hemifacial microsomia and anomalies of the pinna with associated deafness. Other findings include ear tags, vertebral anomalies, and Arnold– Chiari type I malformations (herniation of the cerebellum into the cervical spinal canal). Pierre Robin sequence is characterized by a triad of cleft palate, micrognathia and glossoptosis.

183. Which of the following is the most common congenital anomaly of the genitourinary tract?

A. Cryptorchidism

B. Hypospadias

C. Imperforate hymen

D. Müllerian agenesis

Answer: A

1. Cryptorchidism is the most common congenital anomaly of the genitourinary tract due to failure of testicular descent from the abdomen into the scrotum.

2. Cryptorchidism means hidden or obscure testis and generally refers to an undescended or maldescended testis.

3. The etiology of cryptorchidism is multifactorial.

Clinical presentation

1. Undescended testis can be intra-abdominal or in the ingui nal canal

2. Retractile testis can be pulled down to the bottom of the scrotum

3. All retractile testis eventually will end up in the scrotum

Treatment

1. Can be flxed between 1 and 2 years of age

2. Most urologist prefer orchiopexy

3. Human chorionic gonadotropin (HCG) in series injection will result in 30–40 % success

184. A previously healthy 6-month-old boy develops paroxysmal colicky abdominal pain. The infant has occasional vomiting. Over the next 12 hours he passes stool containing blood and mucus and becomes progressively lethargic.Which of the following is the most likely diagnosis?

A. Hirchsprung

B. Intussusception

C. Peptic ulcer bleeding

D. Small intestinal volvulus

Answer: B

The constellation of signs and symptoms of intussusceptions represents one of the most classic presentations of any pediatric illness; however, the classic triad of vomiting, abdominal pain, and passage of blood per rectum occurs in only one third of patients. The patient is usually an infant who presents with vomiting, abdominal pain, passage of blood and mucus, lethargy, and a palpable abdominal mass. These symptoms are often preceded by an upper respiratory infection. Pain in intussusception is colicky, severe, and intermittent. The parents or

caregivers describe the child as drawing the legs up to the abdomen and kicking the legs in the air. In between attacks, the child appears calm and relieved. Initially, vomiting is nonbilious and reflexive, but when the intestinal obstruction occurs, vomiting becomes bilious. Any child with bilious vomiting is assumed to have a condition that must be treated surgically until proven otherwise. Parents also report the passage of stools that look like currant jelly. This is a mixture of mucus, sloughed mucosa, and shed blood. Diarrhea can also be an early sign of intussusception. Lethargy is a relatively common presenting symptom with intussusception. The reason lethargy occurs is unknown, because lethargy has not been described with other forms of intestinal obstruction. Lethargy can be the sole presenting symptom, which makes the diagnosis challenging

185. A child with the history of repeated infections, failure to thrive and anemia. His older brother also has same condition. what is the most likely diagnosis?

A. Haemoglobinopathy

B. Leukemia

C. Lymphoma

D. Nutritional anemia (there family hx so it not correct)

Answer: A

Explanation: lymphoma typically present with constitutional symptoms(weight loss, fever, night sweat), leukemia Repeated infection, Failure to thrive, Anemia and Family history of same condition make He moglobinopathy the best answer.

186. You are asked to evaluate a 5-year-old with persistently elevated hemoglobin. The p50 (the partial pressure of oxygen at which the patient's hemoglobin is 50% saturated with oxygen) is 20 mm Hg (normal is 26 mm Hg) and his hemoglobin saturation curve is left shifted. This suggests that his polycythemia is due to which of the following?

A. Chuvash polycythemia

B. Cyanotic cardiac disease

C. Higher-affinity hemoglobin

D. Living at high altitude

E. Presence of a JAK2 mutation

Answer: C

A leftward-shifted oxygen dissociation curve and a lower-thannormal p50 are consistent with an increased hemoglobin oxygen affinity. This results in less oxygen release to the tissues, and thus a compensatory increase in hemoglobin. Chuvash polycythemia is due to mutations in the von Hippel-Lindau gene, which is part of the oxygen sensing apparatus. JAK2 mutations are associated with polycythemia vera. Patients living at high altitude and with cyanotic cardiac disease have increased red blood cell mass due to chronic hypoxia, but have normal hemoglobin oxygen affinity.

187. You request for a venereal disease research laboratory (VDRL) test to determine whether a 14 year old with desquamating rash has syphilis. Which of the following condition is most likely to result in a False-positive VDRL test result?

A. All of the above

B. Mononucleosis

C. Systemic lupus erythematosus

D. Tuberculosis

Answer: A

All of the conditions listed in the question produce a false-positive result in the VDRL or other Non-treponemal test for syphilis.

188. Etiology for pulsatile tinnitus includes the followings except ?

A. Arteriovenous malformation of neck.

B. Glomus jugulare tumors.

C. Hyperthyroidism.

D. Otosclerosis.

Answer: D

Pulsatile tinnitus, as the name indicate, is associated with pulsating nature of arteries. AV malformation, Glomus tumor and hyperthyroidism are all associated with the increased pulsatile movements. Otosclerosis has no such pathology.

189. A 2-day-old girl in the newborn nursery develops a rash on her face, abdomen, chest, and extremities.She appears comfortable in her mother's arms. Small blanching, erythematous papules and pustules are seen throughout the body, except for the palms and soles. Which of the following is the most likely diagnosis?

A. Atopic dermatitis

B. Erythema toxicum neonatorum

C. Neonatal varicella

D. Staphylococcal scalded skin syndrome

Answer: B

1. Erythema toxicum neonatorum is a very common rash seen in up to 50% of newborns. 2. The rash appears anytime within the first few weeks of life, most commonly in the first 2 days. The lesions consist of macules, papules, vesicles, and pustules on the trunk, face, and proximal extremities, sparing the palms and soles.

3. The lesions resolve within 3 or 4 days.

4. The classic finding that confirms the diagnosis is eosinophils on staining of a smear of the vesicle orpustule.

5. No therapy is required.

190. Which nerve supplies biggest part of the tongue and convey most of its sensations?

A. Facial

B. Glossopharyngeal

C. Hypoglossal

D. Trigeminal

Answer: D

Tongue has both sensory and motor supply and also some special supply for carrying taste supply. Sensory supply of tongue is by trigeminal nerve. Motor supply of tongue is by hypoglossal nerve. Taste from anterior two-third of tongue is carried by Facial nerve, posterior one-third by glossopharyngeal nerve and posterior most part by vagus nerve.

191. Which of the following tests is used to con□rm the diagnosis of pertussis?

A. Blood culture

B. Chest CT scan

C. History and physical examination

D. Nasopharyngeal cultures and PCR testing

Answer: D

1. Pertussis is a highly communicable disease occurring mostly in children and adolescents and caused by Bordetella pertussis.

2. Symptoms are initially those of nonspecific URI followed by paroxysmal or spasmodic coughing that usually ends in a prolonged, high-pitched, crowing inspiration (the whoop).

3. The illness lasts about 7 weeks, but cough may continue for months.

4. Diagnosis is confirmed with bacterial culture and/or polymerase chain reaction from nasopharyngeal secretions

5. Treatment is with macrolide antibiotics.

6. Prevent the disease using acellular pertussis vaccine as part of scheduled immunizations (including a booster for adults), and treat close contacts with erythromycin.

192. A 2 month old infant presents with blood in diaper, vomiting and constipation. Abdominal ultrasound shows a doughnut sign. What is the diagnosis?

A. Hirchsprung's disease

B. Hypertropic Pyloric stenosis

C. Intussusception

D. None of the above

Answer: C

Intussusception occurs when one segment of bowel is pulled into itself or a neighbouring loop of bowel by peristalsis. While the classic triad of intermittent abdominal pain, vomiting, and right upper quadrant mass, plus occult or gross blood on rectal examination has great positive predictive value for intussusception in children 1, these findings are seen in less than 20% of intussusception cases

2. Approximately 15% (range 13-22%) of patients with intussusception do not even present with abdominal pain Abdominal x-rays may demonstrate an elongated soft tissue mass (typically in the upper right quadrant in children) with a bowel obstruction (and therefore air-fluid levels and bowel dilation) proximal to it. There may be an absence of gas in the distal collapsed bowel. Ultrasonography has a false-negative rate approaching zero and is a reliable screening tool for children at low risk for intussusception 5-

9. Children with classic findings of intussusception, however, need to be investigated with contrast enema, which is both diagnostic (the gold standard in the diagnosis of intussusception) and therapeutic.

Ultrasound signs include: target sign (also known as the doughnut sign) pseudokidney sign crescent in a doughnut sign

193. A 12 year old girl presented with ankle pain that is more in the morning but gets better as the day progresses. The mother also reports that she has noted the girl is more lethargic, has reduced physical activity, and poor appetite. Examination is normal. Laboratory investigation reveals a high ESR and ANA. What is the most likely diagnosis?

A. Growing pain

B. Juvenile Rheumatoid Arthritis

C. Osteoid osteoma

D. Osteosarcoma

Answer: B

JIA is an autoimmune, non-infective, in□ammatory joint disease of more than 6 weeks duration in children less than 16 years of age. The

disease commonly occurs in children from the ages of 1 to 6, but it may develop as late as 15 years of age. Symptoms of JIA are often nonspecific initially, and include lethargy, reduced physical activity, and poor appetite.[4] The first manifestation, particularly in young children, may be limping. Children may also become quite ill, presenting with flulike symptoms that persist. The cardinal clinical feature is persistent swelling of the affected joint(s), which commonly include the knee, ankle, wrist, and small joints of the hands and feet. Swelling may be difficult to detect clinically, especially for joints such as those of the spine, sacroiliac joints, shoulder, hip, and jaw, where imaging techniques such as ultrasound or MRI are very useful. Pain is an important symptom. Morning stiffness that improves later in the day is a common feature (this implies inflammatory-type joint pain versus mechanical-type joint pain). Late effects of arthritis include joint contracture (stiff, bent joint due to fibrosis) and joint damage. Children with JIA vary in the degree to which they are affected by particular symptoms. Symptoms may also differ between sexes, affecting girls and boys differently among different geographic locations. This is predicted to be due to biological differences in different geographic regions.[5] Children may also have swollen joints (inflammatory swelling, or in chronic arthritis due to synovial membrane proliferation and thickening, and periarticular soft-tissue swelling)

194. A 2-month-old male presents to your office with his mother for a routine well-child check. During the family history you elicit a strong family history of familial adenomatous polyposis (FAP) syndrome. There has been no gene mutation identified in this family on testing affected members. At what time should you refer the patient for screening?

A. At 12 years of age or with the development of symptoms for screening colonoscopy.

B. During his late teens for an evaluation for colectomy due to the high risk of colorectal cancer.

C. No referral is necessary given the fact that no gene mutation has been identified.

D. Now to determine if this infant carries an APC mutation.

E. Only on the development of symptoms such as hematochezia.

Answer: A

The patient should begin screening endoscopy by 12 years of age or sooner at the onset of symptoms such as hematochezia, diarrhea, or abdominal pain. If polyps are detected, then they should undergo yearly screening endoscopies. If the affected family members have been screened for an APC gene mutation and none was found, negative genetic testing does not rule out FAP in this patient. The timing of colectomy is determined on a case-by-case basis. It would not be considered in a patient without a diagnosis of FAP. The timing of colectomy is determined based on polyp burden, presence of increasing adenoma dysplasia or adenocarcinoma, and the maturity of the patient. Ten percent of patients with FAP have no identifiable APC gene mutation. Family members still require screening as negative testing does not exclude the possibility of them having FAP.

195. A 6 year old boy is presented to you with difficulty in breathing. On examination, there is bilateral wheezing. Which of the following could be the cause?

A. ,Swimming

B. Gaming on consoles

C. New pet cat

D. Playing in the ground

Answer: C

Allergic rhinitis is seasonal or perennial itching, sneezing, rhinorrhea, nasal congestion, and sometimes conjunctivitis, caused by exposure to pollens or other allergens. The seasonal nature of the symptoms along with itching and sneezing are hallmarks of allergic symptoms. Asthma is commonly a disease that precedes the diagnosis of allergic rhinitis, and eczema may be another associated disease. Diagnosis is usually done by history and occasionally skin testing.

196. A child who has recently returned from a visit to a developing country experiences a 2-wk illness characterized by gradually increasing fever with temperature that eventually reaches 104°F, associated with headache, malaise, cough, and abdominal pain. The most likely diagnosis is :

A. Cholera

B. Diphtheria

C. Shigellosis

D. Typhoid fever

Answer: D

Classically, the course of untreated typhoid fever is divided into four distinct stages, each lasting about a week. Over the course of these stages, the patient becomes exhausted and emaciated.[15] In the first week, the body temperature rises slowly, and fever fluctuations are seen

with relative bradycardia (Faget sign), malaise, headache, and cough. A bloody nose (epistaxis) is seen in a quarter of cases, and abdominal pain is also possible. A decrease in the number of circulating white blood cells (leukopenia) occurs with eosinopenia and relative lymphocytosis; blood cultures are positive for Salmonella Typhi or S. paratyphi. The Widal test is usually negative in the □rst week.[16] In the second week, the person is often too tired to get up, with high fever in plateau around 40 °C (104 °F) and bradycardia (sphygmothermic dissociation or Faget sign), classically with a dicrotic pulse wave. Delirium is frequent, often calm, but sometimes agitated. This delirium gives to typhoid the nickname of "nervous fever". Rose spots appear on the lower chest and abdomen in around a third of patients. Rhonchi are heard in lung bases. The abdomen is distended and painful in the right lower quadrant, where borborygmi can be heard. Diarrhea can occur in this stage: six to eight stools in a day, green, comparable to pea soup, with a characteristic smell. However, constipation is also frequent. The spleen and liver are enlarged (hepatosplenomegaly) and tender, and liver transaminases are elevated. The Widal test is strongly positive, with antiO and antiH antibodies. Blood cultures are sometimes still positive at this stage. (The major symptom of this fever is that the fever usually rises in the afternoon up to the first and second week.) In the third week of typhoid fever, a number of complications can occur: Intestinal haemorrhage due to bleeding in congested Peyer's patches; this can be very serious, but is usually not fatal. Intestinal perforation in the distal ileum: this is a very serious complication and is frequently fatal. It may occur without alarming symptoms until septicaemia or diffuse peritonitis sets in. Encephalitis Respiratory diseases such as pneumonia and acute bronchitis Neuropsychiatric symptoms (described as "muttering delirium" or "coma vigil"), with picking at bedclothes or imaginary objects. Metastatic abscesses, cholecystitis, endocarditis, and osteitis The fever is still very high and oscillates very little over 24 hours. Dehydration ensues, and the patient is delirious (typhoid state). Onethird of affected individuals develop a macular rash on the trunk. Platelet count goes down slowly and risk of bleeding rises. By the end of third week, the fever starts subsiding

197. Total body water composition changes with age. Which statement accurately describes the changes in total body water composition of children?

A. Water accounts for 60% of body weight for infants and increases over time (to 85%) in adolescents and young adults

B. Water accounts for 70% to 75% of body weight for infants and decreases over time (to 50%-60%) in adolescents and young adults

C. Water accounts for almost all 85% to 90% of body weight for infants and decreases over time (to 60%) in adolescents and young adults.

D. Water accounts for less than half (40%-50%) of body weight for infants and decreases over time (to 35%) in adolescents and young adults

Answer: B

Total body water, as a percentage of weight, decreases with age. For infants, 70% to 75% of weight is composed of water. Adults have 50% to 60% of body weight in the form of water. They also have a greater relative percentage of fat in their body composition. Free water should not be provided to infants; however, providing nutrition without adequate amounts of fluid increases the risk for dehydration. Infants are at greater risk for dehydration due to the increased relative surface area and an inability for infant kidneys to concentrate urine.

198. Which of the following is true regarding the management of active nosebleed?

A. Applying epinephrine to the vestibule with a cotton ball

B. Having the patient hold pressure, checking every 1 or 2 minutes for persistence or cessation of bleeding

C. Having the patient lie back and relax

D. Send the patient to ENT clinic

Answer: B

Epistaxis is nose bleeding. Bleeding can range from a trickle to a strong flow, and the consequences can range from a minor annoyance to lifethreatening hemorrhage. The classification of nosebleeds is as anterior or posterior, depending upon the source of bleeding. The blood supply to the nose is derived from branches of the internal (anterior and posterior ethmoid arteries) and external carotid arteries (sphenopalatine and branches of the internal maxillary arteries). Anterior hemorrhage- the source of bleeding is visible in about 95% of cases. Only 5% of bleeding is posterior. Epistaxis is usually benign, selflimiting and spontaneous. The majority of nosebleeds are caused by simple trauma. Trauma to the nose (the most common cause - especially nose picking. Management: Resuscitate the patient (if necessary) - remember the ABCD(E) of resuscitation.2. Ask the patient to sit upright, leaning slightly forward, and to squeeze the bottom part of the nose (NOT the bridge of the nose) for 10-20 minutes to try to stop the bleeding. The patient should breathe through the mouth and spit out any blood/saliva into a bowl. An ice pack on the bridge of the nose may help 3. Nasal cautery is a common treatment of epistaxis. A caustic agent such as silver nitrate (chemical cautery) or an electrically charged wire such as platinum. Bleeding that fails to respond to pressure may be managed with epinephrine, or silver nitrate. Severe bleeding that is brisk or does not respond to the previous measures may require packing or emergency referral.

199. Which of the following is associated with Tetralogy of Fallot?

A. Aortic stenosis

B. Atrial septal defect

C. Mitral stenosis

D. Pulmonary valve obstruction

Answer: D

1. Tetralogy of Fallot consists of 4 features: a large ventricular septal defect, right ventricular outflow tract and pulmonary valve obstruction, right ventricular hypertrophy, and over-riding of the aorta.

2. Manifestations depend on the degree of right ventricle outflow obstruction; severely affected neonates have marked cyanosis, dyspnea with feeding, poor weight gain, and a harsh grade 3 to 5/6 systolic ejection murmur.

3. Symptoms include cyanosis, dyspnea with feeding, poor growth, and hypercyanotic "tet" spells (sudden, potentially lethal episodes of severe cyanosis).

4. Squatting improves cyanosis and increases the intensity of systolic murmur.

5. A harsh systolic murmur at the left upper sternal border with a single 2nd heart sound (S2) is common.

6. Diagnosis of tetralogy of Fallot is suggested by history and clinical examination.

7.Chest x-ray shows a boot-shaped heart with a concave main pulmonary artery segment and diminished pulmonary vascular markings.

7. Give neonates with severe cyanosis an infusion of prostaglandin E1 to open the ductus arteriosus.

8. Definitive treatment is surgical repair.

9. Repair surgically at 3 to 6 mo or earlier if symptoms are severe.

200. Which of the following milestones are appropriate for a newborn with normal development?

A. Begins to smile

B. Listens to voice and coos

C. Responds to visual threats by blinking and visually flexes

D. Sits with trunk support

Answer: C

Developmental Milestones of the newborn: Able to fixate face on light, Visual preference for human face; Regarding a face (shortly after birth); Responds to visual threats by blinking and visually fixes; Visual acuity is 20/400; Moro, stepping, placing, and grasp reflexes are all active

201. An 18-mo-old is discovered with his mouth over a storage bottle containing a strong alkali. The parents remove the bottle, and the boy seems well. Some fluid is missing from the bottle, but no external signs are found on the child's clothing, and the child has no burns on his face or his lips. On arrival to the emergency department, physical examination, including an examination of his posterior pharynx are unremarkable. The most appropriate next step in management is to:

A. Administer an acidic fluid to neutralize the alkali

B. Administer penicillin to prevent infection

C. Administer prednisone to decrease stricture formation

D. Perform endoscopy to assess the severity of the ingestion

Answer: D

Caustic ingestions produce signs and symptoms such as vomiting, drooling, refusal to drink, oral burns, dysphagia, dyspnea, abdominal pain, hematemesis, and stridor. Twenty percent of patients develop esophageal strictures. Absence of oropharyngeal lesions does not exclude the possibility of significant esophagogastric injury, which can lead to perforation or stricture. The absence of symptoms is usually associated with no or minimal lesions; hematemesis, respiratory distress, or presence of at least 3 symptoms predicts severe lesions. An upper endoscopy is recommended as the most efficient means of rapid identification of tissue damage and must be undertaken in all symptomatic children. Dilution by water or milk is recommended as acute treatment, but neutralization, induced emesis, and gastric lavage are contraindicated. The role of corticosteroids is controversial; they are not recommended in 1st-degree burns, but they can reduce the risk of strictures in more-advanced caustic esophagitis. Some centers also use antibiotics in the initial treatment of caustic esophagitis on the premise that reducing superinfection in the necrotic tissue bed will, in turn, lower the risk of stricture formation. However, multiple studies examining the role of antibiotics in caustic esophagitis have not reported a clinically significant benefit even in those with grade 2 or greater severity of esophagitis.

202. What is the mode of inheritance of neurofibromatosis?

A. Autosomal dominant

B. Autosomal recessive

C. Chromosomal non-disjunction

D. X-linked

Answer: A

Explanation: Neurofibromatosis type 1 (NF1) and type 2 (NF2) are neurocutaneous disorders inherited as autosomal dominant genetic syndromes.mutation in NF1 gene on 17q11.2

203. A 5 year of child presents with abdominal pain and tenderness, bloody diarrhea and weight loss. (no labs). What is the most likely diagnosis?

A. Celiac disease

B. Crohn’s disease

C. History is suggestive of both crohn's or ulcerative colitis

D. Ulcerative colitis

Answer: C

Answer: abdominal pain and weight loss go more with crohn’s, while the bloody diarrhea is more with UC. Most likely, crohn’s since two of the features in the scenario support this diagnosis The hallmark of inflammatory bowel disease (IBD), which includes both CD and ulcerative colitis (UC) is GI symptoms, including abdominal pain and diarrhea, which may or may not be bloody. Abdominal pain is usually

more severe in CD than in UC. Systemic symptoms, including fevers, decreased appetite, weight loss or failure to thrive, may occur in both diseases but are more prominent in CD. Other intestinal symptomatology may include nausea, vomiting, oral ulcers, perianal disease and constipation. CD can be more difficult to diagnose than UC because the GI symptoms may be more subtle while the systemic symptoms predominate. A plateau in linear growth, delayed puberty, perianal lesions and finger clubbing are clinical signs of CD that are often overlooked

204. Child went for summer vacations to a place with rest of the students. Upon return he developed fever and sore throat. Was given amoxicillin 250mg but progressed to develop maculopapular rash on face and trunk with hepatosplenomegaly. Which test is appropriate?

A. Blood culture

B. CBC

C. Lumbar Puncture

D. Monospot test

Answer: D

negative in the first few weeks after symptoms begin). - EBV-specific antibodies can be ordered in patients with suspected mononucleosis and a negative Monospot test. - Infectious mononucleosis syndromes that are Monospot negative and EBV antibody negative are most often due to CMV. Reference: First Aid USMLE 2 p206 The child has past history of infectious mononucleosis and he is suffering from URTI. So, I believe here the aim is to detected the level of antibodies by Monospot test (Heterophile test antibodies) are sensitive and specific for EBV

heterophile antibodies, they are present in peak levels 2-6 weeks after primary EBV infection, and they may remain positive in low levels for up to a year.

205. A mother is complaining that her baby has a rash in the diaper area. The rash is associated with satellite lesions around it. What is the treatment?

A. Any of the above

B. Clotrimazole cream

C. Metronidazole

D. Mupirocin cream

Answer: B

This yeast diaper infection, due to the presence of satellite lesions. treatment is with topical antifungal medication. If candidal infection is suspected, topical ointments or creams, such as nystatin, clotrimazole, miconazole, or ketoconazole can be applied to the rash with every diaper change

206. A 6 years old boy presents with gingivitis, easy bruisability, petechiae and rash. What is the most likely diagnosis?

A. Acrodermatitis Enteropathica

B. None of the above

C. Pellagra

D. Scurvy

Answer: D

Vitamin C deficiency cause impaired collagen synthesis symptoms occurs after 3 months of deficiency, which includes ecchymoses, bleeding gum, petechiae,coild hair,hyperk- eratosis and impaired wound healing. Its common is severely malnourished and alcohol abusers. (scurvy) Tx supplementation.

207. Which of the following is true regarding a 1-year-old child with PDA:

A. Chances of spontaneous closure is high

B. Endocarditis is rare

C. Indomethacin may help in closure

D. Symptoms similar to aorto-pulmonary window

Answer: A

Unlike PDA in preterm infants spontaneous closure of PDA does not occur in term infants and anatomical existence of PDA regardless to its size is an indication for surgical ligation. Surgical procedure may be performed anytime between 6 months to 2 years. Subacute endocarditis is a frequent complication seen with small PDA. Indimethea is effective only in preterm newborns and has no role, what so ever, in term infants and grown up children.

208. Which of the following is true regarding moro reflex?

A. Disappears by 3 to 6 months of age.

B. Disappears within 1 week of age

C. It is always normal.

D. Starts around 6–9 months of age.

Answer: A

Moro reflex is elicited by the sudden dropping of the infant's head in relation to the trunk. It results in abduction and extension of the infant's arms and opening of the hands, followed by flexion . It is present starting at 32 weeks gestation, well-established by 37 weeks gestation, and disappears by 3 to 6 months of age.

209. Child presented with rash that started in the back then it was spread to all his body. The rash was pustular with other areas vesicular. The rash had truncal distribution more than the limbs. What is the incubation period for this organism?

A. 11- 21 days

B. 23 - 30 days

C. 5-11 days

Answer: A

The incubation period is seven to 21 (usually 10 to 21) days after exposure to the herpes varicellazoster virus to the development of the symptoms. The disease is most contagious a day or two before the rash appears and until the rash is completely dry and scabbed over, about five to six days after onset of the rash.

210. A 20 months child presented to you with painful ear, runny nose and mild cough. What should be the initial treatment?

A. Antibiotic

B. Antihistamine

C. Decongestants

D. NSAIDs

Answer: A

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. When the secretions of middle ear accumulate, they exert the pressure on tympanic membrane which is dangerous sign. If nothing done in time, the tympanic membrane may rupture, leading to hearing loss.

Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

Treatment: High-dose amoxicillin (10 days for empiric therapy).

Resistant cases may require amoxicillin/clavulanic acid.

211. A 6-year-old girl is brought to the doctor due to seizures that occurred few hours ago. Her past medical history includes mental retardation and glaucoma. Examination shows a red flat lesion covering the left eye area and adjacent facial skin,and which the parents say has been present since birth. Other pertinent findings are hemianopia, hemiparesis, and hemisensory disturbances. Which of the following is the most likely diagnosis?

A. Arteriovenous malformation

B. Beckwith-Wiedemann syndrome

C. Sturge-Weber syndrome

D. von Hippel-Lindau syndrome

Answer: C

1. Sturge-Weber syndrome is a congenital vascular disorder characterized by a facial port-wine nevus, a leptomeningeal angioma, and neurologic complications (eg, seizures, focal neurologic deficits, intellectual disability)

2. Glaucoma may be present at birth or develop later. The eyeball may enlarge and bulge out of its socket (buphthalmos). SWS is generally diagnosed clinically, based on the typical cutaneous, central nervous system (CNS), and ocular abnormalities associated with it.

Neurologic signs include the following:

1. Developmental delay/mental retardation

2. Learning problems

3. Attention deficit-hyperactivity disorder

212. A 17-year-old girl presents with cough for 4 weeks. Examination shows diffuse rales and a chest radiograph notes a patchy infiltrate throughout. Immunizations are up-to-date. There is no history of travel or exposure to animals. What are the most likely diagnoses?

A. C. pneumoniae, C. trachomatis , and M. pneumoniae

B. C. trachomatis and M. pneumoniae

C. Chlamydia trachomatis

D. Chlamydophila pneumoniae and M. pneumoniae

E. Chlamydophila psittaci and Mycoplasma pneumoniae

Answer: D

C. pneumoniae (formerly Chlamydia pneumoniae) is a cause of community-acquired pneumonia in children and adults. The average incubation period is 21 days. Symptoms are nonspecific and may resemble influenza and include rhinitis, cough, sore throat, and fever.

Examination may reveal pharyngitis, rales, rhonchi, or wheezing.

Radiograph demonstrates a patchy infiltrate. Presentation is similar to M. pneumoniae . M. pneumoniae is a common cause of pneumonia in this age. A typical presentation is known as “walking pneumonia” indicating a less severe picture with the patient presenting with cough and some low-grade fever. Chest radiograph is variable, but diffuse bilateral infiltrates are usually noted; focal abnormalities are less likely. Other examination findings may include otitis media, bullous

myringitis, skin rash (in 10% of cases), and sinusitis. C. trachomatis is a sexually transmitted infection as well as a perinatally transmitted infection. It is associated with a variety of infections, such as vaginitis, lymphogranuloma venereum, trachoma (a chronic follicular keratoconjuncitivis that is rare in the United States), and pneumonia.

Unlike C. pneumoniae that presents in older children and adults, pneumonia due to C. trachomatis usually occurs during infancy, between 2 and 19 weeks of age. C. psittaci can also cause an atypical pneumonia; however, this diagnosis is less likely in this case, as there is no history of exposure to birds associated with the disease. The disease is contracted from exposure to birds, especially psittacine birds (eg, parrots, parakeets, macaws, and cockatiels) and inhalation of dried bird feces.

213. A 4-yr-old boy presents with diarrhea and headaches. He appears to have a limp, which favors the left leg. On examination, he has a poorly defined mass in the left flank and a blood pressure of 170/100 mm Hg. Abdominal CT scan demonstrates a large paraspinous mass on the left. The next step in the care of this boy is to:

A. Refer for immediate surgical exploration

B. Start -adrenergic blockade and obtain MRI scan

C. Start -adrenergic blockade and obtain abdominal xray

D. Start therapy with a long-acting somatostatin analogue

Answer: B

pproximately half of neuroblastoma tumors arise in the adrenal glands, and most of the remainder originate in the paraspinal sympathetic ganglia. The signs and symptoms of neuroblastoma reflect the tumor site and extent of disease, and the symptoms of neuroblastoma. MRI of the spine should be performed in cases with suspected or potential spinal cord compression, but imaging of the brain with either CT or MRI is not routinely performed unless dictated by the clinical presentation.Localized disease can manifest as an asymptomatic mass or can cause symptoms because of the mass itself, including spinal cord compression, bowel obstruction, and superior vena cava syndrome. Neuroblastoma originating in the superior cervical ganglion can result in Horner syndrome. Paraspinal neuroblastoma tumors can invade the neural foramina, causing spinal cord and nerve root compression. Neuroblastoma can also be associated with a paraneoplastic syndrome of autoimmune origin, termed opsoclonus– myoclonus–ataxia syndrome, in which patients experience rapid, uncontrollable jerking eye and body movements, poor coordination, and cognitive dysfunction. Some tumors produce catecholamines that can cause increased sweating and hypertension, and some release vasoactive intestinal peptide, causing a profound secretory diarrhea.

214. What is the most common intra-abdominal tumor in children?

A. Ewing tumor

B. Wilms tumor

C. hepatoma

D. rhabdomyosarcoma

Answer: B

Explanation: Neuroblastoma is the most common tumor constituting, followed by Wilms' tumor (aka: nephroblastoma).

215. A 1 year old male child is diagnosed with a Urinary Tract Infection. What to do before the treatment?

A. Cystoscopy.

B. Fungal urine culture

C. None of the above

D. Renal ultrasound

Answer: D

Indications for renal and bladder ultrasonography are as follows:

● Febrile UTI in infants aged 2-24 months

● Delayed or unsatisfactory response to treatment of a first febrile UTI

● An abdominal mass or abnormal voiding (dribbling of urine)

● Recurrence of febrile UTI after a satisfactory response to treatmentCystourethroscopy is contraindicated in febrile patients with urinary tract infections (UTIs) and those with severe coagulopathy.

216. What is the mode of inheritance in progressive familial intrahepatic cholestasis?

A. Autosomal-dominant

B. Autosomal-recessive

C. Multifactorial

D. X-linked recessive

Answer: B

1. Progressive familial intrahepatic cholestasis (PFIC) is a class of chronic cholestasis disorders that begin in infancy and usually progress to cirrhosis within the first decade of life.

2. The average age at onset is 3 months.

3. PFIC can progress rapidly and cause cirrhosis during infancy or may progress relatively slowly with minimal scarring well into adolescence.

4. It is an autosomal recessive disorder.

The following may be noted in the history of a patient with progressive familial intrahepatic cholestasis (PFIC)-

Pruritus

1. Scratching

2. Cutaneous mutilation

3. Irritability in infants

4. Attention deficit-

Jaundice

1. Scleral icterus

2. Cutaneous jaundice- Dark urine- Growth failure-

Malabsorption

1. Fat-soluble vitamin deficiency

2. Steatorrhea

3. Diarrhea

4. Failure to thrive

217. Which of the following is the most common cause of bronchiolitis?

A. Adenoviruses

B. Cytomegalovirus

C. Human parain□uenza viruses

D. Respiratory syncytial virus

Answer: D

1. Bronchiolitis, part of the spectrum of lower respiratory tract infection, is a major cause of illness and hospitalization in infants and children younger than two years.

2. Viral bronchiolitis is the most common lower respiratory tract infection in infants and children who are 2 years of age and younger.

3. Rspiratory syncytial virus (RSV) is the most common cause, followed by rhinovirus

4. Other causes: human metapneumovirus, parainfluenza virus, adenovirus, influenza, rhinovirus, and myco plasma.

5. Presents with low-grade fever, rhinorrhea, cough, and apnea.

6. Examination reveals tachypnea, wheezing, intercostal retractions, crackles, prolonged expiration, and hyperresonance to percussion.

218. Which of these symptoms are considered as major criteria in the diagnosis of Acute Rheumatic Fever:

A. All of the above

B. Erythema MArginatum

C. Subcutaneous nodules

D. Sydenham chorea

Answer: A

According to revised Jones criteria, the diagnosis of rheumatic fever can be made when two of the major criteria, or one major criterion plus two minor criteria, are present along with evidence of streptococcal infection: elevated or rising antistreptolysin O titre or DNAase.[8] Exceptions are chorea and indolent carditis, each of which by itself can indicate rheumatic fever Major criteria Polyarthritis:[32] A temporary migrating inflammation of the large joints, usually starting in the legs and migrating upwards. Carditis: Inflammation of the heart muscle (myocarditis) which can manifest as congestive heart failure with shortness of breath, pericarditis with a rub, or a new heart murmur. Subcutaneous nodules: Painless, firm collections of collagen fibers over bones or tendons. They commonly appear on the back of the wrist, the outside elbow, and the front of the knees. Erythema marginatum: A long-lasting reddish rash that begins on the trunk or arms as macules, which spread outward and clear in the middle to form rings, which continue to spread and coalesce with other rings, ultimately taking on a snake-like appearance. This rash typically spares the face and is made worse with heat. Sydenham's chorea (St. Vitus' dance): A characteristic series of involuntary rapid movements of the face and arms. This can occur very late in the disease for at least three months from onset of infection.

219. A mother comes with her 9 year old daughter. She's looking short and her mother is also short. The bone age is 7 years and her labs: all normal except insulin like growth hormone (below the normal range). What will you do?

A. Give growth hormone

B. None of the above

C. Reassure mother and discharge from the clinic

D. Reevaluation after 1 year

Answer: A

Treatment is directed at the cause of the growth failure. If the child is diagnosed with hypothyroidism, treatment is thyroid hormone replacement. Likewise, if the child is diagnosed with growth hormone (GH) deficiency, the treatment is growth hormone replacement therapy.

In 2003, the FDA approved the use of growth hormone for children who are not growth hormone deficient but who are at least 2.25 standard deviations below the mean for height, who are unlikely to have an adult height above -2 standard deviations, and who have no explanation for their short stature. This disorder has been termed idiopathic short stature.

220. A very active and independent 75-year-old man with a history of type II diabetes and hypertension presents to the ED with complaints of palaptions and chest discomfort. His EKG showed

atrial fibrillation with rapid ventricular response. The rate is brought under control with metoprolol and you counsel him about anticoagulation. What is the best recommendation for this patient?

A. Dabigatran (Pradaxa) is safer anticoagulant compared with warfarin and aspirin combined.

B. He should be on aspirin to prevent strokes

C. Neither aspirin nor warfarin is recommended since he is well rate controlled on metoprolol

D. Warfarin is much better option considering his CHADS score

Answer: D

Numerous guidelines including those from the American College of Cardiology and American Heart Association recommend that patients with nonvalvular atrial ?brillation who are at low risk of stroke be treated with 81 to 325 mg of aspirin per day, whereas patients at higher risk should be treated with warfarin (at a dosage necessary to achieve a target INR of 2 to 3). To calculate risk, there is general agreement that warfarin should be recommended in patients with atrial fibrillation and a CHADS score of 2 or greater: Congestive heart failure; Hypertension; Age 75 years or older; Diabetes mellitus; Stroke or TIA. To assess risk, add one point for each of the first 4 risk factors, and two points for stroke or TIA. This patient's score is 3, so warfarin would be recommended. Nevertheless, decisions about using warfarin can be challenging in older patients and in those at risk of bleeding. The Outpatient Bleeding Risk Index (OBRI) is a validated tool used to predict the risk of bleeding in patients taking warfarin.

The OBRI includes four risk factors, each counting as one point:

(1) age older than 65 years;

(2) history of stroke;

(3) history of gastrointestinal bleeding; and

(4) one or more of the following: recent MI, severe anemia (hematocrit < 30%), diabetes, or renal impairment. A score of 0 is considered low risk, a score of 1 or 2 is intermediate risk, and a score of 3 or 4 is high risk. A study evaluating the OBRI found that the risk of major bleeding in low-, intermediate-, and high-risk patients was 3, 12, and 48 percent, respectively. This patients ORBI is 1 (age > 65), placing him at intermediate risk. The anticoagulation agent dabigatran (Pradaxa), a direct thrombin inhibitor, was recently approved by the FDA for the prevention of stroke and systemic embolism with atrial fibrillation. In a randomized trial, 150 mg of dabigatran twice per day was shown to be superior to warfarin in decreasing the incidence of ischemic and hemorrhagic strokes. Patients assigned to dabigatran had a higher incidence of MI than those assigned to warfarin, but the difference was not statistically significant.

221. A young patient diagnosed with otitis media was prescribed antibiotics but did not take the treatment. His disease has now progressed to a point that there is severe pain and redness around the ear. On examination there is marked erythema and tenderness around the ear and the mastoid process. Which of the following is most likely diagnosis?

A. ,Otitis media

B. Acute mastoiditis

C. Labyrynthitis

D. Otitis externa

Answer: B

Mastoiditis is a bacterial infection of the mastoid air cells, which typically occurs after acute otitis media. Symptoms begin days to weeks

after onset of acute otitis media and include fever and persistent, throbbing otalgia. Nearly all patients have signs of otitis media and purulent otorrhea. Redness, swelling, tenderness, and fluctuation may develop over the mastoid process; the pinna is typically displaced laterally and inferiorly. Diagnosis is clinical. Treatment is with antibiotics, such as ceftriaxone and mastoidectomy if drug therapy is not effective.

222. Which of the following is associated with barking cough, inspiratory stridor, and normal x- ray of the neck?

A. Epiglottitis

B. Laryngotracheobronchitis

C. Peritonsillar abscess

D. Retropharyngeal abscess

Answer: B

Laryngotracheobronchitis croup)

1. Most common cause is parainfluenza viral infection

2. Causes subglottic narrowing

3. Common between 3 months and 3 years of age

Clinical presentation

1. Upper respiratory tract infection (URI) with or without low -grade fever

2. Croup can be associated with fever 39–40 °C

3. Barking cough

4. Brassy cough

5. Inspiratory stridor

6. Retraction, hypoxia, and respiratory distress in severe cases

7. Child may prefer to sit or be held upright

Diagnosis Steeple sign on frontal CXR common though occasionally absent.

223. Which of the following is NOT a complication of severe acute malnutrition?

A. Hyperkalemia

B. Hypoglycemia

C. Hypothermia

D. Infection

Answer: A

When a child's intake is insufficient to meet daily needs, physiologic and metabolic changes take place in an orderly progression to conserve energy and prolong life. This process is called reductive adaptation. Fat stores are mobilized to provide energy. Later protein in muscle, skin, and the gastrointestinal tract is mobilized. Energy is conserved by reducing physical activity and growth, reducing basal metabolism and the functional reserve of organs and by reducing inflammatory and immune responses. These changes have important consequences:The liver makes glucose less readily, making the child more prone to

hypoglycemia…Heat production is less, making the child more vulnerable to hypothermia…The kidneys are less able to excrete excess fluid and sodium, and fluid easily accumulates in the circulation, increasing the risk of fluid overload…The heart is smaller and weaker and has a reduced output, and fluid overload readily leads to death from cardiac failure…Sodium builds up inside cells due to leaky cell membranes and reduced activity of the sodium/potassium pump, leading to excess body sodium, fluid retention, and edema…Potassium leaks out of cells and is excreted in urine, contributing to electrolyte imbalance, fluid retention, edema, and anorexia. Loss of muscle protein is accompanied by loss of potassium, magnesium, zinc, and copper.

224. A previously healthy 9-year-old male presents to the ER with asymptomatic jaundice and is found to have a total bilirubin of 11 mg/dL with a direct component of 8.5 mg/dL. Which of the following tests is the most useful indicator of hepatic synthetic function?

A. Antinuclear antibody

B. Complete blood count with platelets

C. Cortisol

D. Prothrombin time (PT)

E. Total and free carnitine and acylcarnitine

Answer: D

The most useful indicator of this child's hepatic synthetic function is the PT, which will be prolonged if the liver fails to synthesize clotting factors. Cortisol level, total and free carnitine and acylcarnitine, and antinuclear antibody are second-tier diagnostic tests that should be sent for the well-appearing or ill-appearing child in which the etiology of

direct hyperbilirubinemia remains unestablished after first-tier tests return with normal results. Complete blood count with platelets is an appropriate firsttier test to send in a child with direct hyperbilirubinemia, but abnormalities in this test do not necessarily indicate hepatic synthetic dysfunction.

225. A 4-week-old girl presents to the emergency department with a 2-day history of upper respiratory congestion and cough followed by progressive feeding intolerance and lethargy. The infant is seizing at time of presentation. Laboratory evaluation shows a blood glucose of 20 mg/dL, AST of 500 U/L, and ALT of 600 U/L. Urinalysis is negative for ketones.

Which of the following is the most likely underlying disease?

A. Fatty acid oxidation disorder

B. Galactosemia

C. Glycogen storage disease

D. Mitochondrial disorder

E. Tyrosinemia

Answer: A

One of the hallmark features of fatty acid oxidation disorders is nonketotic hypoglycemia, as in this patient. Fatty acid oxidation disorders can present with symptomatic hypoglycemia, which may cause seizures and lethargy, presenting after decreased PO intake, such as during a URI. Mitochondrial disorder, galactosemia, and tyrosinemia can all present acutely in infants with feeding intolerance, lethargy, transaminitis, and hypoglycemia; however, infants with these disorders

are able to synthesize ketones in context of fasting hypoglycemia, whereas those with fatty acid oxidation disorders cannot. Children with glycogen storage disease often present with fasting hypoglycemia because they are unable to utilize glycogen stores to produce glucose; however, they, too, are able to mount a ketotic response.

226. A 3-year-old girl with a history of autism presents with delayed language development.You note paroxysmal laughter and tongue thrusting. She additionally has prognathism, and an abnormal gait. Examination is negative for any rash. What is the most likely diagnosis?

A. Angelman syndrome

B. Fragile X syndrome

C. Prader –Willi syndrome

D. Rett syndrome

E. Tuberous sclerosis

Answer: B

Although Angelman syndrome, Rett syndrome, tuberous sclerosis, and Fragile X syndrome can be associated with autism, the phenotype of prognathism, paroxysmal laughter, and tongue thrusting make Angelman syndrome more likely. Angelman syndrome occurs when a mutated UBE3A is inherited through the mother. Prader–Willi syndrome results if the gene is inherited from their father. Methylation testing for UPD15 can help con□rm the diagnosis.

227. A 7-month-old girl is brought to the doctor with an erythematous rash that spares the skin folds of the groin area. Which of the following is the most likely diagnosis?

A. Atopic dermatitis

B. Contact Dermatitis

C. Diaper dermatitis

D. Seborrheic dermatitis

Answer: C

Candidal Diaper Dermatitis

Clinical presentation

1. Lesions consist of beefy red plaques, often with scalloped borders.

2. Satellite papules and pustules may be observed surround ing the plaques.

3. Maceration is often present, especially in intertriginous areas.

Treatment

1. Once daily oral fluconazole is superior to oral nystatin for resistant

thrush and effective candidal diaper dermatitis.

2. Topical clotrimazole if resistant to topical nystatin.

228. A 4-year-old girl is brought to the physician for high fever, cough, coryza, conjunctivitis, maculopapular rash spread from the head down.

Physical examination reveals splenomegaly and lymphadenopathy.

Which of the following is the most likely diagnosis?

A. Measles

B. Meningitis

C. Rubella

D. Shigella

Answer: A

Measles

1. Mode of transmission: respiratory droplets (airborne).

2. The virus is infectious for 3–4 days before the onset of morbilliform rash and 4 days after the exanthem.

Diagnosis

1. IgM level serology (most reliable test)

2. Antigen detection in respiratory epithelial cells

3. Tissue by immunofluorescent method or PCR

Clinical presentation

1. Coryza

2. Cough

3. Conjunctivitis

4. High fever

5. Koplik spots

6. Rash is erythematous maculopapular rash spread from up–down and disappear the same way

Prevention:

1. Intramuscular (IM) immunoglobulin prophylaxis should be given to unimmunized child if exposed to measles infection

2. Children received measles vaccine before 1 year do not count and need to receive two doses of MMR after 12 months for full immunization.

3. Infected child with measles should be placed under air borne precaution transmission and isolated for 4 days after the rash and for all duration of illness if immuno compromised.

Complications

1. Otitis media is the most common

2. Pneumonia (common cause of death)

3. Encephalitis

229. All of the following are risk factors for hospital-acquired infection except:

A. Foley catheters

B. Immunizations

C. Intravascular catheters

D. Surgical procedures

Answer: B

Immunizations are not a risk factor for hospital acquired infections. All the rest are invasive procedures which provides an entry point for infection

230. Which of the following is the most common cause of childhood cancer?

A. Acute lymphoblastic leukemia

B. Acute myeloid leukemia

C. Chronic lymphocytic leukemia

D. Chronic myelogenous leukemia

Answer: A

1. Acute lymphoblastic leukemia (ALL) is the most common cause of childhood cancer.

2. Most frequently occurs in children; less common in adults (worse prognosis).

3. Acute lymphoblastic leukemia (ALL) is the predominant type of leukemia in children from ages 2- 10 years.

4. It is common in Down syndrome.

5. Clinical features of ALL include: fever, bleeding, Bone pain, petechiae (particularly on lower extremities) and ecchymoses and signs and symptoms of anemia (such as pallor, fatigue, dizziness,

palpitations, cardiac flow murmur, and dyspnea with even mild exertion)

6. Approximately 30-50% of patients present with infections, and about half present with lymphadenopathy and splenomegaly.

7. Lymphoblasts are typically seen on the peripheral smear.

8. Most responsive to therapy.9. May spread to CNS and testes.

231. A three year-old girl presented to Emergency Department with fever, vomiting and abdominal pain which began 10 hours ago. Radiological examination confirmed a dilated intestinal pouch attached to the anterior abdominal wall. Her diagnosis was the persistence of a Meckel's diverticulum. Which of the following sites will the surgeon look for this diverticulum?

A. Cecum

B. Lower Duodenum

C. Lower Ileum

D. Lower Jejunum

Answer: C

A Meckel's diverticulum, a true congenital diverticulum, is a slight bulge in the small intestine present at birth and a vestigial remnant of the omphalomesenteric duct (also called the vitelline duct or yolk stalk). It is the most common malformation of the gastrointestinal tract and is present in approximately 2% of the population,[1] with males more frequently experiencing symptoms. lthough Meckel diverticulum is usually asymptomatic, two types of complications can require clinical attention. One type involves ectopic mucosal tissue and most often leads to GI bleeding in younger children. In the second type, an

obstruction, inflammation, or, rarely, perforation of the bowel is present.

232. A 1 year-old infant is found to have a blood smear showing a microcytic anemia. You do a follow-up hemoglobin electrophoresis and find that it shows an increased concentration of hemoglobin A2 (Hb A2). Which of the following conditions is the child is most likely to have ?

A. Chronic systemic illness

B. Iron deficiency

C. Lead poisoning

D. Sickle cell anemia

E. β-thalassemia trait

Answer: E

Electrophoresis is used as a hemoglobin screening tool to identify abnormal and variant forms of hemoglobin such as HbA1, HbA2, HbS and HbF. The correct answer is β-thalassemia as an increase in Hb A2 is indicative of β-thalassemia minor. In Sickle cell anemia electrophoresis will show a HbS and HbSC predominance. In iron deficiency anemia, lead poisoning and anemia of chronic illness there will be a microcytic anemia and although electrophoresis is indicated, hemoglobin will be normal.

233. Which of the following is routinely given at birth to prevent hemorrhage in newborn?

A. Factor X

B. Vitamin C

C. Vitamin D

D. Vitamin K

Answer: D

Following birth, there is a modest decrease in the vitamin K (phytonadione) ”dependent factors II, VII, IX, and X ” that gradually return to normal in 7 to 10 days. The cause of this decrease is inadequate free vitamin K available from the mother and the newborn's inability to synthesize vitamin K because of a lack of intestinal flora. Therefore, 1 mg of vitamin K is administered intramuscularly at birth to prevent hemorrhagic disease of the newborn in term infants. Larger doses predispose to the development of hyperbilirubinemia and kernicterus. Breast milk is a poor source of vitamin K. As a result, hemorrhagic complications occur more frequently in breast-fed infants.

Mothers taking medications that interfere with vitamin K function (i.e., phenobarbital and phenytoin) may have infants at increased risk for early onset bleeding.

234. Best way to treat water against entamebeoa histolytica ?

A. Boiling

B. adding soap to drinking water

C. chlorinization of water

D. use of iodine in water

Answer: A

Prevention of amebiasis at present requires interruption of the fecaloral spread of the infectious cyst stage of the parasite. Because cysts are resistant to low doses of chlorine or iodine, in developing countries water must be boiled before it is safe to drink, and raw vegetables must be washed with soap and then soaked in vinegar for 15 min before they can be eaten

235. Otorrhea (purulent ear drainage) may be associated with all of the following Except:

A. Acute otitis media

B. Cholesteatoma

C. Lyme disease

D. Perforated eardrum

Answer: B

Lyme disease may cause cranial neuropathies (most often cranial nerve VII) but should not cause otorrhea. The most common causes of otorrhea may be otitis externa and perforation of the tympanic membrane in children with otitis media. A cholesteatoma is an abnormal, noncancerous skin growth that can develop in the middle section of your ear, behind the eardrum. It may be a birth defect, but it's most commonly caused by repeated middle ear infections.

236. Which of the following is the most common malignancy in infants?

A. Burkitt lymphoma

B. Neuroblastoma

C. Non-Hodgkin lymphoma

D. Renal cell carcinoma

Answer: B

1. Neuroblastoma is the most common intra-abdominal malignancy of infancy, the most common cancer in infancy, and the most common extracranial solid tumor of childhood.

2. The tumor arises from neural crest cells,

3. The most common site involved is the abdomen, either from the adrenals or retroperitoneal ganglia.

4. Signs and symptoms of neuroblastoma vary with site of presentation. Generally, symptoms include abdominal pain, emesis, weight loss, anorexia, fatigue, and bone pain.

237. A 10-year-old boy develops an itchy, vesicular rash, which is maximal on his face and trunk. Physical examinationdemonstrates a mixture of lesions, with macules, papules, vesicles, and crusted lesions. The mother reports thatthe lesions seem to be occurring in crops. Which of the following is the most likely diagnosis?

A. Herpes simplex I

B. Measles

C. Shingles

D. Varicella

Answer: D

This is varicella (chicken pox), which is the primary form of infection by the herpes zoster (varicella-zoster) virus. Recurrence due to virus harbored in neurons tends to be dermatomal in distribution and is called shingles. Fever, malaise, headache, and myalgia may also be present, particularly inÂthe prodromal phase. Tzanck smear of the base of a vesicle may demonstrate multinucleated giant cells.Immunocompromised patients can be treated with acyclovir to prevent dissemination. Chicken pox may becomplicated by secondary bacterial infection, pneumonia, systemic spread (immunosuppressed patients),neurologic involvement (rare), Reye's syndrome (rare), and hemolytic anemia (rare).Herpes simplex I causes oral vesicles and ulcers.Measles causes a blotchy, nonvesicular rash.Shingles is the recurrent form of herpes zoster infection and usually is localized to a single dermatome.

238. A 4550-g male neonate is delivered vaginally after a 37 6/7 weeks' gestation complicated by gestational diabetes. One application of a vacuum extractor to the neonate's head was required to facilitate delivery. On examination at 12 hours of age, the baby has a well-circumscribed, fluctuant mass over the parietal skull that does not cross suture lines. The overlying skin is erythematous but intact. He is active and alert, and the rest of his examination is unremarkable. Which of the following steps is next indicated in the management of this neonate?

A. Administration of intravenous ampicillin and cefotaxime

B. Careful aspiration of the mass with a tuberculin syringe

C. Monitoring serum and/or transcutaneous bilirubin levels

D. Transfusion of packed red blood cells

Answer: C

The infant has a cephalohematoma, which is a subperiostial hemorrhage often associated with trauma during labor . The hemorrhage presents hours after delivery as a fluctuant mass over the affected skull bone (often the parietal or occipital bone). The hemorrhage is limited by the periosteum of the skull bone and, as a result, does not extend beyond the suture lines. Blood loss is minimal, and affected infants usually do not require transfusion of blood products. The most common neonatal complication is hyperbilirubinemia due to the breakdown of the extravasated blood. In the absence of localized or systemic infection, antibiotics should not be administered. Needle aspiration of the hematoma is not indicated and may introduce skin □ora into the hematoma, resulting in infection of the mass and surrounding skin. A cephalohematoma should be distinguished from 2 other entities. A caput succedaneum is edema of the scalp and tends to cross suture lines. A subgaleal hemorrhage is bleeding between the galea aponeurotica and the skull. This condition can lead to extensive hemorrhage and shock. As a result, this is an emergency situation requiring close monitoring, as well as potential replacement of blood and clotting products.

239. A 16-yr-old girl has not had her first menstrual period. Her mother had her first period at the age of 12 yr. The adolescent is short and has poor breast development. A vaginal smear shows no estrogen effect, and there is no withdrawal bleeding after administration of intramuscular progesterone. Her serum FSH level is high. The most likely diagnosis is:

A. Cervical stenosis

B. FSH pituitary tumor

C. Hypothyroidism

D. Primary ovarian failure

Answer: D

The patient has hypergonadotropic hypogonadism-primary ovarian failure. Hypergonadotropic hypogonadism (HH), also known as primary or peripheral/gonadal hypogonadism, is a condition which is characterized by hypogonadism due to an impaired response of the gonads to the gonadotropins, follicle-stimulating hormone (FSH) and luteinizing hormone (LH), and in turn a lack of sex steroid production and elevated gonadotropin levels (as an attempt of compensation by the body)

240. A child was on clindamycin developed abdominal pain and watery diarrhea. What is the most likely explanation of this development?

A. Allergic reaction

B. Clostridium difficile

C. Non of the above

D. Worsening of original disease

Answer: B

Pseudomembranous colitis is an inflammatory condition of the colon characterized by elevated yellow-white plaques that coalesce to form pseudomembranes on the mucosa. Patients with the condition commonly present with abdominal pain, diarrhea, fever, and

leukocytosis. Because pseudomembranous colitis is often associated with C. difficile infection. Antibiotics, such as clindamycin, penicillins, fluoroquinolones, and cephalosporins, are typically associated with CDI, but disease can occur with almost any anti-bacterial agent, including vancomycin and metronidazole, which are commonly used for treatment

241. You are asked to review an 8 month old infant who presents to the outpatient department with an upper respiratory tract infection. The child has no congenital anomalies and has appropriate age-specific milestones.

The child was never breastfed and is still on formula feeds. Which growth assessment tool is the most appropriate in evaluating this child?

A. CDC growth charts

B. Cerebral Palsy growth charts

C. Down's syndrome growth charts

D. WHO growth charts

Answer: D

The CDC and American Academy of Pediatrics recommend the use of the WHO charts to monitor growth of all infants and children (breast and bottle or infant formula fed) from birth to 2 yr of age, and the use of the CDC 2000 growth charts for children 2 to 20 yr of age.

242. Which of the following is the most appropriate management for chronic allergic rhinitis?

A. Cromolyn sodium

B. Intranasal steroids

C. Systemic antihistamines

D. Topical decongestants

Answer: B

Rhinosinusitis is typically divided among four subtypes: acute, recurrent acute, subacute, and chronic, based on patient history and a limited physical examination. In most cases, therapy is administered based on this classification. Antibiotic therapy along with hydration and decongestants is indicated for 7 to 14 days in patients with acute, recurrent acute, or subacute bacterial rhinosinusitis. For patients with chronic disease, the same treatment regimen is indicated for an additional 4 weeks or more, and a nasal steroid may also be prescribed if inhalant allergies are suspected as an etiologic agent. Nasal endoscopy and computed tomography of the sinuses are reserved for circumstances that include a failure to respond to therapy as expected, spread of infection outside the sinuses, a question of diagnosis, and when surgery is being considered.

243. What is the minimal probability of a baby getting beta thalassemia from carrier parents?

A. 0%

B. 100%

C. 25%

D. 50%

E. 75%

Answer: C

Explanation: If both members of a couple are carriers (or heterozygotes) for this mutation, each of their offspring has a 25% chance of being affected .

244. What are the components of tetralogy of fallot?

A. Aortic stenosis, right ventricular outflow tract and pulmonary valve obstruction, and over-riding of the aorta.

B. Large ventricular septal defect (VSD), right ventricular outflow tract and pulmonary valve obstruction, and over-riding of the aorta.

C. Patent ductus arteriosus (PDA), left ventricular outflow tract and pulmonary valve obstruction, and over-riding of the aorta.

D. Ventricular septal defect (VSD), left ventricular outflow tract and pulmonary valve obstruction, and over-riding of the aorta.

Answer: B

1. Tetralogy of Fallot consists of 4 features: a large ventricular septal defect, right ventricular outflow tract and pulmonary valve obstruction, right ventricular hypertrophy, and over-riding of the aorta.

2. Manifestations depend on the degree of right ventricle outflow obstruction; severely affected neonates have marked cyanosis, dyspnea

with feeding, poor weight gain, and a harsh grade 3 to 5/6 systolic ejection murmur.

3. Symptoms include cyanosis, dyspnea with feeding, poor growth, and hypercyanotic "tet" spells (sudden, potentially lethal episodes of severe cyanosis).

4. Pulmonary blood flow is decreased, the right ventricle hypertrophies, and unoxygenated blood enters the aorta via the VSD.

5. A harsh systolic murmur at the left upper sternal border with a single 2nd heart sound (S2) is common.

6. Diagnosis is by echocardiography and cardiac catheterization may be done.

7. Give neonates with severe cyanosis an infusion of prostaglandin E1 to open the ductus arteriosus.

8. Definitive treatment is surgical repair.

9. Repair surgically at 3 to 6 mo or earlier if symptoms are severe.

245. The most common benign parotid tumor in pediatrics is?

A. Hemangioma

B. Mucoepidermoid carcinoma

C. Rhabdomyosarcoma

D. pleomorphic adenomas

Answer: A

Salivary gland neoplasms are rare in children. Most tumors (65%) are benign, with hemangiomas being the most common, followed by pleomorphic adenomas. In children, 35% of salivary gland neoplasms

are malignant. Mucoepidermoid carcinoma is the most common salivary gland malignancy in children.

246. A 1-year old girl brought to the clinic with fever, gingival swelling, blisters on the gingiva and drooling. On examination, the child is febrile and appears mildly dehydrated. Which of the following is the most likely diagnosis?

A. Herpetic gingivostomatitis

B. Pneumonia

C. Retropharyngeal Abscess

D. acute pharyngitis

Answer: A

Herpetic gingivostomatitis

1. Gingivostomatitis is the most common manifestation of primary herpes simplex virus (HSV) infection during childhood.

2. Primary herpetic gingivostomatitis is characterized by ulcerative lesions of the gingiva and mucous membranes of the mouth, often with perioral vesicular lesions.

3. Herpetic gingivostomatitis is almost always caused by herpes simplex virus type 1.

4. Primary herpetic gingivostomatitis typically occurs in children between six months and five years of age, but it can occur in older children and adolescents.

Clinical features include the following:

1. Abrupt onset

2. High temperature

3. Anorexia and listlessness

4. Gingivitis (This is the most striking feature, with markedly swollen, erythematous, friable gums.)

5. Vesicular lesions (These develop on the oral mucosa, tongue, and lips and later rupture and coalesce, leaving ulcerated plaques.)

6. Tender regional lymphadenopathy

7. Perioral skin involvement due to contamination with infected saliva

Treatment: Acyclovir

247. The WHO and CDC growth charts are routinely used for growth and nutritional assessment. Which of the following conditions would require a disease-specific chart for assessing growth and development.

A. Cyanotic congenital heart disease

B. Cystic fibrosis

C. Down Syndrome

D. Tuberculosis

Answer: C

Growth in children with Down's syndrome (DS) differs markedly from that of normal children. The use of DS specific growth charts is

important for diagnosis of associated diseases, such as celiac disease and hypothyroidism, which may further impair growth. (Myrelid

A: (2002) Growth charts for Down's syndrome from birth to 18 years of age;)

248. The most common presenting sign of retinoblastoma is:

A. Coloboma

B. Hypopyon

C. Leukocoria

D. Red reflex

Answer: C

The clinical manifestations of retinoblastoma vary, but the initial sign in the majority of cases is leukocoria (white pupillary reflex, also known as "cat eye") instead of the normal red pupillary reflex.

249. Which of the following pathophysiologic mechanisms is associated with neonatal hypoxic-ischemic brain injury?

A. Accelerated reuptake of glutamate at the synaptic cleft

B. Accelerated reuptake of glutamate at the synaptic cleft

C. Loss of high-energy phosphorylated compounds

D. Reduction in cellular oxidative stress

Answer: C

The cellular processes associated with neonatal hypoxic-ischemic encephalopathy can be divided into 2 separate pathophysiologic phases. Primary energy failure occurs secondary to decreases in cerebral blood flow, resulting in reduced substrate (ie, glucose) and oxygen delivery to brain tissue. Cellular derangements include loss of high-energy compounds (such as adenosine triphosphate [ATP] and phosphocreatine), excessive release or failure of reuptake of excitatory neurotransmitters (such as glutamate), disturbed ionic homeostasis (including increases in intracellular calcium), and decreased cellular protein synthesis. Secondary energy failure, whose severity is related to the degree of primary energy failure, results in a constellation of neurodegenerative processes (including oxidative injury, neuronal apoptosis, accumulation of excitatory neurotransmitters, and inflammation).

250. A 4-year-old boy is presented with rash on his legs and buttocks, and pain in both knees. History revealed abdominal pain and vomiting. Examination revealed temp 37.2 °C, and tenderness of knee joints with noeffusions. There were petechial and purpuric rashes in legs and buttocks. Platelet count is normal.Which of the following is the most likely diagnosis?

A. Hemolytic uremic syndrome

B. Henoch-Schonlein purpura

C. Immune thrombocytopenia

D. Kawasaki disease

Answer: B

Henoch-Schonlein purpura is a disorder that causes inflammation and bleeding in the small blood vessels in your skin, joints, intestines and kidneys. The four main characteristics of Henoch-Schonlein purpura include: Rash (purpura). Reddish-purple spots, which look like bruises, are the most distinctive and universal sign of Henoch-Schonlein purpura. The rash develops mainly on the buttocks, legs and feet, but it can also appear on the arms, face and trunk and may be worse in areas of pressure, such as the sock line and waistline. Swollen, sore joints (arthritis). People with Henoch-Schonlein purpura often have pain and swelling around the joints — mainly in the knees and ankles. Joint pain sometimes precedes the classical rash by one or two weeks. These symptoms subside when the disease clears and leave no lasting damage. Gastrointestinal symptoms. Many children with Henoch- Schonlein purpura develop gastrointestinal symptoms, such as abdominal pain, nausea, vomiting or bloody stools. These symptoms sometimes occur before the rash appears. Kidney involvement. Henoch-Schonlein purpura can also affect the kidneys. In most cases, this shows up as protein or blood in the urine, which you may not even know is there unless you have a urine test done. Usually this goes away once the illness passes, but in a few cases, kidney disease may develop and even persist.

251. Cystic Fibrosis Transmembrane Regulator protein is NOT expressed in which of the following epithelial cells?

A. Airways

B. Biliary system

C. Nervous system

D. Pancreas

Answer: C

CFTR protein is expressed in gastro gastrointestinal tract (including the pancreas and biliary system), the sweat glands, and the genitourinary system

252. Most infants are able to roll from back to front at which age?

A. 12 months

B. 6 months

C. 7 months

D. 9 months

Answer: B

At 6 months, the infant sits momentarily propped on hand, turns from back to the front, transfers hand hand; bangs and shakes toys; Rakes pellets; Removes cloth on face; Stranger anxiety (familiar versus unfamiliar people); Begins to make babbling; Listens then vocalizes when adult stops; Imitates sounds

253. Pain associated with the distal second metatarsal head is most likely a result of

A. Gout

B. Jones fracture

C. Metatarsalgia

D. Morton’s neuroma

Answer: C

Metatarsalgia is characterized by pain and sometimes swelling associated with the second (and, less commonly, the third) metatarsal head. The pain is secondary to a synovitis that affects the joint. Patients with hammertoes are at an increased risk because of stress placed at the head of the metatarsals. In most cases, radiographs are normal; however, more severe cases may show subluxation or dislocation of the metacarpal joint. NSAIDs, hot soaks, and metatarsal pads may help; however, if subluxation or dislocation is present, surgery may be necessary. Morton’s neuroma usually presents with a feeling as if the patient is standing on a pebble in their shoe, with a burning sensation in the ball of your foot that may radiate into the toes. A Jones fracture is a fairly common fracture of the fifth metatarsal, and gout typically involves pain and inflammation at the first metatarsophalangeal joint, although other toes can be involved.

254. Notching of the ribs (or rib notching) is a radiologic sign where the surface of the rib is deformed.Which of the following conditions is associated with inferior rib notching?

A. Coarctation of Aorta

B. Transposition of the great vessels

C. Tricuspid atresia

D. Truncus arteriosus

Answer: A

Inferior rib notching can be associated with aortic coarctation (as a result of dilatation of intercostal arteries[1]), superior vena caval obstruction, arteriovenous □stula, or following a Blalock Taussig shunt.

255. All of the following are effective in the prevention of infection due to Listeria monocytogenes EXCEPT:

A. Avoidance of unpasteurized dairy food

B. Careful handwashing to prevent nosocomial spread in the hospital

C. Prophylaxis with trimethoprim/sulfamethoxazole for immunocompromised patients

D. Use of the approved Listeria vaccine for high-risk individuals

Answer: D

There is no Listeria vaccine available. All the other three options can reduce the risk of listeria infection.

256. A 2-month-old boy is being evaluated for jaundice and failure to thrive. He undergoes a percutaneous liver biopsy that shows a paucity of bile ducts. Which of the following would not be considered an appropriate investigation in the course of his disease evaluation?

A. Chest radiograph

B. Echocardiogram

C. Ophthalmologic examination

D. Renal ultrasound

E. Skin biopsy

Answer: E

The finding of bile duct paucity on liver biopsy, in the setting of poor growth, is characteristic of Alagille syndrome, a multisystem, inherited disorder with highly variable clinical features. A paucity of bile ducts is considered the most important and constant feature of this disease. In addition to bile duct paucity, 3 other features including cholestasis, cardiac defects, skeletal abnormalities, characteristic facies, or ophthalmologic abnormalities are required for diagnosis. Evaluation includes an echocardiogram to evaluate for cardiac anomalies and peripheral pulmonic stenosis, AP and lateral chest radiographs to allow evaluation for the presence of butterfly vertebrae, ophthalmologic examination to identify anterior chamber involvement, renal ultrasound and renal function testing to identify renal complications, and screening for early identification of any developmental delays. A skin biopsy is unlikely to be useful in evaluating the cause of this patient's liver disease.

257. A neonate manifests cyanosis and hepatomegaly. There is a grade 4/6 systolic ejection murmur without an audible ejection click. The ECG reveals tall, spiked P waves and right ventricular hypertrophy. The most likely diagnosis in the patient is:

A. Critical aortic stenosis

B. Critical pulmonic stenosis

C. Patent ductus arteriosus

D. Tetralogy of Fallot

Answer: B

Critical pulmonic stenosis often presents in the neonate. Cyanosis is due to elevated right-sided pressures and right-to-left shunting at the patent foramen orale.

258. A 5-month-old presents with a history of 2–3 previous episodes of fasting hypoglycemia. Laboratory evaluations collected during these episodes at a local ED are available for your review and indicate hypoketotic hypoglycemia with mild acidosis, mild hyperammonemia, and elevated liver transaminases during episodes of hypoglycemia. What is the optimal diagnostic modality to establish an underlying diagnosis?

A. Free and total carnitine levels

B. Plasma acylcarnitine profile

C. Plasma amino acids

D. Urine organic acids

E. VLCFAs

Answer: B

The case is hepatic presentation of fatty acid oxidation disorders (FAODs), characterized by fasting related hypoketotic hypoglycemia. Diagnosis may be difficult even when the presentation is characteristic. Probably the most important single diagnostic test is analyzing acycarnitine esters in plasma or serum by tandem mass spectrometry (plasma acylcarnitine profile). Urine organic acids and free and total carnitine levels are useful but not diagnostic. Plasma amino acids are usually normal in patients with FAODs. “Very long chain fatty acids”

is a test for peroxisomal disorders as the VLCFAs are metabolized in peroxisomes, unlike fatty acid oxidation which occurs in mitochondria.

259. A 7-year-old boy is brought to the doctor with severe shortness of breath, fever and chills. Past medical history is significant for recurrent pulmonary infections and chronic diarrhea.A mutation involving which ofthe following genes is most likely have be present in this patient?

A. Beta-myosin

B. CFTR

C. Fibrillin

D. Spectrin

Answer: B

1. **Cystic fibrosis** (CF) is a disease of exocrine gland function that involves multiple organ systems but chiefly results in chronic respiratory infections, pancreatic enzyme insufficiency, and associated complications in untreated patients.

2. **Autosomal recessive** disorder caused by defect in chloride-pumping channel in exocrine glands; ducts of exocrine glands (e.g., lungs, pancreas, reproductive glands) become clogged with thick secretions

3. Cystic fibrosis is caused by one of a large number of mutations of the gene for a protein called the cystic fibrosis transmembrane conductance regulator (**CFTR**), which regulates chloride and sodium transport across epithelial membranes.

4. Other major consequences include pancreatic malfunction, leading to malabsorption of nutrients and vitamins with consequent impaired growth and development, and, in older patients, diabetes.

5. **Clinical features** include: recurrent pulmonary infections (e.g., Pseudomonas, Staphylococcus aureus), dyspnea, hemoptysis, chronic sinusitis, cough, meconium ileus at birth, steatorrhea, failure to thrive; cyanosis, digital clubbing, esophageal varices, rectal prolapse

6. **Confirmed** by a sweat test showing elevated sweat chloride on â‰¥ 2 occasions

7. **Treatment** is supportive through aggressive multidisciplinary care along with small-molecule correctors and potentiators targeting the cystic fibrosis transmembrane conductance regulator protein defect

260. Which of the following conditions is the most common cause of congenital nephrotic syndrome ?

A. Denys-Drash syndrome

B. Finnish type of congenital NS

C. Frasier's syndrome

D. Nail patella syndrome

E. VACTERL

Answer: B

The correct answer is B, Finnish type of congenital NS. Congenital nephrotic syndrome is a rare type of nephrotic syndrome that occurs mostly in people of Finnish descent. It is an inherited form of nephritic syndrome. Individuals with this disorder have an abnormal form of nephrin, thus affecting glomerular filtration.

261. Which of the following is the first line modality in diagnosing intussusception?

A. CT

B. MRI

C. Technetium-99

D. Ultrasound

Answer: D

1. Intussusception refers to the invagination of a part of the intestine into itself. It is the most common abdominal emergency in early childhood, particularly in children younger than two years of age.

2. The majority of cases in children are idiopathic.

3. Intussusception is the most common cause of intestinal obstruction in infants between 6 and 36 months of age.

4. Intussusception occurs most often near the ileocecal junction (ileocolic intussusception).

5. Classically described triad of pain, a palpable sausage-shaped abdominal mass, and currant-jelly stool.

6. Patients with intussusception typically develop the sudden onset of intermittent, severe, crampy, progressive abdominal pain, accompanied by inconsolable crying and drawing up of the legs toward the abdomen.

7. The episodes usually occur at 15 to 20 minute intervals. They become more frequent and more severe over time.

8. Vomiting may follow episodes of abdominal pain. Initially, emesis is non-bilious, but it may become bilious as the obstruction progresses.

9. A sausage-shaped abdominal mass may be felt in the right side of the abdomen.

10. In up to 70% of cases, the stool contains gross or occult blood (The stool may be a mixture of blood and mucous, giving it the appearance of currant jelly).

11. Ultrasonography is the method of choice to detect intussusception.

12. Plain radiographs of the abdomen are less sensitive and less specific than ultrasonography for the diagnosis of intussusception,

262. Highly specific indicators of cancer in children include:

A. Both A and B

B. Diffuse enlargement of the pons (brainstem)

C. Neither A nor B

D. White reflex emanating from the retina

Answer: A

Diffuse enlargement of the pons suggests central nervous system tumor, and white retinal reflex suggests retinoblastoma.

263. A 4-year-old female presents to your office with 2 weeks of intermittent abdominal pain. Her mother reports that the patient has been having occasional blood in her stool and 2 episodes of vomiting. The last 2 days she has noticed dark purple-blue lesions on her buttocks and thighs that seem to resemble bruises. Mom reports over that past 2 hours she has been having episodes of severe abdominal pain where she will draw her legs up and scream.

She appears exhausted from the episodes. She had a bowel movement in your waiting room that was loose with more blood than mom has recently observed. What is your next step in management?

A. Recommend ibuprofen treatment for abdominal pain and reassure the mother.

B. Refer her to the local hospital to rule out intussusception.

C. Refer her to the local hospital to rule out malrotation with volvulus.

D. Send a stool culture to evaluate for an infectious colitis.

E. Start a course of oral steroids and have her return to clinic tomorrow to monitor progress.

Answer: B

This patient is most likely presenting with Henoch-Schönlein purpura (HSP). Ten percent of children with HSP and abdominal pain will have intussusception. This patient will need to be evaluated in the emergency department for diagnosis and decompression with a watersoluble enema or surgery. Her symptoms of abdominal pain and bloody stools could represent malrotation with volvulus; however, the abdominal pain would unlikely come in intermittent waves as it does with intussusception. Also, the purpuric lesions on her legs are not consistent with malrotation with volvulus. Steroids and ibuprofen can be used in patients with abdominal pain and HUS; however, this patient is presenting with symptoms suggestive of intussusception that requires emergent evaluation and treatment to avoid complications. Given the description of purpuric lesions, an infectious colitis would be much less likely the source of her bloodystools. HSP is a systemic vasculitic disease that results in bowel ischemia, not infection.

264. A 4-yr-old boy is noted to have stereotypic body movements and poor verbal and nonverbal communication, with absence of empathy. At daycare, he has not made any friends. The most likely diagnosis is:

A. Attention deficit hyperactivity disorder

B. Autism

C. Cerabral palsy

D. Deaf-mutism

Answer: B

Autism spectrum disorders (ASD) are characterized by socialinteraction difficulties, communication challenges and a tendency to engage in repetitive behaviors. However, symptoms and their severity vary widely across these three core areas. Taken together, they may result in relatively mild challenges for someone on the high functioning end of the autism spectrum. For others, symptoms may be more severe, as when repetitive behaviors and lack of spoken language interfere with everyday life.

265. A person comes to you complaining of increased sound during the chewing of food, Whenever he speaks, he hear is own sound much louder than before. Which of the following nerve is likely to be injured?

A. Facial nerve

B. Glossopharyngeal nerve

C. Mandibular nerve

D. Vagus nerve

Answer: C

The tensor tympani is a muscle within the ear,Innervation of the tensor tympani is from the tensor tympani nerve, a branch of the mandibular division of the trigeminal nerve. Injury leads to increased intensity of chewing and self-sounds. Stapedius is supplied by, nerve to stapedius, a branch of facial nerve. This muscle help dampen the external noise or decrease the amplitude of high intensity sounds.

266. Which of the following is the best test for diagnosing lactose intolerance?

A. Genetic testing

B. Hydrogen Breath Test

C. Medical history

D. Stool analysis

Answer: B

Lactose intolerance 1. It is a malabsorption syndrome resulting from deficiency of lactase; can also be secondary to Crohn's disease or bacterial overgrowth 2. Lactose not metabolized in jejunum, leading to osmotic diarrhea 3. Presents with diarrhea, abdominal pain, flatulence, and bloating after dairy consumption 5. Lactase deficiency: Lactase deficiency is characterized by an intestinal brush border lactase enzyme activity that is lower than that of normal infants.6. Lactose malabsorption: Lactose malabsorption is characterized by a failure of the small bowel to absorb a sizable fraction of ingested lactose.7. Lactose intolerance: Lactose intolerance is a clinical syndrome in which

lactose ingestion causes symptoms (eg, abdominal pain, bloating, flatulence, diarrhea) due to lactose malabsorption4.

Treatment of lactose intolerance: lactose-restricted or lactose-free diet

267. Most children are able to copy a square at which age?

A. 1 year

B. 2 years

C. 3 years

D. 4 years

Answer: D

Developmental Milestones (4 years)

1. Balances on one foot for 4–8 s

2. Hops on one foot 2–3 times

3. Copies square

4. Goes to toilet alone

5. Wipes after bowel movement

6. Draws a four to six part person

7. Group play

8. Follows three step commands

9. Tells stories

10. Speaks clearly in sentences

11. Says four to five word sentences

12. Understands four prepositions

268. A 9-year-old girl is brought to the emergency room with stridor, high fever and drooling. Examination reveals cervical lymphadenopathy.

What is the most likely causative organism of this patientâ€™s epiglottitis?

A. Haemophilus Influenza type A

B. Haemophilus Influenza type B

C. Streptococci group A

D. Streptococci group B

Answer: B

1. **Epiglottitis** is a medical emergency, and rapid treatment must be initiated in order to prevent obstruction of the airway.

2. The most common organisms of epiglottitis, in adult, are Haemophilus inffuenzae and Streptococcus pyogenes.

3. Haemophilus In□uenza type B is the most common cause in children and adults

4. Presents with sore throat, dysphagia, drooling, mu□ed voice, and cough.

5. Examination: **cervical lymphadenopathy.**

6. The patient assumes a tripod position

7. CXR: **Thumbprint sign** on lateral film

8. Management : **Immediate endotracheal intubation in the operating room** in patients with severe airway obstruction

Symptoms:

1. Sore throat (95%)

2. Odynophagia/dysphagia (95%)

3. Muffled voice (54%) - "Hot potato voice," as if the patient is struggling with a mouthful of hot food

4. Adults may have preceding upper respiratory tract infection (URTI) symptoms.

269. Snoring and mouth breathing as a cause of failure to thrive suggest:

A. Cerebral palsy

B. Infective mononucleosis

C. Obstructive sleep apnea

D. Streptococcal pharyngitis

Answer: C

Adenoid hypertrophy or poor oropharyngeal motility (possibly related to cerebral palsy) can cause failure to thrive from obstructive sleep apnea. Mononucleosis is rare in infants.

270. Although sickle hemoglobin is present only in red blood cells, patients with sickle cell anemia are at risk of having multiple organs damaged as a consequence of either hemolysis or vaso-occlusion arising from sickled RBCs. Which of the following studies is routinely performed to assess the likelihood of damage to a target organ?

A. Audiology examination to assess the risk of hearing loss

B. Bone density scan to assess bone damage from vasoocclusive crises

C. Chest radiograph to assess the risk of pulmonary hypertension

D. Renal ultrasound to assess the risk of hyposthenuria

E. Transcranial Doppler ultrasound to assess the risk of stroke

Answer: E

Hemolysis and vaso-occlusion are the 2 main causes of complications from sickle cell disease (SCD). Transcranial Doppler ultrasounds are used to screen for sickle cell patients who are at increased risk of stroke. Clinical strokes occur in 11% of patients with SCD by the age of 18 years if they do not receive primary stroke prophylaxis and of those patients who have a clinically overt stroke, 50% to 90% have an additional stroke. Transcranial Dopplers are used to detect stenosis in the major cerebral arteries. Children with stenosis begin chronic transfusions to maintain their HbS concentration at less than 30% to decrease their stroke risk. While sickle cell patients are at risk for renal dysfunction and pulmonary hypertension, and can have vaso-occlusive crises that cause bone damage, renal ultrasound, chest radiograph, and bone density scanning are not used to screen for these disorders, respectively. Screening for hearing loss is typically only used in sickle cell patients who are being chelated due to iron overload, as hearing loss is not linked directly to SCD.

271. Which of the following statement is true about Reye Syndrome:

A. 90% of cases in children are associated with aspirin (salicylate) use

B. All of the above

C. Cause is unknown but begins after recovery from a viral infection

D. Includes hepatitis and encephalopathy

Answer: B

Reye syndrome is a rapidly progressive encephalopathy.[2] Symptoms may include vomiting, personality changes, confusion, seizures, and loss of consciousness.[1] Even though liver toxicity typically occurs, yellowish skin usually does not.[2] Death occurs in 20–40% of those affected and about a third of those who survive are left with a significant degree of brain damage.[2][3] The cause of Reye syndrome is unknown.[2] It usually begins shortly after recovery from a viral infection, such as influenza or chickenpox.[1] About 90% of cases in children are associated with aspirin (salicylate) use.[2] Inborn errors of metabolism are also a risk factor.[3] Changes on blood tests may include a high blood ammonia level, low blood sugar level, and prolonged prothrombin time.[2] Often the liver is enlarged.[2] Prevention is typically by avoiding the use of aspirin in children.[1] When aspirin was withdrawn for use in children a decrease of more than 90% in rates of Reye syndrome was seen.[2] Early diagnosis improves outcomes.[1] Treatment is supportive.[1] Mannitol may be used to help with the brain swelling

272. A 3 year old child comes with congested pharynx, tonsils and plaques on the tongue, lips, and gingivitis. No lesions on the hands and feet. What is the diagnosis?

A. Bacterial pharyngitis

B. Coxsackie virus

C. Herpes simplex virus

D. Infectious mononucleosis

Answer: C

This is a manifestation of primary HSV-1 infection that occurs in children aged 6 months to 5 years. Adults may also develop acute gingivostomatitis, but it is less severe and is associated more often with a posterior pharyngitis. [5] Infected saliva from an adult or another child is the mode of infection. The incubation period is 3-6 days. Clinical features include the following: Abrupt onset High temperature (102-104°F) Anorexia and listlessness Gingivitis (This is the most striking feature, with markedly swollen, erythematous, friable gums.) Vesicular lesions (These develop on the oral mucosa, tongue, and lips and later rupture and coalesce, leaving ulcerated plaques.) Tender regional lymphadenopathy Perioral skin involvement due to contamination with infected saliva Hand-foot-and-mouth disease (HFMD) is an acute viral illness that presents as a vesicular eruption in the mouth (see the image below), but it can also involve the hands, feet, buttocks, and/or genitalia. Coxsackievirus A type 16 (CVA16) is the etiologic agent involved in most cases of HFMD

273. You are counseling the mother of a newborn about breast-feeding. Which recommendations will help increase prolactin and breast milk production?

A. All of the above

B. Establishment of a breast-feeding routine

C. Infant sucking of the breast

D. The touch, sight, or smell of an infant

Answer: A

The “let-down reflex” is also known as the “ejection reflex” for breastfeeding. Stress or anxiety can inhibit the let-down reflex. Infant sucking of the breast stimulates proprioceptors in the areola and nipple. A signal is sent to the hypothalamus that triggers the release of prolactin from the anterior pituitary gland and oxytocin from the posterior pituitary gland. Oxytocin stimulates smooth muscle (myoepithelial) cells in the breast to contract and eject milk. Prolactin stimulates milk production. In addition, the emptying of breast milk will also stimulate milk production. The sight, touch, or cry of an infant will stimulate oxytocin production, which stimulates myoepithelial cells in the breast to contract and improve milk ejection. The establishment of a regular breast-feeding routine is necessary to ensure continued breast milk production.

274. Meconium plug is associated with all of the following except:

A. Cystic fibrosis

B. Hirschsprung disease

C. Hypermagnesemia

D. Infants of diabetic mothers

E. Prematurity

Answer: E

Although prematurity may cause delayed passage of meconium (NPO, immature colonic function), it is not associated with a higher incidence of meconium plugs.

275. A boy came to your clinic with yellow discoloration of the eyes noticed 3 days back and hepatomegaly. His liver enzymes are increased. What is the most likely diagnosis?

A. Hepatitis A

B. Hepatitis B

C. Hepatitis C

D. Hepatitis D

Answer: A

Explanation: its hep A because it is transmitted via fecal-orally. and in the question it is not mentioned that there is any kind of abuse or Hx of vertical transmission to consider hep B or C.

276. Which of the following congenital heart defects is a cyanotic lesion?

A. Atrial septal defect

B. Coarctation of the aorta

C. Tetralogy of Fallot

D. Ventricular septal defect

Answer: C

Congenital heart disease is classified by the presence or absence of cyanosis.Acyanotic "Left to right shunt":1-VSD2-ASD3-PDACyanotic "Right to left shunt":1-Tetralogy of Fallot2-Tricuspid atresia3-Transposition of the great vessels 4-Truncus arteriosus5-Total anomalous pulmonary venous drainage

277. Which of the following statements regarding mechanical ventilation is TRUE?

A. Airway leaks around the endotracheal tube do not play a role in ultimate tidal volume delivered to the lung.

B. During assist-control ventilation, patient-initiated breaths are not completed by the ventilator.

C. Positive end-expiratory pressure (PEEP) increases the workload of the respiratory muscles by exerting an additional pressure on alveoli and by closing them and decreasing the functional residual capacity.

D. Synchronized intermittent mandatory ventilation (SIMV) and pressure support ventilation are rarely used when weaning a patient off a ventilator.

E. Tidal volume can be controlled by setting the volume or the pressure generated when the airway is opened.

Answer: E

Tidal volume can be controlled during mechanical ventilation either by setting the volume or setting the pressure generated during the airway

opening. In a volume-controlled setting, the tidal volume generated by the ventilator is always greater than the tidal volume delivered to the lungs. This is due to airway leaks around the endotracheal tube; and therefore this leak must be considered in calculating tidal volumes. PEEP acts to increase functional residual capacity, and does so by exerting pressure at the end of expiration preventing the alveoli from collapsing and helping to recruit collapsed alveoli. SIMV and pressure support ventilation are common modes of ventilation used when weaning a patient off the ventilator. In SIMV, ventilator breaths are delivered at a preestablished rate, but with a variable interval—allowing the patient an opportunity to initiate some breaths independently. In the pressure support mode, the ventilator complements the early phase of the patient's own inspiratory effort with a set inspiratory pressure. In assist-control ventilation, all breaths (whether initiated by the ventilator or the patient) are completed by the ventilator.

278. A 5-year-old boy is brought to the emergency room crying after His father pulled himÂby the arm. The childÂwill not let anyone touch that arm. On examination his arm in flexion and his hand in pronation. Which of the following is the most likely diagnosis?

A. Colles fracture

B. Lateral epicondylitis

C. Lunate subluxation

D. Nursemaid's elbow

Answer: D

1. **Nursemaid's elbow**, also called as subluxed radial head, is one of the most common elbow injuries in children between the ages of 1-5 years.

Radial head subluxation, common among toddlers, is caused by traction on the forearm and usually manifests as refusal to move the elbow (pseudoparalysis).

2. Symptoms may include pain and tenderness. Most patients cannot describe their symptoms and simply present with unwillingness to move the affected arm. The radial head may be only mildly tender.

3. The child typically keeps the hand in a pronated position, and refuses (cries out in pain) attempted â€¨forearm supination.

4. Pulling causes axial traction on the forearm, which causes the radial head to slip through parts of the **annular ligament.**

5. **Diagnosis** is made clinically as radiographs are often normal

6. **Treatment**: Forearm hyperpronation or Forearm supination & elbow flexion

279. Which of the following statements is true regarding ventilation– perfusion inequality (V – Q mismatch)?

A. Alveolar-capillary units that have a high ventilation– perfusion ratio are the main cause for hypoxemia in V – Q mismatch because the end-capillary blood is not fully saturated with oxygen.

B. Gravity does not contribute to V – Q mismatch in normal lungs even though it acts to direct a larger share of blood flow to more dependent areas.

C. Hypercapnea, instead of hypoxemia, is a prominent feature of respiratory failure. This phenomenon occurs because alveolar-capillary

units with low V – Q ratios have increased PCO 2 and therefore cannot remove CO 2 from the blood effectively.

D. V – Q mismatch arises from several different pathways, including true anatomic shunts, diffusion defects, and incomplete oxygenation of blood flowing through parts of the lung with a low ventilation-to-perfusion ratio (virtual shunts).

E. V – Q mismatch is the least common mechanism of hypoxemia and hypercapnea, both in children and in adults with respiratory disease.

Answer: D

Arterial blood gas concentrations result from a mixture of 2 sources: systemic venous blood that bypasses the alveoli and does not participate in gas exchange and blood that undergoes perfect exchange with alveolar gas. The blood that bypasses the alveoli, that

which is shunted, arises from several different, discrete pathways. True anatomic shunts represent anatomic communications between the arterial and venous sides of circulation and can be found in normal individuals and those with cardiac or lung disease. Diffusion defects are either due to problems with the alveolar capillary membrane or by blood being forced through the capillaries too quickly to equilibrate with the alveolar gas. Incomplete oxygenation of blood circulating through areas of the lung with a low ventilation– perfusion ratio creates virtual shunts.Answer a is not correct, as the ventilation–perfusion inequality is the most common mechanism of hypoxemia and hypercapnea in both adults and children with respiratory failure. Answer b is not correct. The parallel organization of the bronchial and arterial networks of the lungs allows for numerous V – Q ratios to exist in the same lung and gravity contributes a certain degree of V – Q inequality by directing a larger share of blood flow to more dependent areas. Answer e is not correct. The cause of hypoxemia in V – Q inequality lies primarily with the alveolar-capillary units that have a low V – Q ratio because renewal of the alveolar gas cannot keep up with O 2 uptake by the blood resulting in end-capillary blood that is not fully loaded with O 2 ; this creates substantial venous admixtures.

Answer d is not correct. Alveolar-capillary units with low V – Q ratios cannot decrease their alveolar PCO 2 and their ability to remove CO 2 from the blood is therefore impaired. However, this is offset by lung units with a high V – Q ratio and allows for compensation that makes hypercapnea a lessprominent feature than hypoxemia in the infant or child that has sufficient reserve to support an increase in ventilation.

280. A 12-year-old girl is brought to the emergency room with lacrimation, sweating, salivation, and vomiting. Which of the following is the most likely diagnosis?

A. Diabetic ketoacidosis

B. Food poisoning

C. Neuroleptic Malignant Syndrome

D. Organophosphate poisoning

Answer: D

The symptoms of organophosphate poisoning are due to over stimulation of nicotinic and muscarinic acetylcholine receptors. Overstimulation of nicotinic acetylcholine receptors in the central nervous system, due to accumulation of ACh, results in anxiety, headache, convulsions, ataxia, depression of respiration and circulation, tremor, general weakness, and potentially coma. The effects of organophosphate poisoning on muscarinic receptors are recalled using the mnemonic SLUDGEM (salivation, lacrimation, urination, defecation, gastrointestinal motility, emesis, miosis)

281. Which of the following is associated with burkitt's lymphoma ?

A. EBV

B. H pylori

C. HBV

D. HPV

Answer: A

282. The following rashes are appropriately matched with the disease that causes it, EXCEPT?

A. Erythema infectiosum-Parvovirus B19

B. Erythema multiforme-Deposition of immune complexes

C. Erytheme migrans-Acute Rheumatic fever

D. Eythema nodosum-Inflammatory bowel disease

Answer: C

Erythema migrans, the characteristic skin rash of Lyme disease, occurs in two thirds of patients with Lyme disease and develops at an average of 7 days after the tick bite

283. A 3 yr-old white girl was referred to a pediatric gastroenterologist because of elevated levels of liver enzymes and total and direct bilirubin. The patient has a history of renal tubular

acidosis and peripheral pulmonic stenosis. On examination, the patient was noted to have a broad forehead and deep-set, widely spaced eyes. Scratch marks were seen on the skin secondary to pruritus. A liver biopsy will most likely show :

A. Bile duct paucity

B. Bile duct proliferation

C. Giant cell transformation

D. No changes

E. PAS-positive diastase-resistant globules

Answer: A

Alagille syndrome (AS) is an autosomal dominant disorder associated with abnormalities of the liver, heart, skeleton, eye, and kidneys and a characteristic facial appearance. Signs and symptoms arising from liver damage in Alagille syndrome may include a yellowish tinge in the skin and the whites of the eyes (jaundice), itching (pruritus), pale stools (acholia), an enlarged liver (hepatomegaly), an enlarged spleen (splenomegaly) and deposits of cholesterol in the skin (xanthomas). A liver biopsy may indicate too few bile ducts (bile duct paucity) or, in some cases, the complete absence of bile ducts (biliary atresia). Other signs of Alagille syndrome include congenital heart problems varying from heart murmurs (from pulmonary artery stenosis) to significant structural abnormalities, such as Tetralogy of Fallot. Pulmonary stenosis is common amongst Alagille patients and other defects ; overriding aorta; ventricular septal defect; and right ventricular hypertrophy. Untreated Tetralogy of Fallot mortality rates range from 70 percent by age 10 to 95 percent by age 40 Other presentations of Alagille's syndrome include an unusual butterfly shape of one or more of the bones of the spinal column (visible on an x-ray), certain eye defects (such as posterior embryotoxon and pigmentary retinopathy), and narrowed pulmonary arteries that can contribute to increased pressure on the right heart valves. Many people with Alagille syndrome have similar facial features, including a broad, prominent forehead,

deep-set eyes, and a small pointed chin. The kidneys and central nervous system may also be affected.

284. A 6-year-old boy is brought to the emergency room with sudden onset of stridor and drooling. His temperature is 39 C, Blood pressure is 90/50 mmHg, pulse 122/min and respiratory rate of 37/min. Which of the following is the most appropriate management for this patient?

A. Administration of epinephrine

B. Endotracheal intubation in the operating room

C. IV broad-spectrum antibiotics

D. Oxygen therapy

Answer: B

Epiglottitis requires immediate airway management and the assistance of airway subspecialists should be called immediately upon awareness of epiglottitis as a diagnosis. Preparation with the aide of airway subspecialists is critical in airway management for this disease.

Unnecessary blood tests, intravenous access, and tongue depression with a tongue blade should be avoided. Initial airway management should begin with BVM with the appropriate size face mask seal, positioning of the patient, good chest rise, and normal range of endtidal carbon dioxide (End tidal CO2) after using the bag-valve mask (BVM). As with all airway management, if unable to provide appropriate oxygenation and ventilation with BVM, the physician should be prepared to perform intubation or continue down the difficult airway algorithm and place a surgical airway. The patient should be taken

immediately to the operating room to get an fiberoptic placement of an airway. Lateral neck radiographs are useful when evaluating a child with symptoms suggestive of epiglottitis, but these should not delay taking the patient to the operating room for definitive management. If radiographs are ordered, the child should be in constant attendance by the medical staff with available airway equipment.

285. A 30-year-old woman from Minneapolis presents to your office complaining of paresthesias, weakness, lack of coordination, and difficulty with gait. Her symptoms are worse after a hot shower. Examination of the cerebral spinal fluid shows oligoclonal bands of immunoglobulin G (IgG). The most likely diagnosis is

A. Amyotrophic lateral sclerosis (ALS)

B. Huntington's disease

C. Multiple sclerosis

D. Neurofibromatosis

E. Parkinson's disease

Answer: C

Multiple sclerosis is a slowly demyelinating disease that affects the CNS. It is characterized by remissions and exacerbations that are separated in time and involve different areas of the CNS. A second form identified is progressive. The cause is unknown but may be related to a combination of genetic factors and perhaps infection with a slow or latent virus. Women are affected more than men (2:1), and there appears to be a geographic predominance, with those in the northern United States affected more than those in the southern United States. The onset is usually between 20 and 40 years of age, and the geographic factor is present even if the individual relocates to a tropical

climate (as long as they spent their first 15 years in the north). The pathology involves multiple plaques of demyelination that are found throughout the CNS. Symptoms include paresthesias, including Lhermitte's symptom (sensation of a momentary electrical current or shock when the neck is □exed), weakness, loss of coordination, or visual disturbances (monocular visual loss), initially followed by emotional lability, gait disturbances, and spasticity in more severe cases. Signs include optic neuritis, speech difficulties, cranialnerve palsies, increased deep tendon reflexes, nystagmus, tremor, urinary incontinence, and impotence. Symptoms increase with exposure to heat. Diagnosis is usually made by the history, appearance of oligoclonal bands of IgG in the CSF, and MRI scans showing plaques of demyelination in the paraventricular white matter. Evoked potential nerve tests may also be abnormal. Treatment is usually supportive; however, steroids and immunosuppressive drugs have been used. Newer medications include interferon β-1b (Betaseron), interferon β-1a (Avonex), and glatiramer acetate (Copaxone), which are interferon-type medications used in the relapsing- remitting forms. In addition, antispasmodic drugs such as baclofen have been used to treat the spasticity.

286. A 5 year old child presents with petechia, hematuria and proteinuria. He reports that 2 weeks ago he had bloody diarrhea. Laboratory investigation reveals a WBC of 48 and Platelets of 90. Which of the following options would be the most appropriate line of management?

A. Anticoagulant

B. IV Antibiotic

C. Platelet transfusion

D. Symptomatic treatment

287. An 11-year-old boy presents to clinic with a complaint of 1 to 2 episodes of vomiting at least 1 time per week over the past 3 months. He reports that vomiting consists of nonbloody, nonbilious food material and is preceded by several minutes of burning substernal pain. His body mass index is in the 80th percentile for age. What is the next most appropriate step in the management of this patient?

A. A 2-week trial of H 2 -receptor antagonist.

B. A 2-week trial of odansetron as needed for nausea.

C. Obtain upper gastrointestinal contrast study.

D. Referral to pediatric gastroenterology clinic.

E. Send blood for CBC, AST, ALT, and pancreatic lipase.

Answer: A

This patient has chronic recurrent vomiting, with at least 3 episodes of mild but frequent emesis over a 3-month period. Among the most frequent causes of vomiting in the schoolage child and adolescent are gastroesophageal reflux disease, which may occur after meals and is not typically associated with weight loss. In a child with chronic vomiting without alarm symptoms or other concerning examination findings, the most likely diagnosis is an acid-peptic disorder such as gastroesophageal reflux disease or gastritis that should be initially treated with empiric 2- to 4-week trial of H 2 -receptor antagonist or proton pump inhibitor for acid suppression. If there is no symptomatic improvement after a timelimited trial of these medications, it may then be appropriate to proceed with laboratory testing, imaging, or consultation with pediatric gastroenterology. Odansetron may be useful

for symptomatic improvement in the setting of acute, rather than chronic, vomiting.

288. Parents of a diabetic child called you to tell you that he lost consciousness. What would you advise as part of the initial management?

Answer: D

- Avoid antibiotics and platelet transfusion.- Good hydration with IV fluids.- Blood transfusion in anemic patients when indicated.- CCB for HUS with hypertension.- Dialysis for renal failure.- Renal transplant for Irreversible failure.

A. Give both IM glucagon and SC insulin

B. IM glucagon

C. Nothing, quickly rush child to nearest hospital

D. SC insulin

Answer: B

If the patient is at home, or intravenous (IV) access cannot be rapidly established Glucagon 1 mg should be given by intramuscular (IM), or subcutaneous (SC) injection.[5] This dose is used in insulin-induced hypoglycaemia (by SC, IM, or IV injection), in adults and in children over 8 years (or body weight over 25 kg). NB: 1 unit of glucagon = 1 mg of glucagon.

289. A 2 year child develops a low grade fever, with rhinorrhea and 7 days later develops episodes of cough paroxysms followed by vomiting. How would you confirm the diagnosis?

A. Blood PCR for bordetella

B. Blood culture for bordetella

C. Nasopharyngeal swab for culture of bordetella

D. X-ray of the spine

Answer: C

A mild increase in the leukocyte count and marked lymphocytosis are classic markers of pertussis and have been shown to be useful indicators of the disease if observed with typical symptoms or positive microbiological assay results.37 Traditional laboratory methods for diagnosis include identification of B. pertussis through culture of nasopharyngeal secretions and serologic testing for evidence of seroconversion of specific antibodies in the convalescent phase of the disease compared with the acute phase. High rates of vaccination coverage, the occurrence of cases with mild symptoms, recurrence of natural exposure and the increased age at which pertussis develops influence the sensitivity and specificity of the laboratory methods , and no single assay is considered to be the “gold standard” in common practice.

290. A newborn infant has mild cyanosis, diaphoresis, poor peripheral pulses, hepatomegaly, and cardiomegaly. Respiratory rate is 60 breaths/min, and heart rate is 250 beats/min. The child most likely has congestive heart failure caused by :

A. A large atrial septal defect and valvular pulmonic stenosis

B. A ventricular septal defect and transposition of the great vessels

C. Hypoplastic left heart syndrome

D. Paroxysmal atrial tachycardia

E. Total anomalous pulmonary venous return

Answer: D

Paroxysmal atrial tachycardia or PAT is a condition of the heart that within the upper chambers, the atria, and causes this area to beat irregularly. The beats per minute can reach a rate of nearly 250 beats per minute. The condition is more common in children and young adults Congestive failure develops in the majority of the young infants with paroxysmal tachycardia but only in a minority of the older children.

Two factors which have a bearing on the development of congestive failure are duration of tachycardia at rates more than 180/min. and the age of the patient.

291. A 5 year old with Acute Lymphoblastic Leukemia has received bone marrow transplant three weeks ago. The father comes to your clinic because his other healthy son got chicken box. What would you give the child with the malignancy as prophylaxis?

A. Both A and B

B. Give acyclovir.

C. Varicella Ig

D. Varicella vaccine

Answer: C

The most important use of VZIG is for passive immunization of susceptible, immunocompromised children after significant exposure to chickenpox or zoster. This includes children with primary immunodeficiency disorders and neoplastic diseases and children currently receiving immunosuppressive treatment.

292. A nine day-old infant presents to a Well-Baby Clinic. The infant was born at 40 weeks' gestation by spontaneous vaginal delivery and had an uneventful birth and nursery course. The infant is breastfed and nursing well. On examination, the infant is mildly jaundiced with a yellow colouration to the face down to the mid-chest. The extremities do not appear jaundiced. The examination is otherwise normal.

What is the most likely diagnosis?

A. Breast milk jaundice

B. Deficiency of glucuronyl transferase

C. Hepatitis

D. Resolution of birth trauma

Answer: A

Jaundice is a yellow discoloration of the skin and eyes caused by hyperbilirubinemia (elevated serum bilirubin concentration). Some jaundice is normal in neonates.

Breast milk jaundice is different from breastfeeding jaundice. It develops after the first 5 to 7 days of life and peaks at about 2 wk. It is thought to be caused by an increased concentration of β-glucuronidase in breast milk, causing an increase in the deconjugation and reabsorption of bilirubin.

Breast milk jaundice is a type of neonatal jaundice associated with breastfeeding.

It should be differentiated from breastfeeding jaundice, which manifests in the first 3 days of life and is caused by insufficient production or intake of breast milk.

Breastfeeding jaundice develops in one sixth of breastfed infants during the first week of life. Breastfeeding increases enterohepatic circulation of bilirubin in some infants who have decreased milk intake and who also have dehydration or low caloric intake. The increased enterohepatic circulation also may result from reduced intestinal bacteria that convert bilirubin to nonresorbed metabolites.

Neurotoxicity is the major consequence of neonatal hyperbilirubinemia.

Treatment depends on cause and degree of bilirubin elevation; the more preterm the infant, the lower the threshold level for treatment.

293. A 3-day-old comatose male neonate is noted to have an ammonia level of 200 µmol/L. What is the next most critical treatment option that should be initiated emergently to provide the best neurocognitive outcome?

A. Administer IV sodium benzoate

B. Administer a bolus of IV arginine

C. Administer lactulose for gut sterilization

D. Make immediate arrangements to initiate hemodialysis

E. Start a 20 mg/kg bolus of normal saline

Answer: D

Hyperammonemia presents a medical emergency. Studies have shown that hyperammonemic coma lasting longer than 72 hours invariably leads to severe brain damage and intellectual disability. When newborns are in a coma due to plasma ammonia levels above 200 μmol/L, hemodialysis should be initiated. This is the most rapid and effective mechanism for reducing ammonia levels. Intravenous (IV) arginine, and IV sodium benzoate in combination with IV sodium phenylacetate (Ammonul) are used to provide alternate pathways for nitrogen excretion and should be initiated while preparing for hemodialysis, but this therapy does not reduce exceedingly high ammonia levels in a timely fashion. IV fluids should be used judiciously because of the risk for cerebral edema. Lactulose does not have a role in the emergency management of severe hyperammonemic coma in neonates.

294. All of the following are contraindications for circumcision, EXCEPT?

A. All of the above

B. Chordee of penis

C. Hypospadias.

D. Premature infants

Answer: A

Male circumcision is the removal of the foreskin from the human penis.Circumcision is contraindicated in infants with certain genital

structure abnormalities, such as a misplaced urethral opening (as in hypospadias and epispadias), curvature of the head of the penis (chordee), or ambiguous genitalia, because the foreskin may be needed for reconstructive surgery. Circumcision is contraindicated in premature infants and those who are not clinically stable and in good health. If an individual, child or adult, is known to have or has a family history of serious bleeding disorders (hemophilia), it is recommended that the blood be checked for normal coagulation properties before the procedure is attempted.

295. An 8-year-old girl is brought to your office for evaluation of a mass on the dorsal surface of her left wrist. There is full range of motion of the wrist. The mass is nontender to palpation and appears to be cystic when transilluminated. The cystic nature of the mass is confirmed by ultrasound.

The most appropriate treatment for this problem is which of the following?

A. Fine needle aspiration

B. Firm compression of the lesion until it is reduced in size

C. Observation without intervention

D. Surgical excision of the lesion

E. Treatment with regular anti-inflammatory therapy

Answer: C

This patient appears to have a ganglion cyst, a common benign cystic mass of the tendon sheath. Most ganglion cysts resolve spontaneously, so no treatment is necessary. There is a high recurrence rate following surgical intervention, so if the cyst is not impeding function of the wrist

joint, conservative measures are appropriate. Ganglion cysts can be confused with juvenile idiopathic arthritis of the wrist, which would require regular anti-inflammatory therapy. The ultrasound finding of a cyst, and not synovitis, confirms the diagnosis.

296. A 7-year-old boy is brought to the physician withÂ1-week history of generalized edema, fatigue, and abdominal pain. Examination reveals periorbital edema. Which of the following is the most likely diagnosis?

A. Focal glomerulosclerosis

B. Membranous glomerulonephritis

C. Minimal change disease

D. lgA deficiency

Answer: C

1. This child has **minimal change disease**, which is the major cause (over 90% of cases)

2. of nephrotic syndrome in children aged 2 to 6 years.

3. The most prominent clinical chemistry finding in these patients is massive proteinuria.

4. The urinary protein in minimal change disease, in contrast to other causes of nephrotic syndrome, is often composed predominantly of albumin.

5. Many other clinical chemistry changes may also be seen, including decreased serum albumin levels, hyperlipidemia, increased serum levels of alpha2- and beta-globulins, decreased IgG, and increased fibrinogen.

6. Minimal change disease characteristically shows normal or near normal appearance of the glomeruli by light microscopy and extensive fusion of foot processes of the glomerular podocytes by electron microscopy.

7. Renal function is typically normal.

8. **Diagnosis** is based on clinical findings or renal biopsy.

9. **Prognosis** is excellent.

10. **Treatment** is with corticosteroids or, in patients who do not respond

297. “B” symptoms in childhood lymphomas include all the following except?

A. Anasarca

B. Itchiness

C. Night sweats

D. Unexplained weight loss

Answer: A

B symptoms refer to systemic symptoms of fever, night sweats, itchiness, and weight loss which can be associated with both Hodgkin's lymphoma and non-Hodgkin's lymphoma.

298. 7 month old boy presenet with signs and symptoms of meningitis . What's the best initial empiric antibiotic choice for him?

A. Ampicillin + gentamicin

B. Cefotaxime+ gentamycon

C. Vancomycin + ceftriaxone

D. chloramphenical + penicillin G

Answer: C

Recommended antimicrobials for suspected and proven bacterial meningitis in children >1 month of age Recommended therapy Empirical treatment (pending blood and cerebrospinal fluid cultures)

Ceftriaxone OR cefotaxime AND vancomycin ADD ampicillin to cover Listeria if patients are at risk because they are immunocompromised (Recommended antimicrobials for suspected and proven bacterial meningitis in children >1 month of age: Canadian Paediatric Society, Infectious Diseases and Immunization Committee)

299. Child is complaining of severe throbbing unilateral headache, aggravated by light. What is the most likely diagnosis ?

A. Cluster Headache

B. Meningitis

C. Migraine

D. Stress Headache

Answer: C

Migraine is a complex disorder characterized by recurrent episodes of headache, most often unilateral and in some cases associated with visual or sensory symptoms—collectively known as an aura—that arise most often before the head pain but that may occur during or afterward

300. A 1 day old baby delivered at home by a midwife presented with umbilical bleeding. Which of the following does he need?

A. Ampicillin injection

B. Fresh Frozen Plasma transfusion

C. Topical tetracycline

D. Vit K injection

Answer: D

Explanation: Vitamin K —is one of the routine management of the healthy newborn infant Prophylactic vitamin K1 is given to newborns shortly after birth to prevent VKDB, previ- ously referred to as hemorrhagic disease of the newborn. In our practice, a single intramuscular dose of 1 mg is administered.

301. A 6-month-old male is hospitalized for evaluation of increased anion gap metabolic acidosis and seizures. He is noted to have alopecia and a periorificial skin rash. These features should prompt you to evaluate for which disorder.

A. Biotinidase deficiency

B. Fatty acid oxidation disorder

C. Galactosemia

D. Glycogen storage disease

E. Homocystinuria

Answer: A

Biotinidase deficiency usually presents in infancy with periorificial dermatitis resembling acrodermatitis enteropathica, patchy alopecia, neurologic abnormalities and metabolic acidosis related to impaired activity of the carboxylases, which use biotin as a co-factor. Patients respond dramatically to treatment with large doses of biotin, usually at 10 mg per day. Early recognition is critical because it can be so easily treated. Untreated biotinidase deficiency can lead to permanent neurologic sequelae. Based on these factors, most states in the United States perform NBS by enzymatic assay for this disorder.

302. Which of the following is the most common chromosomal abnormality among liveborn infants?

A. Down syndrome

B. Gastroschisis

C. Omphalocele

D. Trisomy 18

Answer: A

Down syndrome (Trisomy 21) is the most common chromosomal

abnormality among liveborn infants.

Clinical Features :Most common

1. Hypotonia

2. Small ears

3. Intellectual disability

More specific to Down syndrome

1. Brachydactyly (short, broad fingers and toes. Broad space between the first and second toes)

2. Absent to very small nipple buds

Cardiac defects

1. Nearly 50 % are affected

2. Endocardial cushion (atrioventricular septal) defects are most common

3. Ventricular septal defect

GI defect

1. Duodenal atresia

2. Hirschsprung disease

303. A school child is presented with fever and an itchy skin rash, mainly on the abdomen, with simultaneous presence of lesionsin different stages of evolution. His classmate was on sick leave for the same condition.Which of the following is the most likely diagnosis?

A. Don't know

B. Herpes simplex

C. Measles

D. Varicella-Zoster

E. chickenpox

Answer: E

The rash of chickenpox is symmetrical. It first appears on the trunk where it is abundant, and then on the face, arms and legs, where it is less abundant. Mucosal surfaces (e.g. buccal, pharyngeal) are generally involved. Axilla may be affected, but palms and soles are not usually affected. The density of the eruption diminishes centrifugally.A characteristic feature of the rash in Chicken Pox is its pleomorphism, that is, all stages of the rash (papules, vesicles and crusts) may be seen simultaneously at one time, in the same area. This is due to the rash appearing in successive crops for four to five days in the same area. Fever is usually present, and the history of other children with a similar rash aids in the diagnosis.

304. A 4-yr-old boy presents with sore throat and fever of sudden onset. He has difficulty swallowing and his breathing is labored. He is drooling and sitting upright and leaning forward in a tripod position. What is the appropriate next step in patient management?

A. Complete blood count and blood culture followed by immediate

prophylactic

B. Direct laryngoscopy in the operating room

C. Lateral radiograph of the neck

D. intravenous antibiotics

Answer: B

This is the classic presentation for epiglottitis. Although this disorder is uncommon in the era of immunization against H. influenzae type b, physicians must be aware of this dangerous disease with its requirement for immediate airway protection

305. A 20-month-old female is seen in clinic with a 4-month history of 3 to 5 watery stools per day. She is in the 60th percentile for weight and 75th percentile for height. Her mother describes her as a playful child and has no concerns other than the diarrhea. Dietary history reveals that the girl eats 3 meals and at least 2 small snacks and drinks 2 to 3 cups of apple juice in addition to 12 oz of cow's milk each day. Which of the following is the next appropriate step in management of this patient?

A. Determination of stool electrolytes and osmolality

B. Determination of stool pH and reducing substances

C. Stool culture

D. Two-week trial of juice-free diet

E. Two-week trial of lactose-free diet

Answer: D

This patient most likely has chronic nonspecific diarrhea of childhood, also called toddler's diarrhea. She is well grown, has no other symptoms other than diarrhea, and has significant intake of apple juice

daily, which has a high fructose-to-glucose ratio and is often implicated in toddler's diarrhea. Toddler's diarrhea is thought to be caused by mild carbohydrate malabsorption and hypermotility; a reasonable first step in treatment of suspected toddler's diarrhea is elimination of juice from the diet with reevaluation. Determination of stool electrolytes and osmolality can be helpful in distinguishing between osmotic and secretory diarrhea. Stool pH and reducing substances may help in screening for malabsorptive causes of diarrhea. Stool cultures may help identify infectious causes of chronic diarrhea such as protozoal or bacterial infection. However, in an otherwise healthy, well-grown child who has a history consistent with toddler's diarrhea, empiric elimination of juice from the diet is a more reasonable first step in management rather than pursuing laboratory evaluation for less likely causes. Although lactose intolerance/lactase deficiency may be another cause of chronic diarrhea in childhood, excessive juice intake is more likely and should be pursued as a cause prior to trying a lactose-free diet.

306. An 11-year-old boy is being seen for reported hepatitis A exposure. The exposure is from contaminated strawberries that his family purchased at a local market. He has not received any hepatitis A vaccination. He is currently asymptomatic. All of his other vaccinations are up-to-date. Exposure is estimated to have occurred less than 2 weeks ago. Appropriate therapy at this time would include:

A. Alpha interferon

B. Hepatitis A vaccination

C. Hepatitis B vaccination

D. Intramuscular immune globulin

E. Ribavirin

Answer: B

The patient requires postexposure prophylaxis to hepatitis A.

Postexposure efficacies of HAV and IG are equivalent for children older than 12 months of age until 40 years of age. The exposure has to be within 14 days, as well. Given the recent time of exposure and the patient's age, HAV is recommended for this patient. If the exposure was more than 2 weeks ago, HAV may still be indicated if there is the potential for ongoing exposure.

307. Which of the following clinical features is not present in a neonate with

a Patent Ductus Arteriosus?

A. Bounding pulse

B. CO2 wash out

C. Necrotizing enterocolitis

D. Pulmonary hemorrhage

Answer: B

Ans. CO2 wash out I.

Common symptoms of PDA include:

a. Tachycardia

b. Respiratory problems

c. Shortness Of Breath

d. Continuous machine-like murmur

e. Enlarged Heart

f. Left subclavicular thrill

g. Bounding pulse

h. Widened pulse pressure

i. Patients typically present in good health, with normal respirations and heart rate.

If the ductus is moderate or large, widened pulse pressure and bounding peripheral pulses are frequently present, reflecting increased left ventricular stroke volume and diastolic runoff of blood into the initially lower-resistant pulmonary vascular bed. Prominent suprasternal and carotid pulsations may be noted secondary t increased left ventricular stroke volume. j. Poor growth k. Chest x-ray shows hyperemic lungs field. II. Preterm infants commonly have a PDA with its inherent left-to-right shunt, diminishing blood flow to the mesenteric vascular bed. Treatment of the PDA with indomethacin, a highly effective, potent vasoconstrictor, is associated with numerous adverse effects including GI bleeding, isolated ileal perforation, and NEC. III. PDA is a recognized risk factor for massive pulmonary hemorrhage (MPH) in the newborn and is generally seen in association with other MPH risk factors such as prematurity.

308. What is the effect of polio (IPV& OPV) on body?

A. All lead to the formation of Ag in the anterior horn.

B. All lead to the formation of interferon gamma.

C. All lead to the formation of the antibody in the serum which fight the viru

D. All of them enter the intestinal mucosa where the entry of the virus.

Answer: C

Parenteral inactivated poliovirus vaccine (IPV) chiefly induces formation of serum antibody. Infection, with oral poliovirus vaccine (OPV) or wild poliovirus, also induces development of secretory IgA antibody.

OPV induces intestinal immunity against poliovirus reinfection, which explains its effectiveness in controlling the wild-type poliovirus circulation. In addition, OPV persists in the pharynx for 1 to 2 weeks and is excreted in the feces for several weeks or longer after administration. Consequently, the vaccine virus can be transmitted to contacts and results in their immunization. However, in rare cases, vaccine-associated paralytic poliomyelitis (VAPP) can occur in these contacts as well as in those vaccinated. Mucosal immunity is induced by IPV and eIPV but to a lesser extent than with OPV. IPV and eIPV inhibit pharyngeal acquisition of poliovirus and, to a lesser extent, intestinal acquisition.

309. Snoring and mouth breathing as a cause of failure to thrive suggest:

A. Cerebral palsy

B. Mononucleosis

C. Obstructive sleep apnea

D. Streptococcal pharyngitis

Answer: C

Obstructive sleep apnea may cause failure to thrive; snoring and mouth breathing are common manifestations.

310. A 15-year-old boy is brought to the clinic for fever, right ear pain and runny nose. He has a recent upper respiratory tract infection. Examination shows bulging and erythema of the right tympanic membrane, which is externally painful. What is the most likely diagnosis ?

A. Acute otitis media

B. Chronic otitis media

C. Malignant otitis externa

D. Serous otitis media

Answer: A

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. When the secretions of middle ear accumulate, they exert the pressure on tympanic membrane which is dangerous sign. If nothing done in time, the tympanic membrane may rupture, leading to hearing loss. Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

Treatment: High-dose amoxicillin (10 days for empiric therapy).

Resistant cases may require amoxicillin/clavulanic acid.

311. A 5 years old boy is diagnosed with case of serous otitis media with effusion. How to relieve symptoms in this patient?

A. Anibiotics

B. Antihistamine

C. Grommet tube insertion (Tympanostomy tube)

D. Myringotomy

Answer: D

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. When the secretions of middle ear accumulate, they exert the pressure on tympanic membrane which is dangerous sign. If nothing done in time, the tympanic membrane may rupture, leading to hearing loss. Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

Treatment: High-dose amoxicillin (10 days for empiric therapy).

Resistant cases may require amoxicillin/clavulanic acid. Myringotomy relieves the symptoms and grommet tube is inserted for letting the infection resolve in 6 to 8 weeks.

312. mentally retarded child with microphthalmia, microcephaly, chorioretinitis, and a history of a neonatal petechial rash is most likely to have:

A. A chromosomal syndrome

B. Fetal alcohol syndrome

C. None of above

D. TORCH infection

Answer: D

This pattern of abnormalities is most compatible with a congenital TORCH (toxoplasmosis, other, rubella, cytomegalovirus, herpes simplex) infection. In addition, intrauterine and postnatal growth retardation may be evident.

313. A woman brings her 3-year-old boy to the emergency room after witnessing him swallowing a small battery. Plain radiographs reveal that the battery is located in the esophagus Which of the following is the most appropriate management for this child?

A. Barium swallow study

B. Immediate endoscopic removal

C. Observation

D. Reassurance

Answer: B

The esophagus is the most common site of foreign body impaction. Food impactions cause most esophageal foreign bodies. Large, smooth food pieces (eg, steak, hot dogs) are particularly easy to swallow inadvertently before being chewed sufficiently. Bones, particularly fish bones, may be swallowed if the meat in which they are embedded is not

chewed sufficiently. Infants and toddlers do not have fully mature oropharyngeal coordination and often inadvertently swallow small, round foods (eg, grapes, peanuts, candies), which may become impacted. In addition, infants and toddlers often swallow a wide variety of inedible objects (eg, coins, batteries), some of which become impacted in the esophagus. Impacted disc batteries are particularly worrisome because they may cause esophageal burns, perforation, or tracheoesophageal fistula.The main presenting symptom is acute dysphagia. Patients with complete obstruction of the esophagus hypersalivate and are unable to swallow oral secretions. Other symptoms include retrosternal fullness, regurgitation, odynophagia, blood-stained saliva, and gagging and choking.

Hyperventilation resulting from anxiety and discomfort often gives the appearance of respiratory distress, but actual dyspnea or auscultatory findings of stridor or wheezing strongly suggest the foreign body is in the airway rather than the esophagus. Sometimes, foreign bodies scratch the esophagus but do not become lodged. In such cases, patients may report a foreign body sensation even though no foreign body is present. Management if foreign body is symptomatic or battery is immediate removal. Patients without symptoms of high-grade obstruction and without ingestion of sharp objects or disk or button batteries typically can safely be observed for up to 24 h to await passage, which is indicated by relief of symptoms. Administration of glucagon 1 mg IV is a relatively safe and acceptable option that sometimes allows for spontaneous passage of a food bolus by relaxing the distal esophagus.

314. All of the following vaccines may be given to children with severe combined immunodeficiency syndrome EXCEPT:

A. Diphtheria, tetanus, pertussis (DTaP) vaccine

B. Hepatitis B virus vaccine

C. Measles virus vaccine

D. Salk poliovirus vaccine

Answer: C

The live measles virus is contraindicated in patients with T-cell immunodeficiency because disseminated disease may occur.

Nonetheless, it is recommended that HIV-infected patients be given this vaccine because measles itself is a serious illness once AIDS develops. Hapatitis B is a recombinant vaccine, salk polio is an attenuated vaccine, while Diphtheria and Tetanus are Toxoids and Acellular Pertussis.

315. Which of the following patients are at the HIGHEST risk of central pontine myelinosis?

A. A newborn infant who was given improperly mixed formula over the past week with serum Na level of 125 mEq/L presenting with clinical seizure; given 3% NaCl

B. A teenager with nausea, fatigue, and hyperpigmentation with serum Na level of 120 mEq/L who is given 3% NaCl IV

C. A toddler with severe acute gastroenteritis with serum Na level of 120 mEq/L given 60 mL/kg normal saline IV

D. Adolescent who completed a marathon after stopping at each water station who collapsed at finish with serum Na level of 125 mEq/L; given 3% NaCl

Answer: B

CPM is more common in patients who are treated for chronic hyponatremia than in those treated for acute hyponatremia. Presumably, this difference is based on the adaptation of brain cells to the hyponatremia. The reduced intracellular osmolality that is an adaptive mechanism for chronic hyponatremia makes brain cells susceptible to dehydration during rapid correction of the hyponatremia, and this may be the mechanism of CPM. Even though CPM is rare in pediatricpatients, it is advisable to avoid correcting the serum sodium concentration by >12 mEq/L/24 hr or >18 mEq/L/48 hr. Desmopressin is a potential option if the serum sodium level is increasing too rapidly.

This guideline does not apply to acute hyponatremia, as may occur with water intoxication, because the hyponatremia is more often symptomatic and there has not been time for the adaptive decrease in brain osmolality to occur. The consequences of brain edema in acute hyponatremia exceed the small risk of CPM. A teenager with hyponatremia in the setting of nausea, fatigue, and hyperpigmentation likely has Addison disease; hyponatremia in this setting is likely a chronic condition.

316. You are evaluating a 4-month-old infant, currently hospitalized for evaluation of a history of hypoglycemia.Parents report that he typically feeds every 3 hours. On physical examination you note hepatomegaly with a liver edge palpable about 5–6 cm below the costal margin. Spleen tip is also palpable. You order laboratory evaluation, which reveals an elevated lactic acid level, elevation of uric acid, and elevated triglycerides. What is the most likely diagnosis?

A. Gaucher disease

B. Glycogen storage disease

C. Krabbe disease

D. Pompe disease

E. Tay Sachs disease

Answer: B

Type 1 GSD is due to a defect in glucose-6-phosphatase in the liver, kidney, and intestine. Patients with GSD type 1 typically present with hypoglycemia and hepatomegaly at 3–4 months of age. The biochemical hallmarks of the disease are hypoglycemia, lactic acidosis, hyperuricemia, and hyperlipidemia. The other disorders listed above are lysosomal storage disorders which do not lead to the classic biochemical abnormalities described above including hypoglycemia, hyperuricemia, lactic acidosis, and hyperlipidemia.

317. A 40 year old female has furunculosis on the left side of the nose. Then she developed orbital edema. A diagnosis of cavernous sinus thrombosis is made. Which vein carried the clot to this sinus this effect?

A. Auriculotemporal

B. Mandibular

C. Maxillary

D. Ophthalmic

Answer: D

Ophthalmic vein is the most accurate answer, if it not one of choices then “ethmoidal “, if both are not present choose: Ophthalmic Artery

318. A 1-year old girl is brought to the clinic with low grade fever and ulcers on the buccal mucosa and the tongue. Physical examinations shows a maculopapular rash on the hand, feet, buttocks and groin. Which of the following is the most likely diagnosis?

A. German measles

B. Hand-foot-and-mouth disease

C. Herpangina

D. Measles

Answer: B

Hand-Foot-Mouth Disease

1. Hand-foot-and-mouth disease (HFMD) is an acute viral illness that presents as a vesicular eruption in the mouth, but it can also involve the hands, feet, buttocks, and/or genitalia.

2. Most common cause is **Coxsackievirus A16**

3. Treatment is supportive.

Clinical presentation

1. Low grade fever

2. Vesicles in the anterior and posterior oropharynx and may progress to ulceration.

3. Maculopapular, vesicular, or pustular rash on the hand, feet, buttocks and groin.

4. Most cases are mild and resolve in 3-5 days.

319. Which of the following is the most common genitourinary complication in male children with sickle cell disease?

A. Balanitis

B. Paraphimosis

C. Phimosis

D. Priapism

Answer: D

Priapism (penile erection in the absence of sexual activity or desire) is a common complication of sickle cell disease (SCD) in men. The vast majority of cases are ischemic, in which increased pressure compromises the vascular circulation (ie, a type of compartment syndrome). Over time, repeated episodes cause permanent damage and erectile dysfunction. Thus, priapism is considered a medical emergency in which timely diagnosis and appropriate management are vital to preserving normal function.

320. A 5-day-old full-term girl is brought to the clinic by her mother for her routine newborn visit. She had an uncomplicated delivery. Examination shows a mild swelling of the eyelids with conjunctival injection in both eyes and mucopurulent discharge. Which of the following is the treatment of choice for this patient?

A. Intramuscular ceftriaxone

B. Oral erythromycin

C. Supportive

D. Topical erythromycin ointment

Answer: B

1. Neonatal chlamydial conjunctivitis typically occurs at 5-14 days of life and presents with eyelid swelling, chemosis, and watery or mucopurulent discharge2. It occurs later than gonococcal conjunctivitis3. Neonatal chlamydial conjunctivitis presents with mild hyperemia and scant mucoid eye discharge that is not as purulent as gonococcal conjunctivitis.4. First-line treatment is oral erythromycin. Age Clinical features RxChemical First 24 hours Mild conjunctival irritation and injection symptoms resolve in 24 hoursGonococcal 2-5 Days Marked eyelid swelling and Profuse purulent discharge IV or IM ceftriaxone or cefotaximeChlamydiaI 5-14 Days eyelid swelling, chemosis, and watery or mucopurulent discharge Oral erythromycin

321. Which of the following is associated wit unilateral persistent offensive smell nasal discharge in toddlers?

A. Croup

B. Laryngomalacia

C. Nasal foreign body

D. Pharyngitis

Answer: C

Foreign body impaction is common in the infants. This is because children are used to take up everything in their mouth or nose. Nasal

foreign body (NFB): Presents with nasal obstruction and may have a foul odor, halitosis and nasal bleeding. Unilateral foreign bodies affect the right side about twice as often as the left. The most common locations for NFB to lodge are just anterior to the middle turbinate or below the inferior turbinate. The body mounts an immune response against the foreign objection leading to activation of inflammatory cascade leading to foul smelling and purulent discharge. If the trauma is greater, or foreign object is sharp then it usually causes nosebleed. Nose picking and foreign body is most common cause of epistaxis in children.

322. Which of the following statements best describes the rash associated with Rocky Mountain spotted fever?

A. It appears as bull's-eye lesions with central clearing.

B. It typically affects only the face.

C. It usually develops first on the extremities and spreads centrally.

D. It usually develops first on the trunk and spreads to the extremities.

E. The lesions are erythematous, raised papules that are intensely pruritic.

Answer: C

The causative agent of Rocky Mountain spotted fever is Rickettsia rickettsii, which is transmitted by the bite of the wood tick or The dog tick. The disease is usually found in the southern United States and is more commonly seen during the summer months. It is the most common rickettsial disease in the United States. The wood tick (Dermacentor andersoni) is the principal vector in the Western United

States, whereas the dog tick (Dermacentor variabilis) is the most common vector in the eastern and southern United States. Transmission from person to person is not thought to occur. The incidence of Rocky Mountain spotted fever is highest in children 5 to 9 years of age. A tick bite is recalled by only 50% to 70% of patients. The onset of symptoms of Rocky Mountain spotted fever usually Begins 5 to 7 days after inoculation. Common symptoms include generalized malaise, myalgias (especially in the back and leg muscles), fever, frontal headaches, nausea, and vomiting. Other symptoms may include nonproductive cough, sore throat, pleuritic chest pain, and abdominal pain. The classic presenting symptoms include sudden onset of headache, fever, and chills accompanied by an exanthem appearing within the first few days of symptoms. Initially, lesions appear on the palms, soles, wrists, ankles, and forearms. The lesions are pink and macular and fade with applied pressure. The rash then extends to the axilla, buttocks, trunk, neck, and face, becoming maculopapular and then petechial. The lesions may then coalesce to form large areas of ecchymosis and ulceration. Respiratory and circulatory failure, as well as neurologic compromise, may occur. Patients with glucose-6- phosphate dehydrogenase (G6PD) deficiency are at especially high risk for complications and poor outcomes. Diagnosis is based primarily on clinical signs and symptoms. If a rash is present, the use of skin biopsy and immunofluorescent staining for Rickettsia is highly specific, although with only slightly more than 60% sensitivity. Laboratory testing is of limited usefulness but may include thrombocytopenia and hyponatremia. Elevation of specific ELISA and latex agglutination titers is usually delayed until the convalescence period. Fever and headache during peak months of tick exposure in endemic areas should suggest Rocky Mountain spotted fever. Rash, thrombocytopenia, and hyponatremia make immediate treatment imperative. Doxycycline is the recommended treatment for Rocky Mountain spotted fever, given for a minimum of 7 days. For optimal effect, it is critical to treat patients early in the course of their illness. Treatment should not be delayed until laboratory confirmation is obtained. Mortality rates for the elderly can approach 70%, whereas mortality rates for children are less than 20%.

323. Pediatric patient has symptoms of epiglottitis with stridor and distress. What's your next step?

A. admit to icu and secure the airway under inhalation anaesthesia

B. intubate in casualty

C. nebulise patient with hypertonic saline

D. nebulise patient with salbutamol

Answer: A

Many hospitals have a protocol for managing epiglottitis; the key is to secure the airway under inhalation anaesthesia in a manner similar to that described for severe viral croup. An experienced ENT surgeon should be standing by in case an immediate bronchoscopy or tracheostomy becomes necessary. Anaesthesia will normally be induced in the sitting position and i.v. cannulation is only attempted once the child is sufficiently obtunded. At laryngoscopy, the epiglottis will be red and swollen and the arytenoids and other supraglottic tissues inflamed, so that the glottic opening may be extremely difficult to visualize

324. A 7-month-old child is brought to your office for evaluation for an immune deficiency. Her mother reports that she has had several bouts of diarrhea in the last few months and has had difficulty gaining weight. She was recently hospitalized for pneumonia. Physical exam demonstrates absence of tonsillar tissue and a thymic shadow is absent on chest radiograph. Her mom also reports that several family members died in infancy from infection

and she had been told they had "some enzyme deficiency." Which of the following physical findings would provide further evidence that this child has adenosine deaminase deficiency?

A. Bowing of the legs

B. Cupping and flaring of the costochondral junctions

C. Epicanthal folds

D. Midface hypoplasia

E. Shortening of the forearms

Answer: B

Abnormalities of the purine salvage pathway account for up to 20% of severe combined immunodeficiency cases. The most common is adenosine diaminase deficiency in which deoxyadenosine and the metabolite deoxyadenosine triphosphate accumulate and are toxic to thymocytes. Skeletal abnormalities such as cupping and flaring of the costochondral junctions are seen in ADA deficiency. Shortening of the forearms can be seen in TAR syndrome (thrombocytopenia with absent radii) and bowing of the legs seen in disorders causing osteomalacia, such as rickets. Midface hypoplasia is seen in midline disorders such as DiGeorge syndrome, which also affects thymic development. Epicanthal folds are seen in numerous disorders, but are not specifiic to ADA deficiency.

325. Vitamin K deficiency should be considered when a prolonged prothrombin time and bleeding occur in which clinical scenario:

A. A 6 week old breast-fed infant who received an oral dose of vitamin K at birth

B. A 7 day old breast-fed infant whose mother refused vitamin K at birth

C. Adolescent with celiac disease

D. All of the above

Answer: D

There are 3 forms of vitamin K–deficiency bleeding (VKDB) of the newborn. Early VKDB was formerly called classic hemorrhagic disease of the newborn and occurs at 1-14 days of age. Early VKDB is secondary to low stores of vitamin K at birth due to the poor transfer of vitamin K across the placenta and inadequate intake during the 1st few days of life. In addition, there is no intestinal synthesis of vitamin K2 because the newborn gut is sterile. Early VKDB occurs mostly in breastfed infants due to the low vitamin K content of breast milk (formula is fortified). Delayed feeding is an additional risk factor. Late VKDB most commonly occurs at 2-12 wk of age, although cases can occur up to 6 mo after birth. Almost all cases are in breast-fed infants due to the low vitamin K content of breast milk. Administration of either oral or parenteral vitamin K soon after birth prevents early VKDB of the newborn. In contrast, a single dose of oral vitamin K does not prevent a substantial number of cases of late VKDB. However, a single intramuscular injection of vitamin K (1 mg) is almost universally effective, except in children with severe malabsorption. This increased efficacy of the intramuscular form is believed to be due to a depot effect. Vitamin K–deficiency bleeding due to fat malabsorption can occur in children of any age. Potential causes include cholestatic liver disease, pancreatic disease, and intestinal disorders (celiac sprue, inflammatory bowel disease, short-bowel syndrome).

326. Which of the options is assessed during determination of an APGAR score?

A. Activity

B. All of the above

C. Appearence

D. Grimace

E. Pulse

Answer: B

Rapid scoring system that helps evaluate the need for neonatal resuscitation. Each of 5 parameters: appearance (blue/pale, pink trunk, all pink) ,pulse (0, < 100, > 100),grimace with stimulation (0, grimace, grimace and cough), activity (limp, some, active), respiratory effort (0, irregular, regular) is assigned a score of 0–2 At 1 and 5 minutes after birth. n Scores of 8–10: Typically reflect good cardiopulmonary adaptation. n Scores of 4–7: Indicate the possible need for resuscitation. Infants should be observed, stimulated, and possibly given ventilatory support. n Scores of 0–3: Indicate the need for immediate resuscitation.

327. A 2-month-old child is evaluated for failure to thrive. During the examination, the child has a seizure. Stat serum chemistries demonstrate severe hypoglycemia, hyperlipidemia, lactic acidosis, and ketosis. Physical examination is remarkable for hepatomegaly, a finding confirmed by CT scan, which also reveals renomegaly. Which of the following diseases best accounts for this presentation ?

A. Gaucher disease

B. McArdle disease

C. Niemann-Pick disease

D. Pompe disease

E. Von Gierke disease

Answer: E

Glycogen storage disease type I (GSD I) or von Gierke disease, is the most common of the glycogen storage diseases. This genetic disease results from deficiency of the enzyme glucose-6-phosphatase, The deficiency impairs the ability of the liver to produce free glucose from glycogen and from gluconeogenesis. Since these are the two principal metabolic mechanisms by which the liver supplies glucose to the rest of the body during periods of fasting, it causes severe hypoglycemi and results in increased glycogen storage in liver and kidneys. Both organs function normally in childhood, but are susceptible to a variety of problems in adult years. Other metabolic derangements include lactic acidosis and hyperlipidemia. Frequent or continuous feedings of cornstarch or other carbohydrates are the principal treatment.

328. 13 year old boy brought to the clinic by his parents for delayed puberty. He has sparse pubic hair, has always been in the 25th percentile. He's healthy. What are you going to do?

A. Give him testosterone

B. Refer to endocrinologist

C. Send to the lab for measurement of growth hormone

D. Watchful waiting

Answer: D

In most patients, however, the distinction between congenital GnRH deficiency and constitutional delay of puberty remains uncertain, and can be resolved only with serial observations. In view of these diagnostic difficulties, the initial therapeutic approach is similar for both disorders.

The two major options are:

● "Watchful waiting" with reassurance and psychological support for the patient and family

● Administration of gonadal steroids.Short-term hormonal therapy with testosterone in boys and with estrogen in girls may be appropriate when the pubertal delay is severe or the patient's psychosocial concerns about the delay play a prominent role that cannot be addressed by reassurance and education alone.Except under unusual circumstances, therapy should be restricted to boys older than 14 years and girls older than 12 years who show few or no signs of puberty and are expressing considerable anxiety about their delay. The short-term use of exogenous testosterone in boys or estrogen in girls does not appear to have any longtermsequelae except for the potential of skeletal maturation that might result in some loss of adult height.

329. A 15 year old boy presents with complains of scrotal pain. Examination is normal, US normal , urine analysis show pyuria . what would be the next logical step?

A. Give him azithromycine and cefixime

B. MRI of pelvic region

C. Observe for worsening/improvement

D. Refer to surgery

Answer: A

This is a case of epididydimitis. This patient has epididymitis. In males 14-35 years of age, the most common causes are Neisseria gonorrhoeae and Chlamydia trachomatis. The recommended treatment in this age group is ceftriaxone, 250 mg intramuscularly, and doxycycline, 100 mg twice daily for 10 days. A single 1-g dose of azithromycin may be substituted for doxycycline. In those under age 14 or over age 35, the infection is usually caused by one of the common urinary tract pathogens, and levofloxacin, 500 mg once daily for 10 days, would be the appropriate treatment. But testicular torsion cause severe pain without urinary symptoms diagnosis by Color Doppler ultrasonography will show a normal-appearing testis with decreased blood flow. And it need urgent surgical intervention. *

Guidelines from the Centers for Disease Control and Prevention (CDC) recommend the following regimen for acute epididymitis most likely caused by sexually transmitted chlamydia and gonorrhea [1, 2] :

• Ceftriaxone 250 mg IM in a single dose plus

• Doxycycline 100 mg orally twice a day for 10 days For acute epididymitis most likely caused by sexually-transmitted chlamydia and gonorrhea and enteric organisms (eg, in men who practice insertive anal sex),

CDC recommendations are as follows:

• Ceftriaxone 250 mg IM in a single dose plus

• Levofloxacin 500 mg orally once a day for 10 days or

• Ofloxacin 300 mg orally twice a day for 10 days For acute epididymitis most likely caused by enteric organisms (eg, cases that develop after prostate biopsy, vasectomy, and other urinary-tract instrumentation procedures, with sexually transmitted organisms ruled out)

CDC recommendations are as follows:

• Levofloxacin 500 mg orally once daily for 10 days or

• Ofloxacin 300 mg orally twice a day for 10 days In addition to antibiotics (except in viral epididymitis), supportive therapy is needed for acute epididymitis and orchitis: Reduction in physical activity, Scrotal support and elevation, Ice packs, Anti-inflammatory agents, Analgesics, including nerve blocks, Avoidance of urethral instrumentation, Sitz baths.

330. Which of the following infants is at highest risk of developing a germinal matrix–intraventricular hemorrhage?

A. A 20-day-old male infant born at 24 weeks' gestation who develops hypotension from a patent ductus arteriosus

B. A female infant born at 26 weeks' gestation by precipitous vaginal delivery who develops hyperoxia and hypocarbia after intubation and surfactant administration in the delivery room

C. A female infant born at 28 weeks' gestation (due to maternal chorioamnionitis) who develops a rightsided tension pneumothorax after reintubation at 17 days of age

D. A male infant born by cesarean section at 34 weeks' gestation who required positive pressure ventilation in the delivery room

E. A term male infant born by vacuum-assisted vaginal delivery who required intubation, positive pressure ventilation, and chest compressions in the delivery room

Answer: B

There are many factors that can contribute to the development of a GM-IVH. The final common pathway is their relationship to, or effect on, the delicate germinal matrix, the site of origin of this type of intracranial hemorrhage. Perinatal asphyxia and vigorous resuscitation are risk factors for intraventricular hemorrhage in a premature baby, as cerebral hemodynamics are influenced by the respiratory condition of an infant. Establishing a stable respiratory status in a premature infant can result in hyperoxia and hypocarbia, which can cause a decrease in cerebral blood flow (ischemia) through the germinal matrix vessels. When cerebral blood flow subsequently increases, additional reperfusion injury can result in rupture of the germinal matrix vessels, causing a GM-IVH. In premature infants, germinal matrix hemorrhages primarily occur within the first few days of life, which may be due to a later adaptation to extrauterine life that provides stability to this vascular structure. Despite risk factors such as hemodynamic and respiratory instability that are present in choices b and e, it is less likely for a premature infant to have a primary GM-IVH after 5 days of age. The infant in choice d had respiratory distress in the delivery room, but his gestational age (greater than 32 weeks' gestation) decreases his risk for a GM-IVH. Furthermore, the germinal matrix has involuted completely in the majority of term infants, making putting the infant in choice a at low risk for GM-IVH but at higher risk for another form of intracranial hemorrhage (ie, subgaleal hemorrhage).

331. You are meeting with a pregnant couple for a prenatal visit. They request information on current newborn screening (NBS). Which statement are you most likely to include in your discussion?

A. A positive newborn screen is almost always diagnostic for a speci□c condition and confirmatory testing is often not needed

B. Blood spot cards for NBS have to be collected immediately after birth, within the first 6 hours

C. Only disorders that are fatal, if left untreated, are included in NBS

D. The advent of newer technology now allows for the detection of over 40 different metabolic disorders by NBS

Answer: D

The application of tandem mass spectrometry to NBS has greatly changed both NBS and the diagnosis of many IEMs. This technology allows for detection of many disorders at one time. A positive newborn screen is considered a screening test and must be confirmed, falsepositive results can occur. It is recommended the sample for NBS be collected after 24 hours of age to allow for oral intake of formula or breast milk which may be necessary to show characteristic elevations of metabolites. Current NBS panels include several conditions with a much lower frequency than 1 in 10,000 and many of the disorders screened for are NOT fatal.

332. 11 years old patient with rheumatic fever and cardiac involvement. For how long he will require antibiotic prophylaxis?

A. 10 years

B. 15 years

C. 5 years

D. 6 years

Answer: A

Explanation: this child falls in the 2nd category.

1- Rheumatic fever with carditis and clinically significant residual heart disease requires antibiotic treatment for a minimum of 10 years after the latest episode; prophylaxis is required until the patient is aged at least 40-45 years and is often continued for life.

2- Rheumatic fever with carditis and no residual heart disease aside from mild mitral regurgita- tion requires antibiotic treatment for 10 years or until age 21 years (whichever is longer).

3- Rheumatic fever without carditis requires antibiotic treatment for 5 years or until the patient is aged 18-21 years (whichever is longer).

333. A 17-year-old male presents with a several-week history of progressive abdominal pain, nausea, and 1 episode of coffee-ground emesis. He localizes the pain primarily to the epigastrium, and describes the pain as "burning" in character. The pain occurs 2 to 3 hours after meals and is relieved by antacids. He denies taking any nonsteroidal antiin flammatory medications. Of the following, the most appropriate initial step in the evaluation and management of suspected Helicobacter pylori infection is:

A. Begin a trial of omeprazole therapy.

B. Begin an empiric 2-week course of amoxicillin therapy.

C. Obtain blood sample for H. pylori antibody testing.

D. Refer for endoscopy and gastric biopsy.

E. Refer for urea breath testing.

Answer: A

H. pylori is an S-shaped, flagellated, gram-negative rod that colonizes the mucus layer of the stomach and produces urea. The organism's production of urease contributes to its ability to survive in the hostile

gastric environment and to penetrate the mucosa of the gastric enterocyte. The pathogenesis of H. pylori infection remains unclear, but it is likely to include direct penetration through the mucus layer that disrupts the gastric enterocyte and permits back-diffusion of gastric acid. Almost all individuals infected with H. pylori have some degree of gastritis, but the degree of inflammation and association with complications such as peptic ulcer disease are variable. The most prevalent pattern of gastritis in children in the Western world is an antral-predominant gastritis, with little or no involvement of the body of the stomach. Recent studies have shown an association between longterm infection with H. pylori and the development of gastric cancer as well as lymphoma arising from mucosa-associated lymphoid tissue (MALT). The incidence of gastric malignancy in the pediatric population, however, is extremely low. The presence of H. pylori should be confirmed prior to starting antibiotic therapy. Testing should be reserved for children and adolescents who are most likely to benefit from treatment, such as those with suspected peptic ulcer disease. Noninvasive testing includes urea breath testing and stool antigen testing. Urea breath testing relies on the ability of urease from H. pylori to split C13- or C14-labeled urea into isotope-labeled carbon dioxide. The breath is sampled for labeled carbon dioxide using gas chromatography. Urease breath testing is not yet widely available in all areas for children. A reasonable alternative to urea breath testing is monoclonal stool antigen testing. Antibody testing using blood, serum, or saliva is not recommended in children for clinical use. Antibody tests can remain positive for years after eradication or resolution of infection. A positive antibody test therefore does not indicate the presence of an active infection with H. pylori . Endoscopy with biopsies provides the most accurate approach for definitive diagnosis of H. pylori infection, as well as gastritis and peptic ulcer disease, but is invasive. Biopsies of the gastric mucosa (not gastric fluid) can be cultured, stained, and assessed for urease activity. Culture and sensitivity analysis of H. pylori can be helpful in refractory cases where antibiotic resistance is suspected. The presence of spiral organisms on the surface of the gastric mucosa or within the mucus layer confirms the diagnosis of H. pylori . It is important to note that results of biopsy staining, urease detection, and culture as well as urea breath testing can be affected by

prior use of antibiotics, bismuth subsalicylate, H 2 - receptor antagonists, antacids, and topical anesthetic agents.

334. A 15-year old male brought to the physician by his mother with back pain, fever and fatigue. X-ray shows osteolytic lesion with "onionskin". Which of the following is the most likely diagnosis?

A. Ewing's sarcoma

B. Giant cell tumor

C. Osteosarcoma

D. Scaphoid fracture

Answer: A

Ewing Sarcoma is a childhood bone malignancy, more common in males. Presents as a Local pain, swelling with fever. Involves the diaphysis of long bone, and flat bones. The most common site is metaphysis and diaphysis of the femur. Diagnosis: Radiographic imaging shows Lytic bone lesion with "onion skin" periosteal reaction

335. You are treating a 17-year-old female for toxigenic Vibrio cholera . She is hospitalized and continues to have watery diarrhea, abdominal pain, and generalized weakness. What is the most common complication associated with this infection?

A. Gastrointestinal hemorrhage

B. Hemolytic anemia

C. Intussusception

D. Shock

E. Thrombocytopenia

Answer: D

Due to the massive amount of fluid and electrolyte loss, occasionally exceeding 1 L/h, severe dehydration and shock may develop within a few hours. In addition to signs of dehydration, a listless detached mental status is common. Other complications include seizures, hypoglycemia, and electrolyte abnormalities. Acute renal failure from protracted hypotension may develop if fluid resuscitation is not adequate. Hemolysis, thrombocytopenia, and acute renal failure are characteristics of hemolytic uremic syndrome and associated with O157:H7 enterohemorrhagic E. coli . Intussusception and gastrointestinal hemorrhage are not associated with V. cholera infection.

336. What therapy would you recommend as the most effective treatment of the hematologic complications for Gaucher disease?

A. Bone marrow transplantation

B. Enzyme replacement therapy (ERT)

C. Liver transplantation

D. Surgical referral for splenectomy

E. There is no effective therapy for this disorder

Answer: B

ERT has emerged as one of the most important advances in the treatment of shingolipidoses. ERT with biweekly infusions of recombinant human glucocerebrosidase is invariably effective in reversing the hematologic and early skeletal complications of Gaucher disease. None of the other options listed above are valid treatment options for Gaucher disease.

337. Before giving influenza vaccine you have to ask if the child has an allergy from which of the following substances?

A. Egg

B. None of the above

C. Penicillin

D. lactose

Answer: A

The majority of the intramuscular inactivated influenza vaccines (IIVs) and the intranasal live-attenuated influenza vaccine (LAIV) are cultured on fluid from chicken embryos. As a result, there is a small amount of egg protein in these vaccines. Thus, there is a theoretical risk of inducing an allergic reaction when administering the influenza vaccine to an individual with egg allergy. However, many of these same patients are also at higher risk of an adverse outcome due to influenza infection (eg, age <2 years, history of asthma) and would therefore benefit from vaccination.

338. What can a 3 year old do?

A. Catch a ball with alternative feet

B. Climb stairs

C. Know the names of the days

D. Trace a triangle

Answer: B

3- to 4-Year-Old Development: Movement Milestones Walk up and down stairs, alternating feet -- one foot per step. Kick, throw, and catch a ball. Climb well. Run more confidently and ride a tricycle. Hop and stand on one foot for up to five seconds. Walk forward and backward easily. Bend over without falling.

339. In a group of old patients with history of fall, the root cause analysis is performed and all the patients were interviewed regarding their anti-allergy medicines. Which of the following could be the causative agent?

A. Chlorpheniramine

B. Desloratidine

C. Fenofexadine

D. Loratidine

Answer: A

Antihistamines of 1st generation include clemastin, diphenhydramine and chlorpheniramine. They have greater side effects including anti muscarinic side effects like dry mouth, constipation, drowsiness, sedation etc. They must be avoided in elderly. The second generation antihistamine are preferred because of their least side effects and good safety profile. Examples include Loratidine, desloratidine and fexofenadine.

340. A 2-week-old male presents with a white adherent coating of his tongue and buccal mucosa. There is some associated erythema and the lesion bleeds when you try to remove the white coating. Which of the following is the most likely diagnosis?

A. Glossitis

B. Hairy leukoplakia

C. Leukoplakia

D. Oral candidiasis

Answer: D

Oral candidiasis, or thrush, is a common finding in newborn infants. It may develop due to exposure to maternal vaginal candidiasis, gastrointestinal colonization of the infant, or as a result of antibiotic usage.

Leukoplakia is a whitish patch or plaque that cannot be clinically or pathologically characterized as any other disease and is not associated with any physical or chemical causative agent, except the use of tobacco.These lesions have a risk of transformation into squamous cell carcinoma.

341. A 5-month-old, previously healthy infant followed in your clinic has sudden onset of hypotonia and dystonia after an intercurrent illness. She was born with macrocephaly. You have followed her in your clinic since birth without other medical problems of significance. A brain MRI is completedand shows degeneration of the caudate and putamen with frontal atrophy. Which of the following diagnostic tests is most likely to reveal the underlying diagnosis?

A. Ceruloplasmin level

B. Copper level

C. Galactose-1 phosphate level

D. Urine mucopolysaccharides

E. Urine organic acids

Answer: E

Glutaric acidemia type 1 is caused by defects in glutaryl- CoA dehydrogenase. Many patients are born with macrocephaly and develop normally until they suddenly develop hypotonia and dystonia after an intercurrent illness. MRI scans show frontal and cortical atrophy and after the onset of dystonia, degeneration of the caudate nucleus and putamen. Urine organic acids are often diagnostic and show increased excretion of glutaric acid and 3-hydroxyglutaric acid.

Diagnosis can also be made by collecting a plasma acylcarnitine profile that shows elevation of glutarylcarnitine. Most patients are now diagnosed by NBS. Effective treatment is possible with early diagnosis. Galactose-1-phosphate levels are used in diagnosis and follow-up of patients with galactosemia. Copper and ceruloplasmin levels are used in the diagnosis of Wilson disease. Assessment of urine

mucopolysaccharides are used in the diagnosis of the mucopolysacaccharidosis.

342. An 8-month-old infant is brought to your office for diaper rash. On examination, the infanterythematous diaper dermatitis that has a sharply demarcated edge. In addition, there were numerous satellite lesions on the lower abdomen and thighs.Which of the following is the topical treatment of choice?

A. Antibiotic

B. Antifungal

C. Antihistamine

D. Corticosteroid

Answer: B

Candida diaper rash is usually seen as redness and swelling in and around the creases of the legs, bottom, testicles and vulva rather than around the diaper lines like irritant diaper rash. Candida dermatitis classically has “satellite lesions” where there are small round spots of rash located near the main, large rash.If candidal infection is present, topical ointments or creams, such as nystatin, clotrimazole, miconazole, or ketoconazole can be applied to the rash with every diaper change.

343. You see a 13-year-old girl who has previously been treated for 2 episodes of otitis externa over the summer. She has been a very successful competitive swimmer and plans to continue swimming

throughout the year. The parents ask you about different treatments that can be used to prevent another case of otitis externa. Which of the following is the best strategy for the prevention of otitis externa for this patient?

A. Keeping the ear canal moist throughout the day will prevent

fluctuations in moisture and decrease infections in the ear canal.

B. Taking low-dose oral antibiotics during the swimming season can help prevent infection.

C. The patient should end her swimming career and consider other sports that do not involve water immersion.

D. Using alcohol ear drops before and after swimming lowers the pH in the ear canal and helps prevent infection.

E. Using ear plugs while swimming should be avoided because it will trap moisture and increase the likelihood of infection.

Answer: D

There are several preventive measures that can be attempted and the child should be encouraged to continue swimming. Excessive moisture (from swimming, showering, or a humid environment) can change the acidic environment of the ear canal and increase the likelihood of bacterial or fungal infection. Keeping the ear canal as dry as possible can preventotitis externa. This lining of the ear canal creates a slightly acidic (pH 6.9) environment. As a result, the use of alcohol ear drops before and after swimming lowers the pH in the ear canal and helps prevent infection. Prevention of otitis externa is not an indication for oral antibiotics. Using ear plugs while swimming can help prevent moisture. Afterwards, drying the ear with a hair dryer on a low setting after swimming can also prevent moisture and maceration of the canal lining.

344. Which of the following options is the minimum age at which influenza vaccine should be given?

A. 12 months

B. 3 months

C. 6 months

D. 9 months

Answer: C

Children younger than 6 months of age should not be vaccinated.

345. You are completing the staging workup for a 17-yearold girl with newly diagnosed osteosarcoma of the distal femur. Which of the following is the best way to assess for metastasis to the lungs?

A. Bone scan

B. Chest CT

C. Chest MRI

D. Chest X-ray

E. PET scan

Answer: B

Approximately 20% of patients with osteosarcoma will have evidence of metastatic disease at diagnosis. The lungs are the most frequent site of metastasis, followed by “skip lesions” in the same bone as the primary tumor and other bony metastases. A radionuclide bone scan is

routinely preformed at the time of diagnosis to define the extent of the primary tumor and detect skip lesions. Although a chest X-ray, PET scan, or chest MRI might pick up metastases to the lungs, chest CT is the most sensitive and is the imaging procedure of choice to rule out lung metastases.

346. A 17 year boy with nasal bleeding several minutes ago presented to you in the hospital. He has no previous h/o bleeding disorder. On examination, there is slow bleeding from posterior septum. What is the best initial action?

A. Analgesic

B. Posterior nasal packing

C. Put him in left recumbent position

D. Vasoconstrictor nasal spray

Answer: B

Epistaxis, is usually caused by minimal trauma to the Kiesselbach's plexus or hypertension. The best initial step in non-hospital setting is to pinch the fleshy parts of nose altogether for few minutes till bleeding stops. However, posterior nasal septum bleed cannot be pinched, so posterior nasal packing is done The best initial approach in hospital setting is nasal packing. If a comatosed patient suddenly have nosebleed, then it is best to lay him in side ways so that blood comes out instead of going inside his lungs. Vasoconstrictors have minimum role in controlling nosebleeds.

347. A 14-year-old girl presents to the clinic with her mother complaining of cramping with menstruation that radiates to the upper thighs and back for the last 6 months. She has been missing school due to the pain. Physical examination is normal.

Which of the following is the most likely diagnosis?

A. Adenomyosis

B. Leiomyoma

C. Pelvic inflammatory disease

D. Primary dysmenorrhea

Answer: D

1. This patient's presentation is most consistent with primary dysmenorrhea, which refers to lower abdominal cramping with menses in the absence of other pathology.

2. Primary dysmenorrhea usually appears 6 to 12-months after menarche.

3. It is caused by increased levels of prostaglandins and presents with lower abdominal pain with menstruation.

4. Onset generally occurs during adolescence and symptoms may improve with age.

5. Cramping during the first few days of menses is caused by uterine contractions triggered by prostaglandin release from the sloughing endometrium.

6. Primary dysmenorrhea can be distinguished from secondary dysmenorrhea via normal physical examination.

7. Non-steroidal anti-inflammatory drugs are the first-line treatment ,oral contraceptive pills inhibit ovulation and are also effective.

348. A 2.9-kg girl is born at term after having carried a prenatal diagnosis of left congenital diaphragmatic hernia since 19 wk of gestation. Delivery and the early postnatal period are uneventful, with mild tachypnea and retractions developing at 24 hr of age. Chest film reveals a normal abdominal gas pattern and multiple lucent areas in the left lower thorax.

The most likely diagnosis is :

A. Congenital diaphragmatic hernia (Bochdalek)

B. Congenital diaphragmatic hernia (Morgagni)

C. Congenital diaphragmatic hernia (hiatal)

D. Congential cystic adenomatoid malformation

E. Cystic fibrosis

Answer: D

Congenital pulmonary airway malformation (CPAM), formerly known as congenital cystic adenomatoid malformation (CCAM), is a congenital disorder of the lung similar to bronchopulmonary sequestration. In CPAM, usually an entire lobe of lung is replaced by a non-working cystic piece of abnormal lung tissue. Three quarters of affected patients are asymptomatic. However, 25% develop cyanosis, pneumothorax, and show signs of increased breathing difficulty (tachypnoea and intercostal retractions). At examination, they may show hyperresonance at percussion, diminished vesicular murmur and an asymmetrical thorax. The earliest point at which a CPAM can be detected is by prenatal ultrasound. The classic description is of an echogenic lung mass that gradually disappears over subsequent ultrasounds. The disappearance is due to the malformation becoming filled with fluid over the course of the gestation, allowing the ultrasound waves to penetrate it more easily and rendering it invisible on sonographic imaging.

349. A 3-year-old female presents to your office for follow-up of her rectal bleeding. You had previously referred her to pediatric gastroenterology for painless rectal bleeding. She was found to have 3 polyps on her colonoscopy that were identified as juvenile polyps on histology. There is no history of juvenile polyps in the family. Which of the following statements is the most appropriate in counseling the parents?

A. Juvenile polyps are common in this age group and she does not need any further follow-up and she is not at increased risk of cancer.

B. She should be screened for germline mutations of SMAD4 and BMPR1A to determine if she has JPS.

C. The patient should now receive yearly colonoscopy screening to evaluate for recurrence of polyps.

D. The patient's siblings should be screened for polyps with colonoscopy given her new diagnosis of juvenile polyposis syndrome (JPS).

E. This patient now has close to a 50% lifetime risk of developing colorectal cancer.

Answer: A

Juvenile polyps are a common gastrointestinal disorder. Up to 2% of children under the age of 10 years may have juvenile polyps. JPS is diagnosed when there are 5 or more colonic juvenile polyps, there is a presence of juvenile polyps in the stomach or small intestine, or there is a presence of any juvenile polyp with a family history of JPS. This patient does not meet criteria for JPS; therefore, she is not at increased risk of cancer, nor does she or her family need to undergo yearly surveillance or genetic testing. Patients with JPS may have germline

deletions in either SMAD4 or BMPR1A . Once a patient is found to have 5 or more juvenile polyps, genetic testing may prove helpful when counseling family members of their risk. Findings of juvenile polyps do not increase the risk of colorectal cancer; however, 5 or more polyps suggestive of JPS increase your lifetime risk of colorectal cancer to close to 50%.

350. What is the most common sequel associated with bacterial meningitis ?

A. Chronic seizure disorder

B. Impaired hearing

C. Impaired vision

D. Mental retardation

Answer: B

Meningitis is a clinical syndrome characterized by inflammation of the meninges. As many as 30% of children have neurologic sequelae. This rate varies by organism, with S pneumoniae being associated with the highest rate of complications. One study indicated that the complication rate from S pneumoniae meningitis was essentially the same for penicillin-sensitive strains as for penicillin-resistant strains; this study also showed that dexamethasone did not improve outcomes. [14] Prolonged or difficult-to-control seizures, especially after hospital day 4, are predictors of a complicated hospital course with serious sequelae. On the other hand, seizures that occur during the first 3 days of illness usually have little prognostic significance.

Approximately 6% of affected infants and children show signs of DIC and endotoxic shock. These signs are indicative of a poor prognosis. Studies have documented the development of profound bilateral

hearing loss, which may occur in as many as 4% of all bacterial meningitis cases. [15] Sensorineural hearing loss is one of the most frequent problems.

351. Which of these antibiotics are preferred for use as 1st line in the treatment of early neonatal sepsis: ntibiotics used in neonatal sepsis: either 3rd generation cephalosporins (cefotaxime) or combination ().

A. Ceftriaxone

B. Meropenem

C. Vancomycin

D. ampicillin + gentamicin

Answer: D

The current approach to the treatment of early-onset neonatal sepsis includes combined IV aminoglycoside and expanded-spectrum penicillin antibiotic therapy.Cephalosporins are attractive in the treatment of nosocomial infection because of their lack of dose related toxicity and their ability to reach adequate serum and cerebrospinal fluid (CSF) concentrations; however, their use has led to resistance in gram-negative organisms.

352. A 22 year old man has runny nose for 2 years and unilateral nasal obstruction for more than one year. On examination, the inferior turbinate is swollen. What's the most likely diagnosis?

A. Allergic rhinitis

B. Deviated nasal septum

C. Polyp

D. Sinusitis

Answer: A

Swollen turbinate: It is a feature of allergic rhinitis. Sinusitis in addition comes with other symptoms such as thick mucous secretions, facial pain and headaches.

353. Which of the following medicines should be given as prophylaxis before a procedure for a child with rheumatic heart disease and is allergic to Penicillin?

A. IV amoxicillin

B. Oral amoxicillin

C. Oral vancomycin + gentamicin

D. oral Azithromycin

Answer: D

Patients with rheumatic heart disease and valve damage require a single dose of antibiotics 1 hour before surgical and dental procedures to help prevent bacterial endocarditis. Patients who had rheumatic fever without valve damage do not need endocarditis prophylaxis. Do not use

penicillin, ampicillin, or amoxicillin for endocarditis prophylaxis in patients already receiving penicillin for secondary rheumatic fever prophylaxis (relative resistance of PO strep- tococci to penicillin and aminopenicillins).+ Alternate drugs recommended by the American Heart Association for these patients include PO clindamycin (20 mg/kg in children, 600 mg in adults) and PO azithromycin or clarithromycin (15 mg/kg in children, 500 mg in adults).

354. A 3 yr-old white girl was referred to a pediatric gastroenterologist because of elevated levels of liver enzymes and total and direct bilirubin. The patient has a history of renal tubular acidosis and peripheral pulmonic stenosis. On examination, the patient was noted to have a broad forehead and deep-set, widely spaced eyes. Scratch marks were seen on the skin secondary to pruritus. A liver biopsy will most likely show:

A. Bile duct paucity

B. Bile duct proliferation

C. Giant cell transformation

D. PAS-positive diastase-resistant globules

Answer: A

Alagille syndrome (arteriohepatic dysplasia) is the most common syndrome with intrahepatic bile duct paucity. Clinical manifestations of Alagille syndrome: unusual facial characteristics (broad forehead; deep-set, widely spaced eyes; long, straight nose; and an underdeveloped mandible). cardiovascular abnormalities (usually peripheral pulmonic stenosis, sometimes tetralogy of Fallot, pulmonary atresia, ventricular septal defect, atrial septal defect, aortic coarctation), vertebral defects

(butterfly vertebrae, fused vertebrae, spina bifida occulta, rib anomalies), tubulointerstitial nephropathy

355. A 2-year-old child is hospitalized for evaluation of poor growth and low muscle tone. The most striking physical □nding is unruly, “kinky” hair, but the child also has increased joint laxity and thin skin. Which of the following laboratory findings is most likely ?

A. High ceruloplasmin

B. High serum copper

C. Low saturation of transferrin

D. Low serum iron

Answer: B

Menkes disease is a disorder that affects copper levels in the body. It is characterized by sparse, kinky hair; failure to thrive; and progressive deterioration of the nervous system. Some additional signs and symptoms may include weak muscle tone (hypotonia), sagging facial features, seizures, developmental delay, and intellectual disability.

Children with Menkes syndrome typically begin to develop very severe symptoms during infancy, but, in some cases, the symptoms may begin later in childhood. Occipital horn syndrome is one of the less severe forms of Menkes syndrome that begins in early to middle childhood.

Menkes disease is caused by mutations in the ATP7A gene. It is inherited in an X-linked recessive pattern. Early treatment with copper may improve the prognosis in some children with this disease.

356. A few hours after a neonate was born, he started to become jaundiced and he is getting worse with time. Physical examination additionally reveals pallor, and splenomegaly, and right upper quadrant tenderness. Which of the following is the most probable diagnosis?

A. Breast milk jaundice

B. G6PD

C. Physiologic jaundice

D. Pyruvate kinase

Answer: B

G6PD deficiency is one of the major risk factors for severe neonatal jaundice. [9] Jaundice usually appears within first 24 hours of life, usually earlier than physiologic jaundice but later compared to jaundice seen in blood group alloimmunization. Jaundice, pallor, and splenomegaly may be present in patients with severe hemolysis. Patients may have right upper quadrant tenderness due to hyperbilirubinemia and cholelithiasis.

357. 3 years old baby with dipper rash with no satellite lesion. What's the treatment?

A. Barrier cream with frequent change of dipper

B. Oral antibiotics

C. Topical antibiotics

D. Topical steroid

Answer: A

Good nappy-changing hygiene practices should be ensured. No matter which type of nappy is used, it should be changed every 2 hours.If the child is prone to frequent nappy rash, empirically apply a topical barrier containing zinc oxide, white soft paraffin, glycerin, lanolin, sucralfate, or mineral oil at each nappy change.

358. A 2 year old child presents with a 0.5 cm mass on the inner side of lower lip, non-tender and bluish in color. What is the most likely diagnosis?

A. Epiula

B. Gingival cyst

C. Mucocele

D. Ranula

Answer: C

The mucocele has a bluish translucent color, and is more commonly found in children and young adults. The most common location to find a mucocele is the inner surface of the lower lip. It can also be found on the inner side of the cheek (known as the buccal mucosa), on the anterior ventral tongue, and the floor of the mouth.

359. A pregnant lady presents at her routine antenatal clinic visit. Urine evaluation result shows 50,000 CFU bacteria and WBC of 2. The woman is however asymptomatic. What is the diagnosis?

A. Asymptomatic Bacteriuria

B. Cystitis

C. Pyelonephritis

D. Vaginitis

Answer: A

The term asymptomatic bacteriuria refers to the presence of a positive urine culture in anasymptomatic person.

● Asymptomatic bacteriuria in women is guidelines as two consecutive clean-catch voided urine specimenswith isolation of the same organism in quantitative counts of ≥ 100,000 CFU/mL

● Cystitis is a symptomatic infection of the bladder that can occur alone or can be com-plicated by ascending infection and pyelonephritis. Acute cystitis in the pregnant woman is generallyconsidered to be complicated.

● A urine culture should be performed in pregnant women with symptoms of acute cysti- tis. coliform colonycounts in voided urine as low as 100 CFU/mL have been noted to reflect bladder infection

● Acute pyelonephritis is suggested by flank pain, nausea/vomiting, fever (>38oC), and/ or costovertebralangle tenderness and may occur in the presence or absence of cystitis symptoms.

360. A 7-year-old girl is brought to the physician due to a high fever, poor feeding, pain with swallowing and ulcers on both tonsils. Which of the following is the most likely diagnosis?

A. Diphtheria

B. Erythema infectiosum

C. Herpangina

D. Infectious mononucleosis

Answer: C

1. **Herpangina** is an acute febrile illness associated with small vesicular or ulcerative lesions on the posterior oropharyngeal structures (enanthem).

2. Herpangina typically occurs during the summer and usually develops in children.

3. Caused by **Coxsackievirus type A** is a subgroup of enterovirus which is a subgroup of picornavirus

4. Presents with sudden onset of high fever in a 10 years of age, and can be associated with vomiting, malaise, myalgia, and backache

5. Poor intake, drooling, sore throat, dysphagia, and dehydration may occur.

6.Herpangina is a clinical diagnosis. Laboratory studies are generally not indicated because herpangina is a mild and self-limited illness.

7.Herpangina is a self-limited illness. As such, no specific therapy is indicated.

Oral lesions:

One or more small tender papular pinpoint vesculaר¨lesions, on erythematous base on anterior pillars of the faucets, soft palate, uvula, tonsils, and tongue, then ulcerate in 3-4 days.

361. A 5-year-old boy is brought to the emergency room crying after his father pulled him by the arm. The child will not let anyone touch that arm. On examination his arm in flexion and his hand in pronation. Which of the following is the most likely diagnosis?

A. Colles'fracture

B. Lateral epicondylitis

C. Lunate subluxation

D. Nursemaid's elbow

Answer: D

1. Nursemaid's elbow, also called as subluxed radial head, is one of the most common elbow injuries in children between the ages of 1-5 years. Radial head subluxation, common among toddlers, is caused by traction on the forearm and usually manifests as refusal to move the elbow (pseudoparalysis).

2. Symptoms may include pain and tenderness. Most patients cannot describe their symptoms and simply present with unwillingness to move the affected arm. The radial head may be only mildly tender.

3. The child typically keeps the hand in a pronated position, and refuses (cries out in pain) attempted forearm supination.

4. Pulling causes axial traction on the forearm, which causes the radial head to slip through parts of the annular ligament.

5. Diagnosis is made clinically as radiographs are often normal

6. Treatment: Forearm hyperpronation or Forearm supination & elbow flexion

362. A 3-year-old girl presents with findings of encephalitis including fever, weakness, altered sensorium, and myoclonus. Evaluation also reveals flaccid paralysis. Her history is positive for several insect bites 2 weeks ago. Evaluation of her CSF is positive for a PCR test of West Nile virus (WNV). Her cerebrospinal fluid profile is most likely to reveal the following profile:

A. Eosinophilic pleocytosis, elevated protein, and low glucose

B. Lymphocytic pleocytosis, elevated protein, and low glucose

C. Lymphocytic pleocytosis, elevated protein, and normal glucose

D. Neutrophilic pleocytosis, elevated protein, and low glucose

E. Neutrophilic pleocytosis, elevated protein, and normal glucose

Answer: C

The patient in the clinical scenario has clinical signs of encephalitis from WNV. While only 1% of patients infected with WNV progress to meningitis and encephalitis, when CNS involvement occurs, patients tend to show a lymphocytic predominant pleocytosis, elevated protein, and normal glucose. Profile A, while uncommon, could be consistent with a parasitic infection, such as those caused by Baylisascaris procyonis . Profile B could represent viral infections that present either with a polymorphonuclear pleocytosis in young patients (eg, Western equine encephalitis virus) or early in the course of illness (eg, Powassan virus). Profile C would be most consistent with bacterial meningitis. Profile E is most consistent with fungal or tubercular infections.

363. Which of the following conditions is associated with short stature, webbed neck and wide-spaced nipples?

A. Down syndrome

B. Kallmann's syndrome

C. Klinefelter syndrome

D. Turner syndrome

Answer: D

1. Turner syndrome is one of the most common chromosomal abnormalities.

2. Turner syndrome is caused by the absence of one set of genes from the short arm of one X chromosome.

3. 45,X karyotype (about two thirds are missing the paternal X chromosome)

Clinical Presentation

1. Short stature

2. Shield chest: The chest appears to be broad with widely spaced nipples.

3. Lymphedema may be present at any age and is one finding that can suggest Turner syndrome on fetal ultrasonography.

4. Webbed neck and low posterior hairline due to lymph edema.

5. Pubic hair development is normal

6. Coarctation of the aorta is the most common cardiac defect associated with Turner syndrome.

7. Eye: Ptosis, strabismus, amblyopia, and cataracts are more common in girls with Turner syndrome.

364. Disorders associated with complete heart block include all of the following Except:

A. Endocarditis

B. Kearns-Sayre syndrome

C. Maternal systemic lupus erythematosus

D. Rheumatoid arthritis

Answer: D

Rheumatoid arthritis primarily involves the pericardium and not the conduction system. All the other options are associated with heart block. Another cause of complete heart block is injury to the conduction system during reparative surgery for congenital heart disorders.

365. A 45 year old man has presented to you in emergency complaining of increased sound intensity in his right ear. He hears the environmental noises and normal speech of other people hurts him. Which of the following nerve is likely to be injured?

A. Accessory

B. Facial

C. Trigeminal

D. Vagus

Answer: B

The tensor tympani is a muscle within the ear,Innervation of the tensor tympani is from the tensor tympani nerve, a branch of the mandibular division of the trigeminal nerve. Injury leads to increased intensity of chewing and self-sounds. Stapedius is supplied by, nerve to stapedius, a branch of facial nerve. This muscle help dampen the external noise or decrease the amplitude of high intensity sounds.

366. Which of the following options presents the best method to reduce the potassium level in a hyerkalemic patient by reducing the body burden of potassium:

A. Albuterol aerosol

B. Glucose and insulin infusion

C. Kayexalate enema

D. Sodium bicarbonate infusion

Answer: C

Treatment of hyperkalemia has 2 basic goals:

(1) to stabilize the heart to prevent life-threatening arrhythmias and

(2) to remove potassium from the body.

The treatments that acutely prevent arrhythmias all have the advantage of working quickly (within minutes) but do not remove potassium from the body. Calcium stabilizes the cell membrane of heart cells,

preventing arrhythmias. It is given intravenously over a few minutes, and its action is almost immediate.

Several medications cause potassium to move intracellularly and thus rapidly reduce the plasma level to prevent arrhythmias. These include bicarbonate, insulin and glucose, and nebulized albuterol. However, these medicines do not remove potassium from the body. To reduce the total body potassium, 3 options are available. In patients who are not anuric, a loop diuretic increases renal excretion of potassium. A high dose may be required in a patient with significant renal insufficiency. Sodium polystyrene sulfonate (Kayexalate) is an exchange resin that is given either rectally or orally. Sodium in the resin is exchanged for body potassium, and the potassium-containing resin is then excreted from the body. Some patients require dialysis for acute removal of potassium. Dialysis is often necessary if the patient has either severe renal failure or an especially high rate of endogenous potassium release, as is sometimes present with tumor lysis syndrome or rhabdomyolysis.

367. Which of the following milestones are appropriate for a 2-year old child with normal development?

A. Builds tower of 4 cubes

B. Copies square

C. Draws a person

D. Walks without assistance

Answer: A

Developmental Milestones (2 years): Walks down stairs holding rail, both feet on each step. Kicks ball without demonstration. Throws a ball overhead. Takes off clothes without button. Imitates circle. Imitates horizontal line. Builds a tower of four cubes. Opens door using knob.

Follows two step command. Points to 5–10 pictures. Uses two word sentence. Uses 50 + words

368. 7 years old boy developed Flu after receiving Flu vaccine. His father asked you about the reason. How will you reply?

A. A flu shot cannot cause flu illness

B. Both B and C

C. Exposed to a flu virus that is very different from the viruses the

vaccine is designed to protect against may be responsible

D. Live attenuated vaccine has small risk of infection

Answer: B

There are several reasons why someone might get a flu symptoms, even after they have been vaccinated against flu. One reason is that some people can become ill from other respiratory viruses besides flu such as rhinoviruses, which are associated with the common cold, cause symptoms similar to flu, and also spread and cause illness during the flu season. The fku vaccine only protects against influenza, not other illnesses. Another explanation is that it is possible to be exposed to influenza viruses, which cause the flu, shortly before getting vaccinated or during the two-week period after vaccination that it takes the body to develop immune protection. This exposure may result in a person becoming ill with flu before protection from the vaccine takes effect. A third reason why some people may experience flu like symptoms despite getting vaccinated is that they may have been exposed to a flu virus that is very different from the viruses the vaccine is designed to protect against. The ability of a flu vaccine to protect a person depends largely on the similarity or “match” between the viruses selected to make the vaccine and those spreading and causing illness. There are

many different flu viruses that spread and cause illness among people. For more information, see Influenza (Flu) Viruses. The final explanation for experiencing flu symptoms after vaccination is that the flu vaccine can vary in how well it works and some people who get vaccinated may still get sick.

369. A 4-year-old child is being seen for over a week of watery diarrhea, with several stools per day. The patient has had no fever, and no blood in the stool. Examination for ova and parasites is negative. An ELISA test is positive for Cryptosporidium . The patient is HIV negative. The most appropriate recommendation for this patient is:

A. Avoiding water that is nonchlorinated

B. Treatment with albendazole

C. Treatment with metronidazole

D. Treatment with nitazoxanide

E. Treatment with paromomycin and azithromycin

Answer: C

This immunocompetent child has intestinal cryptosporidiosis that responds to therapy with nitazoxanide, although most cases in hosts with a normal immune system resolve on their own. Paromomycin in combination with azithromycin has been used in HIV-positive individuals with cryptosporidiosis with some effect. Nitazoxanide can also be used in these patients, although HAART is the primary means of treating the infection. Albendazole is useful for roundworm infections but does not play a role in treating cryptosporidiosis.

Metronidazole is used for anaerobic bacteria, amebiasis, and off-label for Giardia but has no role in the treatment of cryptosporidiosis. Cryptosporidium oocysts are unaffected by chlorination and only

modestly affected by iodine tablets. However, boiling for >1 minute inactivates the parasite.

370. Which of the following classes of drugs can be used safely with NSAIDs without needing to closely monitor the patient's renal function, potassium levels, and/or blood pressure?

A. ACE inhibitors

B. CCBs

C. Diuretics

D. β-Blockers

Answer: B

Combined use of NSAIDs and hypertensive medication (i.e., diuretics, β-blockers, α-blockers, and ACE inhibitors) may decrease the effectiveness of antihypertensive medication and cause serious complications. Thus, when using the two in combination, renal function potassium levels, and blood pressure should be monitored. CCBs and central α-agonists can usually be used without these concerns.

371. A 62-year-old woman presents complaining of joint pain, polyuria, polydipsia, and generalized fatigue. The woman reports a history of recurrent kidney stones and depression. Radiographs show osteopenia and subperiosteal resorption on the phalanges. Which of the following blood tests may best help determine the cause of her symptoms?

A. ACE level

B. ANA test

C. Bone densitometry

D. Parathyroid hormone level

E. Sedimentation rate (ESR)

Answer: D

Primary hyperparathyroidism is a disorder caused by excessive secretion of parathyroid hormone. Findings include hypercalcemia (ionized), hypophosphatemia (hyperphosphatemia suggests secondary hyperparathyroidism), an excessive bone loss leading to cystic bone lesions, and osteitis □brosa cystica. Most patients are asymptomatic; however, some may present with renal lithiasis, joint or back pain, polyuria and polydipsia, constipation, and fatigue. It is the most common cause of hypercalcemia in the general population. Familial cases are often related to endocrine tumors. The condition is more common in women and in patients older than 50 years. It also occurs in high frequency three or more decades after neck irradiation. It is usually caused by an adenoma of the parathyroid (90% of cases); carcinoma is rare (3% of cases). Radiographs may show subperiosteal resorption of the phalanges and osteopenia. Treatment usually involves surgical exploration and removal of parathyroid adenoma. For patients with mild, asymptomatic primary hyperparathyroidism, the recommendations for surgery are controversial.

372. Cochlear implants may be associated with?

A. Brain abscess.

B. Facial cellulitis.

C. Pneumococcal meningitis.

D. Septic jugular vein thrombosis.

E. Sinusitis.

Answer: C

The cochlear implants are used for patients with hearing problem. One of the most important side effects is bacterial meningitis due to strep. pneumonia, Irrespective of the type of procedure and the method to introduce cochlear implant, the side effect is same.

373. Tetracycline administration during tooth formation may lead to :

A. Enamel defects

B. Enamel hypoplasia

C. Gingival enlargement

D. Tooth discoloration

E. Tooth shape abnormalities

Answer: D

etracyclines (TCN) were introduced in 1948 as broad-spectrum antibiotics that may be used in the treatment of many common infections in children and adults. One of the side-effects of tetracyclines is incorporation into tissues that are calcifying at the time of their administration. They have the ability to chelate calcium ions and to be

incorporated into teeth, cartilage and bone, resulting in discoloration of both the primary and permanent dentitions.

374. Which of the following is the most common cause of failure to thrive?

A. Constipation

B. Cyclic vomiting syndrome

C. Inadequate calories

D. Vitamin D deficiency

Answer: C

Failure to thrive (FTT)

1. Failure to thrive is defined as decelerated or arrested physical growth (height and weight measurements fall below the third or fifth percentile, or a downward change in growth across two major growth percentiles) and is associated with abnormal growth and development.

2. Children below third percentile weight for age or failure to gain weight appropriate for age

3. May be due to underlying illness or neglect

4. Associated gastroesophageal reflux disease, malrotation with intermittent volvulus, or increased intracranial pres - sure

The causes of disease-related FTT in children are multifactorial including

1. Failure of a caregiver to offer adequate calories,

2. Failure of the child to take in sufficient calories.

3. Failure of the child to retain and use sufficient calories.

4. Increased metabolic demands. The most common cause of FTT, is an inadequate intake especially of energy and protein, but also of micro-nutrients (vitamins, iodine, iron, folic acid and zinc).

375. Which of the following is true about supplementation for iron dficiency?

A. All iron supplementation, regardless of formulation, should be taken with milk.

B. Proton pump inhibitors can improve the absorption of iron supplementation.

C. Taking iron supplementation with orange juice can improve absorption.

D. The hemoglobin begins to rise within 1 week of starting iron supplementation.

E. To avoid gastrointestinal pain, iron should always be taken with food.

Answer: C

Iron deficiency is the most common global nutritional deficiency, and iron-deficiency anemia is the most common hematologic disease of infancy and childhood. Nonheme dietary iron comes primarily in the ferric state (Fe 3+) and is reduced to the ferrous state (Fe 2+) in an acidic environment. Ascorbic acid can therefore improve the absorption of iron. Iron supplementation should never be taken with milk, food, or proton pump inhibitors as these all inhibit the absorption of iron. Hemoglobin is one of the last indices to improve, although

reticulocytosis can be seen within 1 week of starting iron supplementation.

376. Which of the following congenital heart defects is most often seen in patients with Down syndrome?

A. Endocardial cushion defects such as AVSD

B. coarctation of aorta

C. peripheral pulmonary stenosis

D. transposition of great vessels

Answer: A

The most commonly described defect is complete AVSD which comprises 30–40% of all cardiac defects. The types of CHD described in Down syndrome do seem to follow a fixed pattern; there are high numbers of septal defects in general; tetralogy of Fallot is described, but there are lower rates of other conotruncal defects like transposition or conditions such as coarctation

377. An ex–28-week-infant now on day of life 14 is noted to have a fever and an increased oxygen requirement. A chest radiograph demonstrates bilateral interstitial pulmonary infiltrates. A complete blood count shows an elevated white blood cell count and thrombocytopenia. The patient has blood cultures drawn from his central line through which he is receiving total parenteral nutrition (TPN) and intravenous lipids. Evaluation for necrotizing

enterocolitis is negative. The patient has not received any blood products. What should be the next step in the patient's clinical care?

A. Begin flucytosine.

B. Discontinue the IV TPN.

C. Discontinue the intravenous lipid infusion.

D. Order a urinalysis.

E. Send off a skin culture for Malassezia species.

Answer: C

The infant has several concerning symptoms that point to sepsis. There is a characteristic syndrome associated with the organism Malassezia furfur in which patients (particularly neonates) receiving intravenous lipid infusion can present with M. furfur line infections with symptoms as described above (fever, bilateral pulmonary infiltrates, leukocytosis, and thrombocytopenia). While thesefindings are nonspecific, there are enough clinical data to discontinue the intravenous lipid infusion. Lipid supplementation can worsen most

Malassezia species infection. The line should be pulled shortly thereafter once IV access is established. A urinalysis, while helpful for evaluating the patient's renal status and hydration, does not further the patient's care. Flucytosine is not effective for M. furfur infections. A skin culture is not helpful given that over 50% of premature infants will be colonized with Malassezia within the first 2 weeks of life. Almost all adults have colonization of their skin. Stopping the parenteral nutrition alone without stopping the intravenous lipid infusion does not hinder the M. furfur likely responsible for this infection.

378. A 13 year old attempted to commit suicide by taking an overdose of her TB medication. She is brought to the emergency room having seizures, and the Arterial Blood Gas shows a high anion gap metabolic acidosis. which of these medications would you give as an antidote.

A. Atropine

B. Naloxone

C. Pralidoxime

D. Pyridoxine

Answer: D

Isoniazid intoxication causes seizures and a high anion gap metabolic acidosis. Therapy for acute isoniazid (INH) overdose includes controlling the ABCs (airway, breathing, and circulation), providing antidotal therapy with pyridoxine, and supportive care.

379. Factors that may be associated with an increased risk of child abuse include:

A. All of the above

B. Poverty

C. Spouse abuse

D. Unplanned pregnancy

Answer: A

A number of risk factors for child maltreatment have been identified. These risk factors are not present in all social and cultural contexts, but

provide an overview when attempting to understand the causes of child maltreatment. Child It is important to emphasize that children are the victims and are never to blame for maltreatment. A number of characteristics of an individual child may increase the likelihood of being maltreated: being either under four years old or an adolescent being unwanted, or failing to fulfil the expectations of parents having special needs, crying persistently or having abnormal physical features. Parent or caregiver A number of characteristics of a parent or caregiver may increase the risk of child maltreatment. These include: difficulty bonding with a newborn not nurturing the child having been maltreated themselves as a child lacking awareness of child development or having unrealistic expectations misusing alcohol or drugs, including during pregnancy being involved in criminal activity experiencing financial difficulties. Relationship A number of characteristics of relationships within families or among intimate partners, friends and peers may increase the risk of child maltreatment. These include: physical, developmental or mental health problems of a family member family breakdown or violence between other family members being isolated in the community or lacking a support network a breakdown of support in child rearing from the extended family. Community and societal factors A number of characteristics of communities and societies may increase the risk of child maltreatment. These include: gender and social inequality; lack of adequate housing or services to support families and institutions; high levels of unemployment or poverty; the easy availability of alcohol and drugs; inadequate policies and programmes to prevent child maltreatment, child pornography, child prostitution and child labour; social and cultural norms that promote or glorify violence towards others, support the use of corporal punishment, demand rigid gender roles, or diminish the status of the child in parent–child relationships; social, economic, health and education policies that lead to poor living standards, or to socioeconomic inequality or instability.

380. A 4-year-old girl presents with urinary tract infection. She has had multiple urinary tract infections since birth. Physical examination is remarkable for an ill-appearing child who has a temperature of 40 C and is vomiting. Which of the following is the most likely predisposing factor for this patient's recurrent infections?

A. Acute Poststreptococcal Glomerulonephritis

B. Neurogenic bladder

C. Polycystic kidney disease

D. Vesicoureteral reflux

Answer: D

1. Vesicoureteral re□ux is retrograde passage of urine from the bladder back into the ureter and sometimes also into the renal collecting system, depending on severity

2. Children typically present with a history of fetal hydronephrosis or with a UTI or appear as part of a sibling screening. Rarely, children present with hypertension, which is more commonly a long-term consequence of renal scarring. Children with UTI may have fever, abdominal or flank pain, dysuria, frequency, urgency, wetting accidents, or rarely hematuria

Diagnosis

1. Voiding cystourethrography (VCUG) for diagnosis and grading

2. Renal scan for renal size, scarring and function; if scarring, follow creatinine

381. A 5-year old boy brought to the clinic by his parents for difficulty walking, frequent falls and enlarged calves. On physical examination, he is alert and has a slight lordotic posture, a positive Gower's sign, and a Trendelenburg gait. Laboratory studies show elevated CPK. Which of the following tests would be helpful in establishing the diagnosis?

A. Erythrocyte sedimentation rate

B. Infantile Electroencephalogram

C. Muscle biopsy

D. Plain hip x-rays

Answer: C

Duchenne Muscular Dystrophy

1. X- linked recessive disorder (only affects males)

2. Result ing in an absence of dystrophin.

3. Characteristically, there is no inflammation.

4. Muscle weakness is progressive, symmetric, and starts in childhood.

5. Normal newborn, develops waddling, poor head control, difficulty standing or climbing (Gower's Sign), hyper trophic calves (pseudohypertrophy), generally unable to walk after 12 years of age, death in 75% by the age of 20—dilated cardiomyopathy.

6. Serum creatine phosphokinase levels are markedly elevated.

7. Muscle biopsy is diagnostic (DNA testing has now replaced muscle biopsy for diagnosis.)

8. EMG shows characteristic myopathic features.

9. Supportive care and physical therapy.

382. Which of the following is the most common cause of failure to thrive?

A. Constipation

B. Cyclic vomiting syndrome

C. Inadequate calories

D. Vitamin D deficiency

Answer: C

Failure to thrive refers to children whose current weight or rate of weight gain is much lower than that of other children of similar age and gender. Traditionally, causes of FTT have been divided into endogenous and exogenous causes. These causes can be largely grouped into three categories: inadequate caloric intake, inadequate nutrient absorption, and increased metabolism. Initial investigation should consider physical causes, calorie intake, and psychosocial assessment.

Endogenous Causes are due to physical or mental issues with the child itself. It can include various inborn errors of metabolism. Problems with the gastrointestinal system such as gas and acid reflux, are painful conditions which may make the child unwilling to take in sufficient nutrition. Cystic fibrosis, diarrhea, liver disease, anemia or iron deficiency, and coeliac disease make it more difficult for the body to absorb nutrition. Other causes include physical deformities such as cleft palate and tongue tie. Milk allergies can cause endogenous FTT.

Also the metabolism may be raised by parasites, asthma, urinary tract infections, and other fever-inducing infections, hyperthyroidism or congenital heart disease so that it becomes difficult to get in sufficient calories to meet the higher caloric demands. Caused by caregiver's actions. Examples include physical inability to produce enough breastmilk, using only babies' cues to regulate breastfeeding so as to not offer a sufficient number of feeds (sleepy baby syndrome), inability to

procure formula when needed, purposely limiting total caloric intake (often for what the caregiver views as a more aesthetically pleasing child), and not offering sufficient age-appropriate solid foods for babies and toddlers over the age of six months

383. The most effective therapy for tobacco cessation is which of the following?

A. Bupropion

B. Nicotine polacrilex gum

C. Nicotine transdermal patch

D. Varenicline

Answer: D

Tobacco dependence is a chronic disease that often requires pharmacological therapy, but counseling improves the effectiveness of any treatment for this indication. The greater the number of office visits and the longer the counseling time, the higher the smoking cessation rates have been. The most effective drugs available for treatment of tobacco dependence are bupropion (Zyban and others) and varenicline (Chantix). Varenicline appears to be the most effective single drug for treatment of tobacco dependence, but bupropion has been available much longer and is also well tolerated. Bupropion is a dopamine-norepinephrine reuptake inhibitor used mainly for treatment of depression, but it also has some nicotine-receptor-blocking activity.

A partial agonist that binds selectively to α4/β2 nicotinic acetylcholine receptors, it stimulates receptor- mediated activity, relieving cravings and withdrawal symptoms during abstinence. Since varenicline binds to

the α4/β2 receptor with greater a□nity than does nicotine, it also acts as an antagonist to nicotine delivery from active cigarette use, thus reducing the reward of smoking. Both varenicline (Chantix) and bupropion (Zyban and others) are effective in treating tobacco dependence. Varenicline is more effective, but bupropion offers the benefit of mitigating the weight gain that often accompanies smoking cessation. All nicotine-replacement therapies (NRTs) deliver nicotine, which acts as an agonist at the nicotinic acetylcholine receptor, to the CNS in a lower dose and at a substantially slower rate than tobacco cigarettes. All of these products roughly double smoking cessation rates. Nicotine is subject to first-pass metabolism, limiting the effectiveness of oral pill formulations. Nicotine gum, lozenges, and patches are available in the United States without a prescription; these products appear to be as effective as those that require a prescription (the oral inhaler and nasal spray). All of the NRTs appear to be about equally effective, but results may be better with the combination of a patch and a rapid-onset nicotine medication. NRTs should be started 1-4 weeks before the target quit date. The optimum duration of treatment is not clear; 3-6 months is probably the minimum, and some patients may need even longer treatment in order to remain abstinent. All patients who smoke should be encouraged to stop. The physician should always ask about smoking; if the patient does smoke, there should be an attempt by the physician to motivate the patient to stop. Setting a stop date may be helpful, and follow-up is necessary to provide support and reinforce the patient's commitment to stop.

Although not approved for this indication by the FDA, the antihypertensive drug clonidine, an α2-adrenergic agonist available both as tablets (Catapres, and others) and in a patch formulation (Catapres TTS), can be used as a second-line treatment for patients who cannot tolerate or do not wish to use NRTs, bupropion, or varenicline. Clinical trial results have been mixed, but one metaanalysis concluded that clonidine was effective.

384. During delivery of a baby, there was stylomastoid foramen trauma. Which of the following features will be evident when you examine this baby?

A. Loss of eye close

B. Loss of facial sensation

C. Loss of mastication function

D. loss of lateral eye movements

Answer: A

Facial Palsy (Bell's palsy): It is usually due to pressure by the forceps blade on the facial nerve at its exit from the stylomastoid foramen or in its course over the mandibular ramus, It appears within 1-2 days after delivery due to resultant edema and hemorrhage around the nerve.

Manifestations: There is paresis of the facial muscles on the affected side with partially opened eye and flattening of the nasolabial fold. The mouth angle is deviated towards the healthy side. facial paralysis can result in significant disfigurement, having severe implications for both the patient's emotional and physical well-being.

Ophthalmologic consequences include diminished effectiveness of lacrimation, brow ptosis, ectropion, epiphora, and lagophthalmos.

These may lead to corneal damage from exposure keratopathy, potentially proceeding to blindness or even globe rupture.3 4 Loss of muscular support to the nasal valve may lead to nasal obstruction. Ineffective contraction of the perioral musculature can result in insuficient oral competence, poor swallowing function, dysarthria, and ptyalism

385. During a well-child visit for an 18-month-old, you learn that your patient consumes over 1L of whole milk per day. Which of the following recommendations would you include in your counseling?

A. Encourage consumption of foods high in vitamin C

B. Encourage increased intake of red meat, but decreased intake of fish and poultry

C. No recommendations are necessary.

D. Suggest replacement of whole cow's milk with soy milk

Answer: A

Increased intake of whole cow's milk increases the risk of iron deficiency. Recommended milk intake is between 500-700ml/day. It is not necessary to eliminate all whole milk intake. Red meat, as well as fish and poultry, is an iron-rich food and can be encouraged. Vitamin C helps increase iron absorption. As a result, it is important to also encourage consumption of foods high in vitamin C.

386. A 1-month-old female presents with bilious emesis. On evaluation, an upper GI reveals a double-bubble . Which of the following is the most likely diagnosis?

A. Gastroenteritis

B. Intussusception

C. Pyloric stenosis

D. Volvulus

Answer: D

1. Volvulus commonly occurs in association with malrotation, which occurs in 1 in 500 births. Of those with malrotation, volvulus will eventually develop in 75%, and 75% of these cases will present within the first month of life.

2. The presentation is that of a sudden onset of bilious emesis and abdominal distention.

3. Less acute presentations and lack of abdominal distention do not exclude the diagnosis.

4. Abdominal films will show signs of obstruction with air-fluid levels and dilated loops of bowel.

5. The classic finding, also seen in duodenal atresia, is the doublebubble sign, which represents dilation of the stomach and the proximal duodenum.

6. Duodenal atresia presents within the first 24 hours of life and is seen generally in newborn nurseries.

387. 2 month boy present with 2 cm hemangiomaat the back. Which of the following options respresents the most appropriate approach to the management?

A. Close follow up

B. Immediate surgical excision

C. None of the above

D. b-blocker

Answer: A

Infantile hemangiomas are benign vascular neoplasms that have a characteristic clinical course marked by early proliferation and

followed by spontaneous involution. Hemangiomas are themost common tumors of infancy and usually are medically insignificant. The vast majority of infantile hemangiomas do not require any medical or surgical intervention.

Treatment options for clinically significant hemangiomas include the following:

• Laser surgery

• Surgical excision

388. Oral candidiasis can be found in:

A. All of the above

B. Children receiving antibiotics

C. Children with AIDS

D. Children with nutritional deficiencies

E. Infants

Answer: A

Oral thrush is a superficial mucous membrane infection that affects approximately 2-5% of normal neonates. C. albicans is the most commonly isolated species. Oral thrush can develop as early as 7-10 days of age. The use of antibiotics, especially in the 1st yr of life, can lead to recurrent or persistent thrush. Persistent or recurrent thrush with no obvious predisposing reason, such as recent antibiotic treatment, warrants investigation of an underlying immunodeficiency, especially vertically transmitted HIV infection or a primary congenital genetic immune defect.

389. You are called to the neonatal unit to review a 1 day old neonate with bilious vomiting that started 5 hours after birth. Examination reveals a has a scaphoid abdomen. The most likely diagnosis is?

A. Duodenal atresia

B. Intususception

C. Meckles diverticulum

D. Pyloric stenosis

Answer: A

Duodenal atresia is a congenital obstruction of the second portion of the duodenum. Its etiology is believed to be failure of recanalization of this bowel segment during the early gestational stage.Duodenal atresia may result in either a membranous or interrupted-type lesion that is located at the level of the papilla of Vater. In 80 percent of these patients, the papilla of Vater opens into the proximal duodenum, accounting for the bilious nature of the vomiting. Abdominal plain film shows a characteristic “double-bubble” sign, demonstrating the bubbles in the stomach and the dilated proximal duodenum; this confirms the diagnosis. A nasogastric tube should be placed for continuous suction of gastric contents, and intravenous fluid administration should be started. Surgery is required but is not urgent. A 24- to 48-hour delay may be allowed before operation for transport, further evaluation and fluid resuscitation.

390. A 22 year old man presents to you with chronic unilateral nasal obstruction. On examination, a red fleshy mass is seen. Which of the following is most likely diagnosis?

A. Cancer

B. Deviated nasal septum

C. Obstruction of middle meatus

D. Polyp

Answer: D

Nasal polyp is a benign condition of nasal lining in which the polypoid mass hangs down into nasal cavity like teardrops or grapes. They are usually due to chronic inflammatory process i.e. asthma, rhinitis etc. It is a benign condition and does not pose any risk of malignancy.

Deviated nasal septum is due to trauma or some familial predilection in which the the cartilaginous part of bone is deviated towards one side and may cause airway obstruction.

391. A mother with no prenatal care gives birth to a term infant with findings of IUGR, microcephaly, hepatosplenomegaly, thrombocytopenia, and during later testing sensorineural hearing loss and polymicrogyria.

There is no history of cat exposure or raw meat exposure during pregnancy. This presentation is concerning for which congenital infection?

A. Cytomegalovirus (CMV)

B. Hepatitis B

C. Neisseria gonorrhoeae

D. Syphilis

E. Toxoplasmosis

Answer: A

The infant described in the clinical scenario is most consistent with congenital cytomegalovirus infection in its most severe form, cytomegalic inclusion disease. In addition to those findings mentioned above, these patients can have petechiae and purpura ("blueberry mufin" baby—which can also be classically seen in congenital rubella), ventriculomegaly, periventricular calcifications, cerebral atrophy, cortical dysplasia, and chorioretinitis. Congenital syphilis can present with deafness (Hutchinson triad: Hutchinson teeth, interstitial keratitis, and eighth nerve deafness), as well as hepatosplenomegaly, snuffles, lymphadenopathy, pneumonia, rash, and hemolytic anemia within the first 2 months of age. Congenital toxoplasmosis shares many similar features with congenital CMV. Clinical manifestations include microcephaly, chorioretinitis, seizures, rash, hepatosplenomegaly, jaundice, and thrombocytopenia. The majority of infants with congenital hepatitis B infection are asymptomatic. Infants with newborn gonococcal infection usually present with conjunctivitis, bacteremia, arthritis, or meningitis.

392. Which of the following statement is TRUE regarding the stabilization and transport of children?

A. Communication is paramount providing optimal care for acutely ill children and is often a source of misunderstanding.

B. Complex, high-acuity services for children should be distributed evenly throughout the Country in order to simplify transport systems.

C. Consideration of the insurance status is important in the determination of where an acutely ill child should be sent.

D. Only critically ill children require transport by a professional team as all others may be transported by a private vehicle.

E. Telemedicine has been fully incorporated into consultation with large referral centers and is the standard of care.

Answer: A

Specialized care is expensive and there are a limited number of personnel qualified to provide specialized care, which are concentrated at referral centers. Not all transports are of critically ill children; however, it is still preferred to entrust transport to a professional team than impose upon families to assume the risk. Level of care required, cost, distance, and availability of an appropriate transport team help guide the decision. The decision of where to send a patient should be based on perceived acuity and not extraneous considerations such as insurance. In addition, personal reasons for transport must be carefully balanced against risk to the child and team of the transport. Telemedicine is increasingly being used in the consultation of physicians specializing in the care of critically ill children but has not yet become the standard of care. Explicit understanding by both referring and receiving parties of the patient's status, plan of care, and individual responsibilities is necessary. Patient's status may change and frequent communication is necessary by the referral facility and transport team so that the receiving facility may be prepared.

393. 4130-g male infant is born via vaginal delivery after 40 6/7 weeks' gestation. The mother received no prenatal care. In the delivery room, the baby developed mild tachypnea and intercostal retractions. Pulse oximetry from the infant's left foot registers 95%

saturation in room air. Physical examination findings include a flat abdomen and audible bowel sounds over the left side of the infant's chest. Clear breath sounds are noted over the right side of the chest. Heart sounds are best auscultated at the left sterna border. The most appropriate initial step in management of this neonate is:

A. Decompression of the stomach with a nasogastric tube

B. Needle decompression of the right hemithorax

C. Positive pressure ventilation using a bag and mask

D. Positive pressure ventilation with a T-piece resuscitator

E. Transillumination of the right hemithorax

Answer: A

The neonate has physical examination findings consistent with a congenital diaphragmatic hernia (CDH). This is a rare condition with an overall incidence of 1 in 2500 births. The large majority of cases are detected by routine prenatal ultrasound. The majority of CDHs (roughly 85%) occur on the left side through a posteriolateral defect (Bochdalek hernia). Infants with CDH develop respiratory failure due to pulmonary hypoplasia (decreased lung volume on the affected side) and pulmonary hypertension (due to abnormal pulmonary vascular development). Other examination findings include a scaphoid abdomen (due to displacement of the peritoneal contents into the thorax) and displacement of the heart to the midline. Initial management involves decompression of the stomach with a nasogastric tube (to reduce gastric distention impacting thoracic and mediastinal contents [heart and great vessels]). Subsequent respiratory management should include endotracheal intubation. Positive pressure ventilation with a Tpiece resuscitator (a flow-controlled resuscitation device with adjustable peak inspiratory and positive end-expiratory pressures) or a bag and mask will insuflate the stomach and may impair respiratory function. Transillumination or needle decompression of a normal right hemithorax is not indicated in this case.

394. Which of the following conditions is associated with sudden facial swelling and stridor with the absence of pruritus and urticaria?

A. Allergic Contact Dermatitis

B. Erythema Multiforme

C. Hereditary angioedema

D. Insect bite

Answer: C

1. Hereditary angioedema (HAE) is a rare autosomal dominant disorder.

2. Characterized by recurrent episodes of well-demarcated angioedema without urticaria, which most often affect the skin or mucosal tissues of the upper respiratory and gastrointestinal tracts.

3. Although swelling resolves spontaneously in two to four days in the absence of treatment, laryngeal edema may cause fatal asphyxiation, and the pain of gastrointestinal attacks may be incapacitating.

4. The most common forms of HAE (types I and II) are caused by deficiency or dysfunction in C1 inhibitor (C1INH).

5. Usually present in childhood or adolescence with a mean age at onset between 8 and 12 years

6. Laryngeal edema that may lead to death by asphyxiation.

7. The swelling can occur anywhere on the body, including lips, eyelids, hands, feet, and genitals.

8. The swelling usually develops over the course of 24 h and then resolves spontaneously in the next 24−36 h.

395. With regard to the inheritance of genetic conditions,the concept of penetrance refers to the

A. clinical diagnosis assigned when more than one condition is caused by mutations in the relevant gene (ie, allelic conditions)

B. degree of variation or severity among people who express the phenotype

C. incidence of familial cases as compared to cases caused by de novo genetic mutation

D. percentage of affected individuals within a given generation of a family

E. proportion of individuals with the genotype who manifest any part of the phenotype

Answer: E

This is the definition of penetrance. Answer b is the definition of

expressivity. The other statements are not standard definitions of

common terms.

396. When a 7-yr-old child fails to cooperate with care in the hospital, one should suspect:

A. Defiance

B. Embarrassment

C. Fearfulness

D. Immaturity

Answer: C

Children may be frightened and react to fear with a personal manner of withdrawal or poor cooperation.

397. A patient with enlarged thyroid underwent open surgery and came out of anesthesia. 1 day after surgery, he has hoarseness of . When he went to the washroom, he became short of breath. Which of the following nerve is likely to be injured?

A. Internal laryngeal nerve

B. Recurrent laryngeal nerve

C. Superior laryngeal nerve

D. Vagus nerve

Answer: B

Injury to the recurrent laryngeal nerves can result in a weakened voice (hoarseness) or loss of voice (aphonia) and cause problems in the respiratory tract. Injury to the nerve may paralyze the posterior cricoarytenoid muscle on the same side. This is the sole muscle responsible for opening the vocal cords, and paralysis may cause difficulty breathing (dyspnea) during physical activity. Injury to both the right and left nerve may result in more serious damage, such as the

inability to speak A superior laryngeal nerve palsy changes the pitch of the voice. Damage to the superior laryngeal nerve leaves the vocal cord abducted and poses an aspiration risk. It can be injured in surgery involving the removal of the thyroid gland (thyroidectomy). It is present deep to superior thyroid artery. It has two branches i.e. external laryngeal nerve (motor) and internal laryngeal nerve (sensory supply).

398. Which of the following is the first sign of sexual development in girls?

A. Axillary hair

B. Breast buds

C. Pubic hair

D. enstruation

Answer: B

Patterns of sexual development in girls :

1. Breast buds (Breast development)

2. Pubic hair

3. Growth spurt

4. Menarche

Patterns of sexual development in boys :

1. Testicular enlargement and thinning of scrotal skin

2. Pubic hair

3. axillary and facial hair, voice changes

4. Growth spurt

399. A 5-year old boy brought to the clinic by his parents for difficulty walking, frequent falls and enlarged calves. On physical examination, he is alert and has a slight lordotic posture, a positive Gower's sign, and a Trendelenburg gait. Laboratory studiesÂshow elevated CPK. Which of the following tests would be helpful in establishing the diagnosis?

A. Erythrocyte sedimentation rate

B. InfantileÂElectroencephalogram

C. Muscle biopsy

D. Plain hip x-rays

Answer: C

Duchenne Muscular Dystrophy

1. **X- linked recessive disorder** (only affects males)

2. Resulting in an **absence of dystrophin.**

3. Characteristically, there is **no inflammation.**

4. Muscle weakness is **progressive**, **symmetric**, and starts in childhood.

5. Normal newborn, develops waddling, poor head control, difficulty standing or climbing (**Gowers Sign**), hyper trophic calves (**pseudohypertrophy**), generally unable to walk after 12 years of age, death in 75% by the age of 20â€”dilated cardiomyopathy.

6. Serum creatine phosphokinase levels are markedly **elevated**.

7. **Muscle biopsy is diagnostic** (DNA testing has now replaced muscle biopsy for diagnosis.)

8. **EMG** shows characteristic myopathic features.

9. **Supportive care** and physical therapy.

400. Cardiovascular examination of a hypertensive 18-year-old girl revealed radio femoral delay?Which of the following is the most likely cause of hypertension in this patient?

A. Coarctation of the aorta

B. Conn's syndrome

C. Dissecting aortic aneurysm

D. Renal artery stenosis

Answer: A

The commonest cause of hypertension in children is secondary hypertension. This form of hypertension affects approximately 10% of young hypertensives.The probability of secondary hypertension is inversely proportional to the age of the patient (i.e. higher in a schoolgoing child, but lower in a young adult). Radio-femoral delay is suggestive of coarctation of the aorta as a secondary cause. Native coarctation of the aorta has the prevalence of 5–8% [2] this involves stenosis of the distal part of the aortic arch after the bifurcation of the left subclavian artery at the level of the ductus arteriosus, resulting in raised blood pressure at the upper limbs.

401. All of the following may be diagnostic of HIV infection in a 1-year-old child EXCEPT:

A. Positive HIV Western immunoblot assay

B. Positive result on HIV DNA assay

C. Positive result on HIV RNA assay

D. Positive result on p24 antigen assay

Answer: A

Serologic diagnosis of HIV infection by ELISA and Western immunoblot analysis (Antibody based) is reliable only after 18 months of age. Before this age, residual maternal antibodies acquired trans-placentally may be responsible for the positive serologic test results. All the other tests are antigen based tests which if positive is diagnostic.

402. A 50 year old man presented with recent sinusitis, allergic rhinitis and has now involvement of nerve. Malignancy of maxillary sinus was considered. What is the most common paranasal sinus that has highest chance to be malignant?

A. Ethmoidal

B. Frontal

C. Maxillary

D. Sphenoidal

Answer: C

Maxillary sinus is 70% involved in malignancy possibly due greater turnover rate and increased recurrent infections.

403. A newborn baby is found to be tachypneic and cyanotic. The abdomen is scaphoid, bowel sounds heard over the left chest. Which of the following is the most likely diagnosis?

A. Congenital diaphragmatic hernia

B. Intussusception

C. Meckel diverticulum

D. Tracheoesophageal fistula

Answer: A

Congenital diaphragmatic hernia

1. GI tract segments protrude through the diaphragm into the thorax; 90% are posterior left (Bochdalek).

2. Presentation: Respiratory distress (from pulmonary hypoplasia and pulmonary hypertension); sunken abdomen; bowel sounds over the left hemithorax.

3. Diagnosis: Ultrasound in utero; confirmed by postnatal CXR.

4. Treatment: High-frequency ventilation or extracorporeal membrane oxygenation to manage pulmonary hypertension; surgical repair.

404. Which of the following is the most common cause of infant botulism?

A. Eggs

B. Fruit

C. Milk

D. Raw honey

Answer: D

Infant botulism

1. Ingestion of honey or exposure to soils increases the risk

2. Age between 3 weeks and 6 months

3. Symptoms develop 3–30 days from the time of exposure

4.The most common cause of infant botulism is eating honey or corn

syrup, or using paci□ers that have been coated with contaminated honey.

5.Clostridium botulinum can be found normally in the stool of some infants.

Clinical presentation

1. Constipation usually is the initial □nding

2. Feeding difficulty is a common presenting symptoms

3. Hypotonia

4. Increased drooling

5. Weak cry

6. Truncal weakness

7. Cranial nerve palsies

8. Generalized weakness with ventilatory failure

Treatment of infant botulism

1. Botulism immune globulin (BIG) IV should be started as early as possible if clinically suspected.

2. No antibiotics.

405. A 4-day-old term neonate with congenital pneumonia is being mechanically ventilated for respiratory failure. He is ventilated using the synchronized intermittent mandatory ventilation (SIMV) mode. His settings are: Positive inspiratory pressure—19 mm Hg Positive end-expiratory pressure—5 mm Hg, Rate—25 breaths/min For the past several hours you notice that the ventilator is displaying wide variability in measured tidal volumes. His most recent arterial blood gas shows a pH of 7.5 and p co 2 of 30 mm Hg. On the same ventilator settings, the previous arterial blood gas had a pH of 7.3 and p co 2 of 51 mm Hg. What is the most appropriate next step in the management of this patient?

A. Add pressure support of 10 mm Hg to his current ventilator settings.

B. Change the mode to assist control ventilation.

C. Change the mode to high-frequency oscillation ventilation

D. Change the mode to intermittent mandatory ventilation.

E. Change the mode to volume-targeted ventilation.

Answer: E

The infant has lung injury secondary to congenital pneumonia. As his pulmonary infection resolves, his lung compliance changes, leading to variable tidal volumes despite stable ventilator settings. With pressurelimited ventilation, the volume of gas delivered depends on the underlying lung compliance (ie, highly compliant lungs will receive a

greater volume of gas at a given pressure). Volumetargeted ventilation attempts to deliver consistent volumes of gas into the lungs despite changing lung compliance. For example, if lung compliance abruptly increases, the ventilator will maintain the same inhaled volume of gas by reducing the pressure used during inspiration. Intermittent mandatory ventilation, high-frequency oscillation, and pressure support all are forms of pressure-limited ventilation that would not be able to respond to changes in lung compliance.

406. The respiratory chain is the terminal pathway of mitochondrial metabolism, where most energy is produced as adenosine triphosphate (ATP). Which statement best describes mitochondrial genetics?

A. A male carrying a mitochondrial point mutation will transmit it to all his progeny

B. At cell division the proportion of mutant mitochondrial DNA in daughter cells always remains constant

C. At fertilization, all mitochondrial DNA is derived from the oocyte

D. Each cell contains 2–10 copies of mitochondrial DNA which distribute randomly among daughter cells at cell division

E. The rules of mitochondrial genetics are the same as the rules of Mendelian genetics

Answer: D

The rules of mitochondrial genetics differ from those of Mendelian genetics in the following ways. Each cell contains hundreds of thousands (not 2–10) of copies of mitochondrial DNA which distribute randomly among daughter cells at cell division. In normal tissues, all mtDNA molecules are identical (homoplasmy). Most deleterious

mtDNA mutations affect some, not all mtDNA within a cell, tissue, or individual (heteroplasmy). The clinical expression is determined by the relative proportion of normal and mutant mtDNA. A minimum critical number of mtDNA is required to cause mitochondrial dysfunction (threshold affect). At cell division the proportion of mutant mitochondrial DNA in daughter cells may shift and change the phenotype (mitotic segregation). At fertilization, all mitochondrial DNA derives from the oocyte. A mother carrying a mitochondrial point mutation will transmit it to all her children, male and female. But only her daughters will transmit it to their progeny.

407. A 6-year-old child presents with intermittent fevers up to 40 C for the past week including chills and sweats with occasional nausea. He recently visited his grandparents in southern New England during the summer. The area is endemic with deer ticks. The parents have been treating the child with antipyretics. The patient denies headache symptoms and during periods without fever says he feels much better. No rash is reported. In addition, no tick bite is reported. You recommend the following:

A. Immediate treatment with amoxicillin.

B. Immediate treatment with doxycyline.

C. Supportive care with antipyretics.

D. Testing for Lyme disease is clinically indicated.

E. Testing for babesiosis is clinically indicated.

Answer: E

The patient has recently returned from an area endemic with both Lyme disease and babesiosis. Because of the absence of particular symptoms supporting Lyme disease such as rash, arthritis, and facial nerve palsy,

there is a low pretest probability that the serologic tests will be of use. A much more likely diagnosis is that of babesiosis, a malaria-like illness transmitted by the ixodid tick (which is rarely recalled as being seen on history taking). Symptoms of intermittent fevers, along with chills, sweats, myalgia, arthralgia, nausea, and vomiting, support the diagnosis. Testing consists of Giemsa-stained thin blood smears or PCR and serology tests. Supportive care alone with antipyretics is not appropriate for this patient. Treatment for babesiosis is a combination of atovaquone and azithromycin. Empiric treatment with amoxicillin is not recommended without a clear diagnosis but could be used to treat Lyme disease. Immediate treatment with doxycyline would be appropriate if Rocky Mountain spotted fever were high onthe differential, but the fact that the patient has had a week of fevers without rash and he reports no headache makes the diagnosis less likely. Nonetheless, RMSF should be kept on the differential and treatment with doxycycline should be given if the patient's condition were to change or worsen.

408. 5 months old infant his parents were not able to bring him for his 4 months vaccination. What will you do?

A. Arrange for 4 months vaccination

B. Continue with next vaccination without giving the missed vaccination

C. Give missed vaccination and next appointment

D. Give vaccine together during next appointment

Answer: C

For most vaccines, it is never too late to catch up on missed shots. Children who missed their first shots at 2 months of age can start later.

Children who have gotten some of their shots and then fallen behind schedule can catch up without having to start over.

409. Nasal polyps in children are:

A. Associated with allergic rhinitis

B. Common in infancy

C. Never found to arise in the ethmoid sinus

D. Seen only in children with cystic fibrosis

Answer: A

Although cystic fibrosis is a common cause of nasal polyps, especially in children younger than 12 yr, it is also seen with other conditions such as allergies

410. 17-yr-old girl taking oral contraceptives presents with headache, nausea, and vomiting. Physical examination reveals papilledema. The most appropriate action is:

A. Discontinue the oral contraceptives and administer promethazine (Phenergan) as needed for nausea and vomiting

B. Papilledema constitutes a neurologic emergency. Neuroimaging should be performed, and if no intracranial masses are found, a lumbar puncture for determination of cerebrospinal fluid pressure should be performed. This patient may have pseudotumor cerebri.

C. Perform computed tomography (CT) or magnetic resonance imaging (MRI) study of the head

D. Perform lumbar puncture for determination of cerebrospinal fluid pressure

Answer: C

Papilledema constitutes a neurologic emergency. Neuroimaging should be performed, and if no intracranial masses are found, a lumbar puncture for determination of cerebrospinal fluid pressure should be performed. This patient may have pseudotumor cerebri.

411. The number of descendants produced by a person possessing a given genotype or phenotype is a description of that person's:

A. Fertility

B. Fitness

C. Genetic drift

D. Reproducibility

E. Zygosity

Answer: B

This is the definition of fitness. Fertility is the ability to become or father a pregnancy during a particular menstrual cycle. Genetic drift refers to population-level random fluctuations in gene frequencies from generation to generation. Reproducibility is the ability to recreate a particular outcome or set of outcomes in an experiment. Zygosity is the way that multiple gestations are defined.

412. A newborn baby is noted to have torticollis, with his head tilted to the left and chin rotated to the right.Which of the following features would be most consistent with congenital muscular torticollis?

A. A tight sternocleidomastoid muscle on the left

B. A tight sternocleidomastoid muscle on the right

C. Cesarean section delivery

D. History of polyhydramnios

E. Inability to move to chin to midline

Answer: A

In congenital torticollis, the contracture of the SCM muscle leads to "overpull" and tilting of the head to the side of the contracture. This results in rotation of the chin to the contralateral side. While the muscle tightness may cause the inability to bring the chin to midline, congenital muscle torticollis is not the only disease to lead to this problem. In the absence of a palpable olive indicating SCM contracture, one must also consider other causes of torticollis, including congenital cervical vertebral abnormalities or rotatory subluxation of the atlantoaxial junction. Like other congenital contractures, torticollis is associated with a tight space in utero, such as is seen in breech presentations or with oligohydramnios. Cesarean section, while sometimes necessary with breech presentations, is not itself a cause of torticollis. Treatment includes stretching exercises and other strategies to encourage the infant to turn away from the affected side.

413. Minimum age to give influenza vaccine?

A. 12 months

B. 3 months

C. 6 months

D. 9 months

Answer: C

Children younger than 6 months of age should not be vaccinated.

414. A 5-month old boy brought to the physician by his mother with highgrade fever , cough, runny nose, tachypnea and wheezing. His pulse oximetry is 92 %. Which of the following is the most likely diagnosis?

A. Acute asthma

B. Acute bronchiolitis

C. Epiglottitis

D. Pneumonia

Answer: B

Acute Bronchiolitis

1. Bronchiolitis is an acute in□ammatory injury of the bronchioles that is usually caused by a viral infection

2. Viral bronchiolitis is the most common lower respiratory tract infection in infants and children who are 2 years of age and younger.

3. **Respiratory syncytial virus (RSV) responsible for more than 50 % of acute bronchiolitis.**

4. **It presents with** fever, rhinorrhea, cough, and mild respiratory distress.

5. **Examination** reveals tachypnea, wheezing, intercostal retractions, crack- les, prolonged expiration, and hyperresonance to percussion.

6. **Best initial test**: Chest x-ray

7. **Treatment**: Supportive

415. Based on a screening transcranial Doppler, it is determined that your patient with sickle cell disease is at high risk for stroke. You are counseling the family on starting chronic transfusion therapy. After hearing of the risk of iron overload, the parents ask you to anticipate when he will need to start chelation therapy. You tell them chelation will start:

A. After he has received approximately 200 mL/kg of PRBCs

B. As soon as he starts the transfusions

C. As soon as his ferritin is above the normal range

D. Only if he has the mutations for hereditary hemochromatosis

E. Only if he shows symptoms of iron overload

Answer: A

Because there is no physiologic mechanism for iron excretion, patients on chronic transfusion regimens inevitably develop iron overload, whether or not they have a genetic predisposition. However, chelation starts only after su□cient chelatable iron has accumulated, which usually occurs after approximately 200 mL/kg of PRBCs. The goal of chelation is to prevent the organ damage that gives rise to the symptoms of iron overload. These include endocrinopathies, cardiac dysfunction, and liver dysfunction. While ferritin is used to monitor the iron stores, it is not a precise measure as it fluctuates with inflammation

as well. Hence, while it is useful to monitor trends, it should only be used in conjunction with more precise quantitation by liver biopsy or radiologic imaging methods.

416. A 58-year-old secretary presents with asthenia and hyperpigmented changes on her elbows and inner cheek. She also has noted her blood pressure is low and she is dizzy when she stands. She has lost 10 pounds and has some nausea but no vomiting. A recent test for coccidioidomycosis was positive. Appropriate testing at this time includes

A. ACTH stimulation test

B. CT of the abdomen

C. Colonoscopy

D. Esophagoduodenoscopy

E. Glucose tolerance test

Answer: A

Addison's disease results from a progressive destruction of the adrenal glands, which must involve the majority of the glands before adrenal insufficiency appears. The adrenal is a frequent site for chronic granulomatous diseases, predominantly tuberculosis but also histoplasmosis, coccidioidomycosis, and cryptococcosis. Although infection with tuberculosis at one time was the most common cause of Addison's disease, now the most frequent cause is ideopathic atrophy, related to an autoimmune mechanism. Adrenocortical insufficiency caused by gradual adrenal destruction is characterized by a gradual onset of fatigability, weakness, anorexia, nausea and vomiting, weight loss, skin and mucous membrane pigmentation, hypotension, and in some cases hypoglycemia depending on the duration and degree of

adrenal insufficiency. The manifestations vary from mild chronic fatigue to lifethreatening shock associated with acute destruction of the glands.

Asthenia is the major presenting symptom. Early in the course, it may be sporadic, occurring at times of stress. Late in the course, the patient is continuously fatigued. Hyperpigmentation can occur. It commonly appears as a diffuse brown, tan, or bronze darkening of parts such as the elbows or creases of the hand and pigmented areas such as the areolae around the nipples. Bluish-black patches may appear on the mucous membranes. Some patients develop dark freckles, and a persistent tan following sun exposure can occur. Hypotension with orthostasis is frequent, and blood pressure may be in the range of 80/50 mm Hg or less. Abnormalities of the gastrointestinal tract are often the presenting complaint. Symptoms include anorexia with weight loss to severe nausea, vomiting, diarrhea, and vague and sometimes severe abdominal pain. Patients may also exhibit personality changes, usually consisting of excessive irritability and restlessness. Axillary and pubic hair may be decreased in women due to loss of adrenal androgens. The diagnosis of adrenal insufficiency is made with the ACTH stimulation testing to assess adrenal reserve capacity for steroid production. The best screening test is the cortisol response 60 minutes after cosyntropin is given intramuscularly or intravenously. Cortisol levels should increase appropriately. If the response is abnormal, then primary and secondary adrenal insuficiency can be distinguished by measuring aldosterone levels from the same blood samples. In secondary, but not primary, adrenal insuficiency, the aldosterone level is normal. In primary adrenal insuficiency, plasma ACTH and associated peptides are elevated because of loss of the usual cortisol–hypothalamic–pituitary feedback loop, whereas in secondary adrenal insufficiency, plasma ACTH values are low or “inappropriately” normal.

417. A parent bring their child after at 3 am in the morning. The child has a barking cough, dyspnea, fever & inspiratory stridor. sp

o2 = 2% on room air. which of the following symptoms are of concern?

A. Barking cough

B. Blue color of lips

C. Expiratory stridor

D. Flairing of ala nasi.

Answer: B

The severity of upper airways obstruction is best assessed clinically by the degree of chest retraction (none, only on crying, at rest) and degree of stridor (none, only on crying, at rest or biphasic). Severe obstruction leads to increasing respiratory rate, heart rate and agitation. Central cyanosis or drowsiness indicates severe hypoxaemia and the need for urgent intervention – the most reliable objective measure of hypoxaemia is by measuring the oxygen saturation by pulse oximetry.

418. An 8-month-old infant is brought to your office for diaper rash. On examination, the infanterythematous diaper dermatitis that has a sharply demarcated edge. In addition, there were numerous satellite lesions on the lower abdomen and thighs.Which of the following is the topical treatment of choice?

A. Antibiotic

B. Antifungal

C. Antihistamine

D. Corticosteroid

Answer: B

Candida diaper rash is usually seen as redness and swelling in and around the creases of the legs, bottom, testicles and vulva rather than around the diaper lines like irritant diaper rash. Candida dermatitis classically has “satellite lesions” where there are small round spots of rash located near the main, large rash. If candidal infection is suspected, topical ointments or creams, such as nystatin, clotrimazole, miconazole, or ketoconazole can be applied to the rash with every diaper change.

419. When comparing Bell’s palsy with a CNS lesion (e.g., stroke, tumor), the distinguishing feature of Bell’s palsy is

A. Involvement of the extremities

B. Involvement of the forehead muscles

C. Lack of involvement below the eyes

D. Slurred speech

Answer: B

Bell’s palsy is characterized by a sudden onset of unilateral facial paralysis. It is thought to be the result of an infection (usually viral) affecting the facial nerve, which involves compression of the nerve within the temporal bone. Symptoms usually develop as pain behind the ear preceding the facial paralysis. In some cases, the patient cannot close the affected eye because of widening of the palpebral fissures. In 80% to 90% of cases, the physical findings resolve completely within weeks to months after onset; however, in some isolated cases, permanent deficits may occur. The distinguishing feature between Bell’s palsy and CNS lesions (e.g., strokes, tumors) is that Bell’s palsy involves the entire face (including muscles of the forehead), whereas CNS lesions tend to affect the face below the eyes and other areas

including the arms and legs. Treatment involves the use of steroids, but they are somewhat controversial and are of questionable proven benefit. If the patient has difficulty closing the affected eye, it should be patched for protection against excessive drying.

420. A 14-year-old boy seen in your clinic has a history of Wilson disease. Which of the following tissues may accumulate excessive copper if the disease is left inadequately treated?

A. Brain

B. Ovaries

C. Pancreas

D. Salivary glands

E. Skeletal system

Answer: E

Wilson disease is a metal metabolism disorder characterized by excessive copper deposition in the liver, brain, kidneys, and eyes. Patients with Wilson disease may suffer from arthralgias and osteoarthritis but do not typically develop copper deposition in the bones, pancreas, ovaries, or salivary glands. Infants with neonatal iron storage disease typically have excessive iron deposition in the liver, heart, pancreas, and salivary glands. Patients with hereditary hemochromatosis may present with amenorrhea but do not have excessive iron deposition in the ovaries.

421. Which of the following is associated with sickle cell disease?

A. Acanthocyte

B. Bite cells

C. Howell-Jolly bodies

D. Spherocytosis

Answer: C

Sickle cell disease

1. Sickle cell disease is an autosomal recessive disorder.

2. Sickle cell disease is characterized by chronic hemolysis of sickled cells, leading to a high RBC turnover and anemia.

3. Painful crises are the most common manifestation of sickle cell anemia.

4. Dactylitis may be the initial presentation that warrants further workup for sickle cell disease.

5. Sickle cell disease can cause childhood stroke.

6. Howell-Jolly bodies (Seen in patients with functional hyposplenia or asplenia) are nuclear remnants within RBCs typically removed by the spleen. They appear in blood smear as single, round blue inclusions on Wright stain.

422. A former 32-week-infant, who is now 13 days old in the NICU, presents with temperature instability, apnea, and increased residuals for nasogastric feedings. Blood culture at 24 hours is positive for enteroccocci species. The infant's bilirubin level peaked at 9 mg/dL at 5 days of age and he does not appear jaundiced.

What is the most likely underlying condition present in this patient?

A. Agammaglobulinemia

B. Biliary atresia

C. Breast milk jaundice

D. Galactosemia

E. Necrotizing enterocolitis

Answer: E

Enterococci normally inhabit the bowel and approximately half of newborn infants have acquired colonization by 1 week of age. Infections associated with enterococci include polymicrobial abdominal infections, urinary tract infection (UTI), device-associated infections, and bacteremia or sepsis. Intestinal perforation such as ruptured appendix or necrotizing enterocolitis may lead to enterococcal infection. The infant's history is consistent with normal physiologic jaundice and breast milk jaundice is not consistent with the examination. In addition, breast milk jaundice is not associated with enterococcal infection. Biliary atresia is unlikely without jaundice. Galactosemia is associated with E. coli infections.

423. A 6-year-old boy presents to the emergency room complaining of nausea and a new-onset rash that developed shortly after ingesting a peanut. Which of the following antibodies is most likely responsible for the type of reaction this boy is now experiencing ?

A. IgA

B. IgD

C. IgE

D. IgG

Answer: C

The traditional classification for hypersensitivity reactions is that of Gell and Coombs and is currently the most commonly known classification system. [1] It divides the hypersensitivity reactions into the following 4 types: Type I reactions (ie, immediate hypersensitivity reactions) involve immunoglobulin E (IgE)–mediated release of histamine and other mediators from mast cells and basophils. [2] Examples include anaphylaxis and allergic rhinoconjunctivitis. Type II reactions (ie, cytotoxic hypersensitivity reactions) involve immunoglobulin G or immunoglobulin M antibodies bound to cell surface antigens, with subsequent complement fixation. An example is drug-induced hemolytic anemia. Type III reactions (ie, immune-complex reactions) involve circulating antigen-antibody immune complexes that deposit in postcapillary venules, with subsequent complement fixation. An example is serum sickness. Type IV reactions (ie, delayed hypersensitivity reactions, cell-mediated immunity) are mediated by T cells rather than by antibodies. An example is contact dermatitis from poison ivy or nickel allergy. Some authors believe this classification system may be too general and favor a more recent classification system proposed by Sell et al.

424. A 5-yr-old girl with a history of heart transplant presents with nausea and severe intermittent abdominal pain. CT scan is consistent with ileocolic intussusception. The next step in her care is:

A. Enteroclysis

B. Hydrostatic reduction in radiology

C. Pain medication and observation in the hospital

D. Surgical exploration

Answer: D

patient had cmv-colitis associated with intususseption.

Intussusception is one of the most common causes of intra-abdominal emergencies in children.In cases where patients present with advanced peritonitis, or when bowel perforation is suspected, contrast reduction is contraindicated. In these cases, immediate operativ reduction and/or resection are mandated.

425. A 4 year old child with decreased in head growth, has weird hand movements (wringing), lost expressive end receptive language skills and lost his interest in his social environment. What is the diagnosis?

A. Asperger's syndrome

B. Autism

C. Mental retardation

D. Rett syndrome

Answer: D

Symptoms include small hands and feet and a deceleration of the rate of head growth (including microcephaly). Repetitive stereotyped hand movements, such as wringing and/or repeatedly putting hands into the mouth, are also noted. People with Rett syndrome are prone to gastrointestinal disorders and up to 80% have seizures.

426. Which of the following statement is False regarding an impending Eisenmenger?

A. Appearance of graham steel murmur

B. Increased intensity P2

C. Increasing intensity of tricuspid & pulmonary murmur

D. Normalization of size of left ventricle and right ventricle

Answer: D

Ans:Normalisation of size of left ventricle and right ventricle

Eisenmenger's syndrome:

1. Symptoms do not usually develop until the 2nd or 3rd decade of life, although a more fulminant course may occur.

2. Many patients survive for decades with minimal symptoms. Intracardiac or extracardiac communications that would normally shunt from left to right are converted to right-to-left shunting as pulmonary vascular resistance exceeds systemic vascular resistance.

3. Cyanosis becomes apparent, and dyspnea, fatigue, and a tendency toward dysrhythmias begin to occur. In the late stages of the disease, heart failure, chest pain, headaches, syncope, and hemoptysis may be seen.

4. Physical examination reveals a right ventricular heave and a narrowly split 2nd heart sound with a loud pulmonic component.

5. Palpable pulmonary artery pulsation may be present at the left upper sternal border.

6. A holosystolic murmur of tricuspid regurgitation may be audible along the left sternal border. 7. An early decrescendo diastolic murmur of pulmonary insufficiency (graham steel murmur) may also be heard along the left sternal border. The degree of cyanosis depends on the stage of the disease.

Diagnosis:

1. Cyanotic patients have various degrees of polycythemia that depend on the severity and duration of hypoxia.

2. Roentgenographically, the heart varies in size from normal to greatly enlarged; the latter usually occurs late in the course of the disease.

3. The main pulmonary artery is generally prominent, similar to primary pulmonary hypertension.

4. The pulmonary vessels are enlarged in the hilar areas and taper rapidly in caliber in the peripheral branches. The right ventricle and atrium are prominent.

5. The electrocardiogram shows marked right ventricular hypertrophy. The P wave may be tall and spiked.

6. The echocardiogram shows a thick-walled right ventricle and demonstrates the underlying congenital heart lesion.

7. Two-dimensional echocardiography assists in eliminating from consideration lesions such as obstructed pulmonary veins, a supramitral membrane, and mitral stenosis.

8. The pulmonary valve echocardiogram shows a characteristic early midsystolic closure, the “W sign.”

9. Doppler studies demonstrate the direction of the shunt and the presence of a typical hypertension waveform in the main pulmonary artery.

10. Tricuspid and pulmonary regurgitation can be used in the Doppler examination to estimate pulmonary arterial pressure.

427. A 16-year-old boy has a 1-day history of pain in the right ear. He swims every morning. The right ear canal is red and swollen. He has pain when the auricle is pulled or the tragus is pushed. Which of the following is the most likely diagnosis ?

A. Acute otitis media.

B. Bullous myringitis.

C. Chronic otitis media.

D. External otitis.

E. Mastoiditis.

Answer: D

This is typical presentation of otitis externa. Pulling the tragus elicit pain due to traction on the external ear. There is no pain on traction in otitis media (middle ear infection) or inner ear pathology.

428. 18 month old child took Hib, MMRV, and PCV13 vaccine one week ago. He came for HAV but was not available. When to give HAV?

A. After 1 week

B. After 3 weeks

C. After 7 weeks

D. Immediately

Answer: D

According to CDC, people recommended for vaccination include • All children at age 1 year (12-23 months). Children who have not received the 2nd dose by age 2 years should be vaccinated as soon as feasible. Additionally, hepatitis A vaccine is recommended for children older than 23 months who live in areas where vaccination programs target older children, or who are at increased risk for infection, or for whom immunity against hepatitis A is desired.

429. A patient with juvenile rheumatoid arthritis is found to be mildly anemic, with a hemoglobin of 10.5 g/dL. His iron studies show normal transferrin saturation and an elevated ferritin level. You suspect that he has anemia of chronic disease. Which of the following is likely to have contributed to his anemia?

A. Decreased hepcidin levels

B. Decreased intestinal iron absorption

C. Enhanced release of iron from macrophages

D. Increased ferroportin expression

E. Increased renal iron excretion

Answer: B

Anemia of chronic disease is multifactorial and likely due to impaired iron mobilization and decreased intestinal absorption of iron. The anemia is usually mild to moderate, normocytic, and normochromic. Serum iron levels are low, but transferrin saturation is normal and serum ferritin is typically elevated due to the inflammatory state.

Additionally, in anemia of chronic inflammation, production of hepcidin, a peptide hormone synthesized by the liver, is increased. Hepcidin acts as a negative regulator of iron release by acting to decrease ferroportin expression. As ferroportin is required for both intestinal transport of iron and macrophage release of iron, the decrease in ferroportin leads to decreased iron absorption and decreased release of iron from macrophage stores. Humans do not have a mechanism of active iron excretion.

430. Which of the following nutritional factors is least helpful in preventing later bone loss?

A. A high peak bone density in the third decade of life

B. High cow's milk intake

C. High green vegetable intake

D. High intake of phosphates

Answer: D

high peak bone density is inversely related to the risk of later osteoporosis. Foods with high calcium to phosphorus ratio prevent bone loss. As a result, green vegetables, human milk, and cow's milk have a high Ca:P ratio and prevent later bone loss. Foods high in phosphates are associated with bone loss.

431. During examination of an 8-mo-old child, the difficulty of optimal chest auscultation is due primarily to:

A. Rapid respiratory rate

B. Recent meal with gastric distention

C. Stranger anxiety

D. Transmitted nasal sounds

Answer: C

Crying makes the chest physical examination almost impossible, except for detection of the grossest abnormalities,. If at all possible, the chest auscultation should be preceded by observation and then performed in the sleeping, calm, nursing, or feeding infant.

432. A 3.5-kg girl is delivered by spontaneous vaginal delivery, with Apgar scores of 2 and 3. Respiratory distress is apparent in the delivery room, with diminished breath sounds on the left and heart tones displaced to the right. The abdomen is scaphoid. The most appropriate next step in treatment is to:

A. Administer sodium bicarbonate, 3.5 mEq

B. Perform emergency laparotomy

C. Perform endotracheal intubation

D. Perform left tube thoracostomy

Answer: C

This is a classic presentation for a left-sided diaphragmatic hernia. This infant needs to be resuscitated immediately and have the airway protected and ventilation begun. Mask-bag ventilation would increase gas in the intestines, which could increase the mass effect in the left thorax. Therefore, immediate endotracheal intubation is indicated. Sodium bicarbonate and laparatomy are not immediately required.

433. What is the location of pathology in sensorineural hearing loss?

A. External ear

B. Hair cells

C. Middle ear

D. Vestibular system

Answer: B

Sensorineural hearing loss has defect in hair cells which detect the higher frequencies of sound waves and convert them into electrical current. Conductive hearing loss is defect in the external ear due to wax impaction. Middle ear problem cause poor transmission of sound of all the frequencies. Vestibular system problem results in balance problem and vertigo.

434. A 6-year-old boy is diagnosed with primary nocturnal enuresis. Which of the following methods is used in the management of nocturnal enuresis?

A. All of the above

B. Bed-wetting alarms

C. Desmopressin

D. Positive reinforcement

Answer: A

Enuresis is defined as repeated, spontaneous voiding of urine during sleep in a child five years or older.Preliminary management focusing on behavioral modification and positive reinforcement is often helpful. The only therapies that have been shown to be effective in randomized trials are alarm therapy and treatment with desmopressin acetate or imipramine.

435. A mother with no prenatal care gives birth to a term infant with findings of IUGR, microcephaly, hepatosplenomegaly, thrombocytopenia, and during later testing sensorineural hearing loss. You are concerned about cytomegalovirus (CMV). The most important diagnostic study for CMV evaluation for a newborn is:

A. Antibody titers

B. Brain biopsy

C. Rapid plasma reagin (RPR)

D. Viral PCR

E. Viral culture

Answer: E

The most important diagnostic study in the evaluation of newborn CMV disease is viral culture, preferably done before 3 weeks of life to help exclude the possibility of perinatal CMV acquisition. Viral PCR is a useful adjunct to culture techniques but does not replace viral culture.Tissue biopsy, while sometimes used for diagnosis, is not standard and is more commonly used in the lung and liver than in the brain. RPR is useful in cases of congenital syphilis, which can present

with deafness (Hutchinson triad: Hutchinson teeth, interstitial keratitis, and eighth nerve deafness). CMV antibody titers are generally not helpful indiagnosis. Also of note, congenital toxoplasmosis, which shares many similar features with congenital CMV, would best be evaluated by Toxoplasma - specific antibody titers.

436. A 4-year-old girl from Kenya presents with fevers, weight loss and a large, firm, nontender, nonfluctuant swelling beneath her right mandible. Biopsy reveals an infiltration of small monomorphic cells with a thin rim of basophilic cytoplasm and very high mitotic rate, which stain positive for CD19 and CD20. Which of the following viruses is likely to have caused her disease?

A. CMV

B. EBV

C. HHV-6

D. HIV

E. HSV

Answer: B

This child has evidence of a mature B-cell lymphoma. She probably has endemic Burkitt lymphoma, in which EBV infection is necessary, but not sufficient, to cause disease. Endemic Burkitt lymphoma is the form typically seen in children in equatorial Africa, and there is some recent evidence to suggest that co-infection with EBV and malaria may help promote the development of the disease. Nonendemic forms of Burkitt lymphoma, found in North America and Europe, appear pathologically identical to endemic Burkitt lymphoma, but are not always associated with EBV infection. The endemic form typically presents in children in

the head and neck, particularly with jaw involvement. CMV, HIV, HHV-6, and HSV have no association with Burkitt lymphoma.

437. A 5-month-old child is brought to your office for evaluation of failure to thrive. His mother reports that he has been suffering from constant diarrhea and failure to gain weight. On exam you note that the child is in the 50% percentile for a 1-month-old. Physical exam reveals diffuse erythroderma, a distended, tympanitic abdomen, and a palpable liver and spleen. In addition to lymphopenia, what other abnormality would you expect to find on assessment of a complete blood count?

A. Basophilic stippling

B. Eosinophilia

C. Macrocytosis

D. Neutrophilia

E. Small platelets

Answer: B

This patient has Omenn syndrome, caused by abnormalities in the RAG1/2 lymphoid-specific recombination activating genes. This condition leads to failure of both T-cell and B-cell development and subsequent severe combined immunodefficiency. The presence of erythoderma and eosinophilia are clues to this diagnosis, which is not associated with neutrophilia. Macrocytosis, while seen in disorders of folic acid metabolism, is not seen in this disorder. Basophilic stippling is characteristic of sideroblastic anemia or lead toxicity. Small platelets are found in the Wiskott–Aldrich syndrome, but not in the Omenn syndrome.

438. Hereditary conditions are those that?

A. are present from the time of conception

B. can be transmitted during reproduction from the parent to the offspring

C. manifest equally in all affected persons

D. originate by mutation of the nuclear but not mitochondrial genome

E. present in more than 1 member of the family

Answer: B

This is the definition of hereditary. It is differentiated from genetic conditions that are present at the time of conception (A). The manifestation (phenotype) of different individuals is separate from the hereditary nature of a condition (C) and can be widely variable. Genetic conditions can arise from mutations in either the nuclear or mitochondrial genome (D). Both genetic and nongenetic conditions can be present in more than 1 member of the family (E).

439. Inborn Errors of Metabolism can be associated with a characteristic odor/smell. Select the correct association.

A. 3-methlglutaconic aciduria and a fishy odor

B. Isovaleric acidemia and a smell of sweaty feet

C. MSUD and a sour smell

D. Methylmalonic acidemia and a sweet smell

E. Propionic acidemia and a mousy odor

Answer: B

Isovaleric acidemia was the first condition recognized as an organic acidemia when the odor of sweaty feet in an infant with episodic encephalopathy was shown to be caused by isovaleric acid. MSUD, as the name suggests causes a maple-syrup odor to emanate from the urine and skin. Propionic, methylmalonic and 3-methlyglutaconic aciduria are not noted to have characteristic odors. Carnitine supplementation used in the management of many organic acidemias can cause a fishy odor.

440. A 15 years old child known to have Diabetes Mellitus presents with reduced level of consciousness following fever, vomiting, and abdominal pain. Physical examination reveals a dry mouth, sunken eyes, and decreased skin turgor. Urine dipstick is positive for ketones.

A. Acute Gastroenteritis

B. Diabetic Ketoacidosis

C. Non-ketotic Hyperosmolar

D. Pneumonia

Answer: B

Diabetic ketoacidosis, in pediatric and adult cases, is a metabolic derangement caused by the absolute or relative deficiency of the anabolic hormone insulin. Together with the major complication of

cerebral edema, it is the most important cause of mortality and severe morbidity in children with diabetes. Signs and symptoms Symptoms of acidosis and dehydration include the following: Abdominal pain – May be severe enough to present as a surgical emergency Shortness of breath - May be mistaken for primary respiratory distress Confusion and coma in the absence of recognized head injury [1] Symptoms of hyperglycemia, a consequence of insulin deficiency, include the following: Polyuria - Increased volume and frequency of urination Polydipsia - Thirst is often extreme Nocturia and secondary enuresis in a previously continent child Weight loss - May be dramatic due to breakdown of protein and fat stores Muscle pains and cramps Patients with diabetic ketoacidosis may also have the following signs and symptoms: Vomiting Dehydration Signs of intercurrent infection (eg, urinary or respiratory tract infection) Weakness and nonspecific malaise that may precede other symptoms of hyperglycemia Tachycardia Reduced capillary refill Kussmaul breathing or deep sighing respiration - A mark of acidosis Ketone odor - Patient may have a smell of ketones on his/her breath Impaired consciousness – Occurs in approximately 20% of patients Coma - May be present in 10% of patients Abdominal tenderness - Usually nonspecific or epigastric in location.

441. A 5-year-old child is present with a 3-day history of fever and cold symptoms and now complains of right ear pain. Physical examination reveals a bulging tympanic membrane. Which of the following is the most likely diagnosis?

A. Choanal atresia

B. Foreign body

C. Otitis externa

D. Otitis media

Answer: D

Acute otitis media (AOM) is a bacterial or viral infection of the middle ear, usually accompanying a URI. Symptoms include otalgia, often with systemic symptoms (eg, fever, nausea, vomiting, diarrhea), especially in the very young. Diagnosis is based on otoscopy. Treatment: It is advisable to use routine antimicrobial treatment especially for age <2 years or those systemically ill, with severe infection, or with a history of recurrent acute otitis media. Pain relief is essential: acetaminophen, NSAIDs (except acetylsalicylic acid because of risk of Reye syndrome). First-line drug of choice = amoxicillin (high dose). Alternate first-line drug or history of penicillin allergy = azithromycin

442. A breakthrough treatment for chronic myelogenous leukemia in patients with the BCR-ABL chromosomal translocation is:

A. Cis-retinoic acid

B. Imatinib

C. Timed intensive induction chemotherapy

D. Umbilical cord blood transplantation

Answer: B

Imatinib was designed specifically to inhibit BCR-ABL tyrosine kinase.

443. A 15-year-old boy with osteosarcoma complains of sharp stabbing pain at the site of his tumor. This type of pain is best characterized as:

A. Neuropathic pain

B. Psychogenic pain

C. Radicular pain

D. Somatic nociceptive pain

E. Visceral nociceptive pain

Answer: D

Somatic nociceptive pain is caused by stimulation of nociceptors as a result of tissue injury. Nociceptive somatic pain is well localized and described as sharp, aching, squeezing, stabbing, or throbbing. Neuropathic pain is caused by abnormal functioning of damaged sensory nerves. Neuropathic pain is usually described as burning, shooting, or tingling. Visceral nociceptive pain is caused by stimulation of nociceptors and stretch receptors in the viscera; it is usually poorly localized and often described as dull, crampy, or achy. Radicular pain usually occurs in a dermatomal distribution. Since this boy has a known etiology for his pain, there is no reason to suspect psychogenic pain.

444. Child with painless hearing difficulty , tympanic membrane not clearly seen on clinical examination. Which of the following is most likely diagnosis?

A. Acoustic neuroma

B. Menier's disease

C. Otitis externa

D. Serous otitis media

Answer: D

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. When the secretions of middle ear accumulate, they exert the pressure on tympanic membrane which is dangerous sign. If nothing done in time, the tympanic membrane may rupture, leading to hearing loss.

445. A 5-year old boy brought to the clinic by his parents for difficulty walking, frequent falls and enlarged calves. On examination, he has a positive Gower's sign and laboratory studies shows elevated CPK. Which of the following is the most likely diagnosis?

A. Duchenne's muscular dystrophy

B. Epidural hemorrhage

C. Guillain–Barre syndrome

D. Infantile spasms

Answer: A

Duchenne Muscular Dystrophy is an X- linked recessive disorder (only affects males) due to absence of dystrophin. Muscle weakness is progressive, symmetric, and starts in childhood. Normal newborn, develops waddling, poor head control, difficulty standing or climbing

(Gower’s Sign), hypertrophic calves (pseudohypertrophy), generally unable to walk after 12 years of age, death in 75% by the age of 20—dilated cardiomyopathy. Serum creatine phosphokinase levels are markedly elevated. Muscle biopsy is diagnostic (DNA testing has now replaced muscle biopsy for diagnosis). EMG shows characteristic myopathic features. Supportive care and physical therapy.

446. The mother of one of your PICU patients regularly looks through the bedside medical chart of her child. Bedside nurses report this to you and express their discomfort with the practice. Your most appropriate response would be to:

A. Advise the nurses that it is the mother's right to view the chart and nothing should be done

B. Instruct the mother that she may not view the chart since it contains the writings of several different health care providers who have not consented to her viewing it

C. Report the matter to the hospital authorities

D. Suggest to the mother that you or your representative would like to go through the chart with her on a regular basis to clarify the jargon and explain the content more fully

Answer: D

Charts should not be read in isolation. Notes or laboratory data are easily misinterpreted and require a health care worker to help communicate their meaning and significance.

447. A 10 -year old boy presents with pain, tenderness, and swelling in the upper pole of the right testicle. On examination a bluish dot is visible through the scrotum. Which of the following is the most likely diagnosis?

A. Hydrocele

B. Testicular torsion

C. Torsion of the testicular appendage

D. Varicocele

Answer: C

Torsion of testicular appendages can result in the clinical presentation of acute scrotum. Two such appendages are the appendix testis, a remnant of the paramesonephric (müllerian) duct, and the appendix epididymis, a remnant of the mesonephric (wolfian) duct. Torsion of the testicular appendix is the commonest cause of acute scrotum in children. Torsion of the appendix testis is a twisting of a vestigial appendage that is located along the testicle. This appendage has no function, yet more than half of all boys are born with one. Although this condition poses no threat to health, it can be painful. Usually no treatment other than to manage pain is needed Symptoms can include: Pain in one testicle, on one side of the scrotum Swelling and redness of the scrotum Scrotum that's sore to the touch A hard lump at the top of the scrotum A blue dot at the top of the scrotum. This shows that the twist is in the appendage, not the testicle.

448. Recurrent infection with Neisseria is related to which of the following complement deficiencies?

A. C1-inhibitor deficiency

B. C1q deficiency

C. C2 deficiency

D. C3 deficiency

E. C5 deficiency

Answer: E

Disorders of the alternative complement pathway and terminal complement deficiencies have all been associated with increased risk of pyogenic infections, particularly Neisseria . Terminal complement component deficiencies, such as C5 deficiency lead to infection by affecting the ability to make a membrane attack complex and thereby lyse the bacteria. Disorders of the classical pathway can lead to infection, but are more commonly associated with autoimmune disease, particularly systemic lupus erythematosus.

449. A child presented to the ER after swallowing caustic material and he's drooling. What's you immediate management?

A. Activated charcoal

B. Emergency endoscopy

C. Induce vomiting

D. Protect the airways

Answer: D

Always start with Airway, Breathing, Circulation. Endoscopy should be an elective rather than emergency procedure and should be undertaken in all symptomatic patients.

450. Which of the following statements regarding nephrolithiasis in children is correct?

A. Hypercalciuria in children is usually associated with hypercalcemia

B. Sodium citrate should be given to prevent calcium containing stones

C. Stones less than 5 mm in size will usually pass spontaneously

D. Struvite stones are the most common type of stone in the pediatric population

E. Use of thiazide diuretics is a common cause of hypercalciuria

Answer: C

Calcium phosphate and calcium oxalate stones are the most common types of stones, whereas struvite stones are more rare. Hypercalciuria is a common risk factor identified in children with nephrolithiasis. Hypercalcemia would predispose to hypercalciuria; however, most children with hypercalciuria are normocalcemic and the cause of hypercalciuria is often idiopathic. Thiazide diuretics increase distal tubular absorption of calcium and are used in the treatment of hypercalciuria. Citrate is beneficial in increasing the solubility of calcium salts; however, potassium citrate would be preferred to sodium citrate, as excess sodium increases hypercalciuria. Stones that are less than 5 mm in size on imaging are likely to pass spontaneously and are unlikely to require surgical intervention.

451. Which of the following is the most common cause of hearing loss in children?

A. Earwax Impaction

B. Noise-Induced Hearing Loss

C. Otitis Media

D. Presbycusis

Answer: C

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

Treatment: High-dose amoxicillin (10 days for empiric therapy). Resistant cases may require amoxicillin/clavulanic acid.

Complications include TM perforation, mastoiditis, meningitis, cholesteatomas, and chronic otitis media. Recurrent otitis media can cause hearing loss with resultant speech and language delay. Chronic otitis media may require tympanostomy tubes.

452. Which of the following statements about treadmill exercise testing is true?

A. A positive result requires >3 mm of ST-segment depression.

B. It is contraindicated in patients with moderate-to-severe aortic stenosis.

C. It is recommended for patients who experience angina at rest to document ECG changes.

D. The appearance of a bundle branch block on ECG represents no concern.

E. Women have a low incidence of false-positive results.

Answer: E

Exercise stress testing is used to evaluate chest pain in patients with suspected CVD. The sensitivity ranges from 56% to 81%, and the specificity ranges from 72% to 96%. With this in mind, the exercise stress test has relatively low sensitivity and specificity. Because of this, a patient with a high pretest likelihood of ischemic heart disease still has a high probability of developing significant disease even in the face of a normal (negative test). Furthermore, a patient with a low probability of ischemic heart disease still has a low chance of significant disease even if the test is positive. The optimal use of diagnostic testing is for those patients with moderate pretest probabilities. Women tend to have a higher incidence of false-positive results. There are two basic protocols: the Bruce protocol and the Ellestad protocol. In the standard exercise stress test (Bruce protocol), the patient is asked to exercise for 3-minute intervals on a motorized treadmill device while being monitored for the following: heart rate and blood pressure response to exercise, symptoms during the test, ECG response (specifically ST-segment displacement), dysrhythmias, and exercise capacity. A positive test is defined as an ST-segment depression of at least 1 mm below baseline. Contraindications to exercise stress testing include the following:

• Recent MI within the preceding 4 to 6 weeks (except for a submaximal exercise stress test [65% of predicted maximum heart rate] that is often performed before hospital discharge for patients with a recent MI)

• Angina at rest

• Rapid ventricular or atrial arrhythmias

• High-grade AV block or bradyarrhythmias

• Uncompensated CHF

• Recent acute illness (noncardiac in origin)

• Moderate-to-severe aortic stenosis

• Uncontrolled blood pressure (systolic >200 or diastolic >110 mm Hg before onset of exercise)

• Active myocarditis/pericarditis

• Acute PE

• Systemic illness

• Noncompliant patient

• Criteria for stopping an exercise stress test include

• Predicted heart rate is achieved

• Patient complains of excessive fatigue, claudication, or dyspnea

• PVCs that increase in frequency or ventricular tachycardia

• High-grade AV block appears on ECG

• Significant ST changes seen on ECG (>3 mm depression)

• Severe angina

• Systolic blood pressure >220 or diastolic blood pressure >120 during exercise or a decrease in systolic blood pressure with exercise

• Appearance of a bundle branch block

• Equipment malfunction or technical failure

The following are considered to be parameters associated with poor prognosis or increased disease severity: failure to complete stage 2 of a Bruce protocol, failure to achieve a heart rate >120 bpm (off β-blockers), onset of ST-segment depression at a heart rate of <120 bpm, ST-segment depression more than 2 mm, ST-segment depression lasting >6 minutes into recovery, ST-segment depression in multiple leads, poor systolic blood pressure response to exercise, ST-segment elevation, angina with exercise, and exercise-induced ventricular tachycardia.

453. How would you best correct severe hypernatremic dehydration?

A. Repletion of intravascular volume with D5 ½ normal saline, followed by same fluid at 1.25 times maintenance rate

B. Repletion of intravascular volume with normal saline, followed by D5 ½ normal saline at 1.25 times maintenance rate

C. Repletion of intravascular volume with normal saline, followed by D5 ½ normal saline at 2 times maintenance rate

D. Sodium restriction and infusion of D10W

Answer: B

In the child with hypernatremic dehydration, as in any child with dehydration, the □rst priority is restoration of intravascular volume with isotonic fluid. Normal saline is preferable to lactated Ringer solution because the lower sodium concentration of the latter can cause the serum sodium to decrease too rapidly, especially if multiple fluid boluses are given. Repeated boluses of normal saline (10-20 mL/kg) may be required to treat hypotension, tachycardia, and signs of poor perfusion (peripheral pulses, capillary refill time). Most patients with

hypernatremic dehydration do well with a fluid sodium concentration of approximately half-normal saline, but with a fluid rate that is only 20-30% greater than maintenance fluid. Use of this concentration prevents excessive delivery of free water and too rapid a decrease in the serum sodium level.

454. One year old baby with a prominent forehead. Hemoglobin electrophoresis show: Hb A2 2-3% and Hb F 2%. What's the diagnosis?

A. Alpha thalassemia

B. Beta thalassemia major

C. Beta thalassemia minor

D. Sickle cell Anemia

Answer: D

Normally, humans have haemoglobin A, which consists of two alpha and two beta chains, haemoglobin A2, which consists of two alpha and two delta chains, and haemoglobin F, consisting of two alpha and two gamma chains in their bodies. Out of these three types, haemoglobin F dominates until about 6 weeks of age. Afterwards, haemoglobin A dominates throughout life. In people diagnosed with sickle cell disease, at least one of the β-globin subunits in haemoglobin A is replaced with what's known as haemoglobin S. In sickle cell anaemia, a common form of sickle cell disease, haemoglobin S replaces both β-globin subunits in the haemoglobin The most characteristic haematological finding related to the β-thalassaemia trait is an elevated level of HbA2, typically between 4–6%. Occasionally, β-thalassaemia carriers may have unusually elevated levels of HbA2 (>6.5%). Such carriers generally have point mutations, or more rarely, deletions involving the

5’ promoter region of the β-gene. HbF may be slightly elevated (1–3%) in about 30% of carriers, and globin chain synthesis analysis shows an imbalanced α/β-globin ratio, with values ranging from 1.5-2.5.

455. A 40 years old man presented to you in outdoor with dizziness, nausea, vomiting and ringing in the ear. On examination there is eye nystagmus. Which of the following is most likely diagnosis?

A. Acoustic neuroma

B. Labyrynthitis

C. Menier's disease

D. Otitis media

Answer: B

Labyrynthitis or vestibular neuritis is inflammatory condition of the inner. It presents with dizziness and may be associated with nausea, vomiting or hearing loss. The characteristic eye nystagmus if present, confirms the diagnosis. Acoustic neuromas: Benign tumor of Schwann cells of CN 8 that can lead to hearing loss secondary to nerve compression. Acoustic neuromas are intracranial, extra-axial tumors that arise from the Schwann cell sheath investing either the vestibular or cochlear nerve. Presents with hearing loss, dizziness, tinnitus; unilateral facial palsy; decreased sensation may be seen on examination. Acoustic neuroma may produce vertigo and tinnitus.

Menier’s disease of the inner ear is characterized is diagnosed by following criteria:

1. Two or more spontaneous episodes of vertigo, each lasting 20 minutes to 12 hours

2. Audiometrically documented low- to medium-frequency sensorineural hearing loss in the affected ear on at least 1 occasion before, during, or after one of the episodes of vertigo

3. Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear

4. Not better accounted for by another vestibular diagnosis

456. Which of the following choices is not a helpful treatment for enuresis?

A. Bell-and-pad apparatus

B. Desmopressin acetate

C. Imipramine

D. Punishment

Answer: C

The most important reason for treating enuresis is to minimize the embarrassment and anxiety of the child and the frustration experienced by the parents. Most children with enuresis feel very much alone with their problem. Family members with a history of enuresis should be encouraged to share their experiences and offer moral support to the child. The knowledge that another family member had and outgrew the problem can be therapeutic. Preliminary management focusing on behavioral modification and positive reinforcement is often helpful. The only therapies that have been shown to be effective in randomized trials are alarm therapy and treatment with desmopressin acetate or imipramine. Nonmonosymptomatic enuresis may be more difficult and time-consuming to treat. [19, 20] Bladder training exercises are not recommended. With this therapy, the child is asked to ingest large

quantities of fluid and to hold the urine in the bladder without voiding until uncomfortable. A therapeutic approach that involves (a) teaching a child not to respond normally to the sensation of a full bladder and (b) prescribing a therapy that is inherently painful is fundamentally without merit. The results of studies that report on this therapy are either methodologically flawed or show no improvement.

457. You are seeing a 3-year-old patient who has had long-standing mild pancytopenia and macrocytosis. You entertain the diagnosis of an inherited bone marrow failure syndrome that is associated with pancytopenia. Your leading considerations are congenital amegakaryocytic thrombocytopenia,

Diamond-Blackfan anemia (DBA), dyskeratosis congenita, Fanconi anemia (FA), and Shwachman-Diamond syndrome. These syndromes also have in common what other feature?

A. Absent thumb

B. Elevated erythrocyte adenosine deaminase (eADA) activity

C. Increased risk of malignancy

D. Mutation in cMPL, the TPO receptor

E. Pancreatic insufficiency

Answer: C

Many inherited bone marrow failure syndromes are classically associated with a defect in one cell line; however, many progress to pancytopenia and aplastic anemia. Congenital amegakaryocytic thrombocytopenia, DBA, dyskeratosis congenita, FA, and Shwachman-Diamond syndrome all are associated with an increased risk of malignancy. Additionally, patients with thrombocytopenia absent radii

(TAR), which is not bone marrow failure syndrome, have an increased risk of leukemia, although aplastic anemia has not been reported. TAR patients may have hypoplastic or misplaced thumbs, but not the absent thumbs that are associated only with FA patients. Pancreatic insufficiency is a feature of Shwachman-Diamond syndrome as well as Pearson syndrome, which is another bone marrow failure syndrome, and which arises from mitochondrial DNA deletion. Mutations in cMPL are specific to CAMT, and elevated eADA is a diagnostic test for DBA.

458. A baby with recurrent jaundice and multiple blood transfusions, what causes the RBC to be destructed, blood results show low RBC, DLT test normal and some other labs and blood smear (spirometric??, nucleated...)

A. ?

B. G6PD

Answer: A

459. You receive a phone call from your colleague informing you that one of your patients has been admitted to the hospital. You learn that the patient is a 14-year-old female with menorrhagia who requires hospitalization for excessive menstrual bleeding. Your patient is undergoing an evaluation to determine the etiology of the bleeding. What is the most common cause of excessive menstrual bleeding requiring hospitalization?

A. Bleeding disorder

B. Cervical polyps

C. Hemangioma

D. Polycystic ovarian syndrome

E. Spontaneous abortion

Answer: A

The most common cause of excessive menstrual bleeding requiring hospitalization is a bleeding disorder. Abnormal bleeding at the time of menarche might be the initial manifestation of a bleeding disorder. The most common bleeding disorder is von Willebrand disease, which has a prevalence of 1%. The remainder of the choices, polycystic ovarian syndrome, a spontaneous abortion, a hemangioma, and cervical polyps, are all causes of abnormal vaginal bleeding. However, bleeding disorders are more likely to require hospitalization.

460. A Pediatric patient is complaining of: Intermittent dysphagia, retrosternal pain and heartburn. Barium swallow showed: dilated esophagus. Synchronous contractions and gradual distal narrowing. What is the diagnosis?

A. Achalasia

B. Diffuse esophageal spasm

C. GERD

D. Peptic ulcers

Answer: A

Source: wikipediaThere is acute tapering at the lower esophageal sphincter and narrowing at the gastro-esophageal junction, producing a "bird's beak" or "rat's tail" appearance. The esophagus above the narrowing is often dilated (enlarged) to varying degrees as the esophagus is gradually stretched over time.

Characteristic manometric findings are:

● Lower esophageal sphincter (LES) fails to relax upon wet swallow (<75% relaxation)

● Pressure of LES <26 mm Hg is normal,>100 is considered achalasia, > 200 is nutcracker achalasia.

● Aperistalsis in esophageal body

● Relative increase in intra-esophageal pressure as compared with intra-gastric pressure

461. Which of the following is the most common cause of chronic cough?

A. Asthma

B. Gastroesophageal Reflux Disease (GERD)

C. Pneumonia

D. Upper airway cough syndrome (Postnasal drip)

Answer: D

Chronic cough is defined as a cough that persists for longer than 8 weeks.Upper airway cough syndrome (UACS) previously referred to as postnasal drip syndrome (PNDS) is considered the most common cause

of chronic cough and has been implicated as the cause in up to 87% of patients.Three conditions account for the etiologic cause of chronic cough in 92-100% of immunocompetent, nonsmoking patients with normal chest radiograph findings. In order of frequency, they are as follows:

1. Upper airway cough syndrome (UACS)

2. Asthma

3. Gastroesophageal reflux disease (GERD)

462. Which diagnosis should be strongly considered in an infant with lethargy and poor feeding?

A. All of the above

B. Inborn error of metabolism

C. Nonaccidental trauma

D. Sepsis

Answer: A

Infants with meningitis or sepsis may have a history of irritability and/or inconsolability, not waking up for feedings, poor feeding, grunting respirations, seizures, and decreased urine output. Patients with poisonings or inborn errors of metabolism also can present with lethargy, poor feeding, seizures, and vomiting. Non-accidental trauma should always be considered in a lethargic infant.

463. A baby with greasy scaly rash at the edge of the forehead and over the cheeks not sparing the folds. Which of the following is not considered part of apprpriate treatment?

A. Muropicin topical (antibiotic)

B. shampoo containing salicylate

C. topical antifungal

D. topical steroids

Answer: A

Patient has seborrheic dermatitis Physical findings may include the following: Scalp appearance ranging from mild, patchy scaling to widespread, thick, adherent crusts; plaques are rare; lesions may spread from the scalp onto the forehead, the posterior part of the neck, and the postauricular skin Seborrheic skin lesions manifesting as scaling over red, inflammed skin; hypopigmentation (in blacks); oozing and crusting; blepharitis (occurring independently) Lesion distribution following the oily and hair-bearing areas of the head and the neck; extension to submental skin can occur Either of two distinct truncal patterns:

(1) annular or geographic petaloid scaling or

(2) pityriasiform variety (rare)

Early treatment of flares is encouraged. Behavior modification techniques in reducing excoriations are especially helpful with scalp involvement. Pharmacologic agents that may be used include the following: Topical corticosteroids (discouraged except for short-term use and at risk for tachyphylaxis when used as monotherapy) For skin involvement, ketoconazole, naftifine, or ciclopirox creams and gels [4, 5, 6] ; alternatively, calcineurin inhibitors (ie, pimecrolimus, tacrolimus), [7, 8, 9] sulfur or sulfonamide combinations, or propylene glycol [10, 11, 12, 13, 14] For acute flares, class IV or lower corticosteroid creams, lotions, or solutions For severe or unresponsive lesions, systemic fluconazole [15] Treatment of dandruff may involve

the following: More frequent shampooing or longer lathering Discontinuance of hair spray or hair pomades Use of shampoos containing salicylic acid, tar, selenium, sulfur, or zinc [16, 17] ; selenium sulfide (2.5%), ketoconazole, and ciclopirox shampoos may help by reducing Malassezia yeast scalp reservoirs [18, 19, 20] ; an alternative to a shampoo with zinc is a conditioner rinse with zinc, 0.01% fluocinolone, and acetonide topical oil Overnight application of tar, bath oil, or Baker's P&S solution; Derma-Smoothe F/S oil is especially helpful for widespread plaques.

464. A 15-year-old girl presents with symptoms of vaginal irritation, pruritus, and discharge. She is sexually active and uses condoms during sexual intercourse. She denies dysuria. A urine pregnancy test is negative. Tests are sent using the patient's urine for Chlamydia and gonorrhea.

Examination reveals a normal-appearing cervix without motion tenderness and a nonspecific vaginal gray discharge with a pH 4.5 that has a slight fishy odor. Sodium chloride microscopy reveals a few PMNs but no trichomonads and possible stippling of some epithelial cells. The best presumptive treatment for the patient's condition would be:

A. Azithromycin 1 g orally, once, and ceftriaxone 250 mg IM, once

B. Fluconazole 150 mg orally, once

C. Metronidazole 2 g orally, once

D. Metronidazole 500 mg orally, twice daily, for 7 days

E. Tinidazole 2 g orally, once

Answer: D

This young women's most likely diagnosis is that of bacterial vaginosis (BV), which results from replacement of vaginal Lactobacillus with anaerobic bacteria. The patient's pH is >4.5 that makes a yeast infection unlikely, and as a result, fluconazole is not the correct choice for treatment. Both the microscopy using sodium chloride that supports the appearance of clue cells and the amine odor are supportive of BV rather than Trichomonas . The recommended treatment of BV is metronidazole 500 mg po BID × 7 days. A single treatment with 2 g is not as effective and is no longer recommended by the CDC. Treatment of trichomonal infections, however, still includes the use of a single 2 g of either metronidazole or tinidazole. The patient's symptoms are not indicative of cervicitis or infection with

Chlamydia or gonorrhea; however, given that these infections can be asymptomatic, screening is advisable. As such, treatment of these 2 infections with azithromycin and ceftriaxone, unless other information is obtained, is not necessary at this time unless the patient fails to improve or the tests are positive.

465. A 6-month-old female develops new-onset seizures. Physical examination reveals hypotonia without other abnormalities. Interictal EEG is normal. MRI brain reveals no structural abnormalities. Cerebrospinal fluid analysis reveals a low CSF glucose level of 35 mg/dL. CSF analysis is otherwise normal and not indicative of infection. Which of the following conditions would you include in your differential diagnosis?

A. Arterial tortuosity syndrome

B. Congenital glucose galactose malabsorption

C. Fanconi–Bickel syndrome

D. Glucose transporter-1 de□ciency

E. Renal glucosuria

Answer: D

Glucose and other monosaccharides are hydrophilic substances that cannot easily cross the lipophilic bilayer of the cell membrane. Since carbohydrates are most important for supplying energy to essentially all cell types, specific transport mechanisms have evolved. To date, 5 congenital defects of monosaccharide transport are known (listed above: A–E). Their clinical presentation is a consequence of tissuespeci fic expression of the transporter and its substrate specificity.

Glucose transporter (GLUT) 1 exclusively facilitates glucose transport across the blood brain barrier. GLUT 1 deficiency results in low glucose levels in CSF. The above vignette describes a typical clinical presentation for this disorder. GLUT 1 deficiency should be suspected in any patient with a low CSF glucose level (less than 45 mg/ dL) with a normal blood glucose level. Diagnosis can be confirmed by molecular analysis. Treatment includes highfat, low-carbohydrate diet. Ketone bodies derived from fat metabolism restore brain energy metabolism since ketone transport into the brain is not dependent on GLUT1.

466. A 5 year old child came with Right Upper Quadrant abdominal pain , jaundice, and a palpable tender liver.What is the most likely diagnosis?

A. Biliary atresia

B. HAV

C. Wilson disease

Answer: B

liver diseases depends on the age of the child every age group have a differrent differential.and most likely to this presentation it is hepatitis. hepatitis A virus (HAV) spread via the fecal-oral route.

●HAV infection in children is typically an acute, self-limited illness Symptomatic patients may present with abrupt-onset fever, abdominal pain, malaise, and jaundice. Common examination findings are hepatomegaly and clinical jaundice with marked elevation of serum transaminases (usually >1000 units/L). IgM anti-hepatitis A virus serology is the test of choice for diagnosis.

●The incubation period for HAV is 15 to 50 days.HAV RNA can be detected in stools at least one week before the onset of histological and biochemical evidence of hepatitis, and it can be detected for at least 33 days after the onset of disease. In neonates and younger children, HAV RNA can be detected in stools for several months.

●The diagnosis of acute HAV infection is made by the detection of Serum IgM anti-HAV (gold standard for the detection of acute illness) . This antibody is positive at the onset of symp- toms, peaks during the acute or early convalescent phase of the disease,

●Post-exposure prophylaxis for individuals with recent exposure to HAV may be accomplished with the HAV vaccine or immune globulin.

●HAV infection in children is usually a minor and self-limited infection requiring no specific therapy. The usual supportive measures for fever and diarrhea may be undertaken. Patients rarely require hospitalization except for those who develop fulminant hepatic failure. Chil- dren with HAV-related hepatic failure are candidates for liver transplantation.

467. Adequate nutrition is important for growth and development in children. Which growth period has the HIGHEST energy nutritional requirement?

A. Adulthood

B. Childhood

C. Infancy

D. Puberty

Answer: C

The infancy growth period is rapid, is critical for neurocognitive development, and bears higher metabolic rate and nutrient requirements, relative to body size, than other periods of growth. It is followed by the childhood period of growth, during which 60% of total growth occurs, and then by the puberty phase.

468. A 9-year-old boy is brought to the doctor because of acute sinusitis. He has a history of chronic diarrhea and recurrent pulmonary infections. The sweat chloride test is positive. Which of the following is the most likely diagnosis?

A. Aspergillosis

B. Bronchiectasis

C. Cystic Fibrosis

D. Wegener's granulomatosis

Answer: C

1. **Cystic fibrosis** (CF) is a disease of exocrine gland function that involves multiple organ systems but chiefiy results in chronic respiratory infections, pancreatic enzyme insufficiency, and associated complications in untreated patients.

2. **Autosomal recessive** disorder caused by defect in chloride-pumping channel in exocrine glands; ducts of exocrine glands (e.g., lungs, pancreas, reproductive glands) become clogged with thick secretions

3. Cystic fibrosis is caused by one of a large number of mutations of the gene for a protein called the cystic fibrosis transmembrane conductance regulator (**CFTR**), which regulates chloride and sodium transport across epithelial membranes.

4. Other major consequences include pancreatic malfunction, leading to malabsorption of nutrients and vitamins with consequent impaired growth and development, and, in older patients, diabetes.

5. **Clinical features** include: recurrent pulmonary infections (e.g., Pseudomonas, Staphylococcus aureus), dyspnea, hemoptysis, chronic sinusitis, cough, meconium ileus at birth, steatorrhea, failure to thrive; cyanosis, digital clubbing, esophageal varices, rectal prolapse

6. **Confirmed** by a sweat test showing elevated sweat chloride on 2 occasions

7. **Treatment** is supportive through aggressive multidisciplinary care along with small-molecule correctors and potentiators targeting the cystic fibrosis transmembrane conductance regulator protein defect

469. All of the following statements regarding G6PD deficiency are true

Except:

A. A pregnant woman who ingests oxidative drugs may cause hemolytic anemia in a fetus with G6PD deficiency

B. G6PD deficiency confers partial protection against malaria

C. Heinz bodies can be seen on the peripheral smear

D. It is inherited as an autosomal recessive

Answer: D

Glucose-6-phosphate dehydrogenase deficiency (G6PDD) is an inborn error of metabolism that predisposes to red blood cell breakdown. It is an X-linked recessive disorder that results in defective glucose-6-phosphate dehydrogenase enzyme. G6PD deficiency confers partial protection against malaria , which probably accounts for the persistence and high frequency of the responsible genes...Heinz bodies (denatured hemoglobin) can be seen on the peripheral smear in G6PD deficiency...Most individuals with G6PD deficiency do not need treatment. However, they should be taught to avoid drugs and chemicals that can cause oxidant stress.

470. The source of first exposure to violence for children is often:

A. Community violence

B. Domestic violence

C. School violence

D. War violence

Answer: B

Exposure to community violence occurs less frequently for children who do not live in lower socioeconomic neighborhoods, but exposure to family and media violence crosses socioeconomic and cultural

boundaries, occurring in all groups within our society.6 It has been estimated that between 25% and 30% of American women are beaten at least once in the course of intimate relationships. Estimates also indicate that as many as three million children themselves are victims of physical abuse by their parents.12 In homes where domestic violence occurs, children are physically abused and neglected at a rate 15 times higher than the national average.4 Several studies have found that in 60% to 75% of families in which a woman is battered, children are also battered.

471. A 24 Year old mother had a child with suspected Down syndrome; she is asking if there is a chance of another child to have this disease. What test will you order to help you make a determination?

A. Karyotype both the mother and child

B. Karyotyping of child.

C. None of the above

D. karyotype analysis of both parents

Answer: D

If a patient has had a trisomy 21 pregnancy in the past, the risk of recurrence in a subsequent pregnancy increases to approximately 1 percent above the baseline risk determined by maternal age. Diagnosis of a chromosome-21 translocation in the fetus or newborn is an indication for karyotype analysis of both parents. If both parents have normal karyotypes, the recurrence risk is 2 to 3 percent. If one parent carries a balanced translocation, the recurrence risk depends on the sex of the carrier parent and the specific chromosomes that are fused.4 The significance of a family history of Down syndrome depends on the

karyotype of the affected person (proband). If the proband has trisomy 21, the likelihood of a trisomy 21 pregnancy is minimally increased for family members other than the parents. If the proband has a chromosome-21 translocation or if the karyotype is unknown, family members should be offered genetic counseling and karyotype analysis.

472. A 7 year old child developed bloody diarrhea, abdominal pain and vomiting after eating from a restaurant. He also had a history of hematuria, and lab results showed anemia and low platelet count. What is the treatment for the child?

A. Antibiotics

B. Blood and platelet transfusion

C. Maintenance of good hydration

D. Steroids

Answer: C

Treatment of HUS is generally supportive, with dialysis as needed. Platelet transfusion may actually worsen the outcome.Maintenance of good hydration is important to minimize the likelihood of renal damage. Careful attention needs to be paid to avoid cardiopulmonary overload, especially because these patients are at risk of developing oliguria.- Avoidance of antibiotics, antimotility (antidiarrheal) agents, opioids, or non-steroidal anti-in□ammatory drugs is advised.- Platelet transfusions have been associated with clinical deterioration and should be avoided if possible.- For the anemia: blood transfusion if needed.- For the HTN: CCB- If renal failure is present: dialysis is performed if clinically indicated: signs and symptoms of uremia, hyperkalemia (potassium >6.5 with ECG changes), persistent severe acidosis (bicarbonate <10), hypertension secondary to volume overload that

cannot be controlled with medical therapy, and necessity for transfusion in patient with volume overload and/or oliguria.- In irreversible renal failure: renal transplant.

473. A child with Sickle Cell Anemia presented with pain in his penis. What is the most likely diagnosis?

A. Balanitis

B. Paraphimosis

C. Priapism

D. Pyroni's disease

Answer: C

Priapism (penile erection in the absence of sexual activity or desire) is a common complication of sickle cell disease (SCD) in men. The vast majority of cases are ischemic, in which increased pressure compromises the vascular circulation (ie, a type of compartment syndrome). Over time, repeated episodes cause permanent damage and erectile dysfunction. Thus, priapism is considered a medical emergency in which timely diagnosis and appropriate management are vital to preserving normal function. This is a challenging management area because there are few experts dedicated to managing priapism in SCD and few large trials on which to base practice, and management often involves multiple specialties including urology, emergency medicine, pediatrics, and hematology.

474. You have just diagnosed a school-age patient in your practice with ADHD. You decide to prescribe only an evidence-based

treatment for your patient. Which treatment plan best fits your therapeutic goal?

A. A stimulant medication and behavior modification

B. Cognitive behavioral therapy

C. Hypoallergenic diet

D. Participation in a team sport

E. Play therapy

Answer: A

Evidence-based therapy refers to a treatment that has been consistently effective following several, independent, welldesigned randomized controlled trials (RTC). The more RTCs published usually suggest a stronger evidence base.Other criteria include a dose– response relationship, biologic plausibility, consideration of alternative explanations, and consistency with other knowledge (Bradford-Hill, 1965). Over 200 scientific studies support stimulant medications (methylphenidate and amphetamine) as effective in reducing core symptoms of ADHD in children and adolescents. Nonstimulant medicines may improve core symptoms, but the evidence base (number of RCTs and effect size) is not as strong as stimulants. Nonstimulants include atomoxetine, tricyclic antidepressants, clonidine, and guanfacine. Behavior management for ADHD refers to parent training to achieve consistent and positive interactions with their child, learn about developmentally normal behaviors, limit negative interactions such as arguing, provide appropriate consequences, and become more empathic. Behavior management has been demonstrated to be effective in RCTs in children with ADHD. It is most effective when used in combination with medication. Cognitive behavioral therapy, play therapy, and hypoallergenic diets have not been shown to significantly reduce core ADHD behaviors. Encouraging participation in a team sport is often recommended as a way to enhance social relations; it has not been studied rigorously as a treatment for children with ADHD.

475. Down syndrome (trisomy 21) is commonly associated with:

A. All of the above

B. Conductive hearing loss

C. Narrow ear canals

D. Speech delay

Answer: A

Hearing problems are found in 50–90% of children with Down syndrome.[38] This is often the result of otitis media with effusion which occurs in 50–70%[8] and chronic ear infections which occur in 40 to 60%.[39] Ear infections often begin in the first year of life and are partly due to poor eustachian tube function.[40][41] Excessive ear wax can also cause hearing loss due to obstruction of the outer ear canal.[7] Even a mild degree of hearing loss can have negative consequences for speech, language understanding, and academics.[1][41] Additionally, it is important to rule out hearing loss as a factor in social and cognitive deterioration.[42] Age-related hearing loss of the sensorineural type occurs at a much earlier age and affects 10–70% of people with Down syndrome

476. Which of the following congenital heart disease is the least associated with infective endocarditis?

A. ASD

B. PDA

C. PDA

D. VSD

Answer: A

3177-15646-sf Valvular aortic stenosis – 13.3 percent Coarctation of the aorta – 3.5 percent Primum atrial septal defect – 2.8 percent Ventricular septal defect (VSD) – 2.7 percent Tetralogy of Fallot (TOF) – 1.7 percent No child with secundum atrial septal defect, patent ductus arteriosus (PDA), or pulmonic stenosis had IE after surgery

477. A 6-month-old male is hospitalized for evaluation of increased anion gap metabolic acidosis and seizures. He is noted to have alopecia and a periorificial skin rash. These features should prompt you to evaluate for which disorder.

A. Biotinidase deficiency

B. Fatty acid oxidation disorder

C. Galactosemia

D. Glycogen storage disease

E. Homocystinuria

Answer: A

Biotinidase deficiency usually presents in infancy with periorificial dermatitis resembling acrodermatitis enteropathica, patchy alopecia, neurologic abnormalities and metabolic acidosis related to impaired activity of the carboxylases, which use biotin as a co-factor. Patients respond dramatically to treatment with large doses of biotin, usually at 10 mg per day. Early recognition is critical because it can be so easily treated. Untreated biotinidase deficiency can lead to permanent

neurologic sequelae. Based on these factors, most states in the United States perform NBS by enzymatic assay for this disorder.

478. Two healthy siblings are followed in a primary pediatric care clinic. The younger sibling was breastfed until 10 months of age; the older sibling was exclusively formula-fed from birth. Which of the following statements about the siblings during their infancy is true?

A. Both the breastfed infant and the formula-fed infant secreted pancreatic lipase and bile salt to a greater degree than their adult parent.

B. The breastfed infant absorbed significantly more dietary lipid than the formula-fed infant.

C. The breastfed infant had significantly higher lactase activity compared with the formula-fed infant.

D. The breastfed infant was able to directly absorb medium-chain fatty acids into the portal system, whereas the formula-fed infant was not.

E. The formula-fed infant absorbed significantly less dietary protein when compared with the breastfed infant.

Answer: B

Breastfed infants absorb significantly more dietary lipid when compared with formula-fed infants because they ingest a unique breast milk lipase that assists in the majority (up to two thirds) of lipid hydrolysis. Breastfed and formula-fed infants have comparable levels of lactase activity, which peaks at birth and then declines to about 25% of term levels by 1 year of age. Both breastfed and formula-fed newborn infants have relatively lower pancreatic lipase and bile salt secretion overall when compared with adults, with formula-fed infants malabsorbing 10% to 15% of dietary lipids. All infants have efficient protein digestion and absorption; there is no difference between

breastfed and formula-fed infants. Both breastfed and formula-fed infants are able to absorb medium-chain fatty acids directly into the portal system, whereas long-chain fatty acids require transport proteins for absorption.

479. A 16-year-old surfer presents with an erythematous, maculopapular rash that was noted in the area of his bathing suit. Initial treatment includes

A. Application of vinegar

B. Clotrimazole cream

C. Cryotherapy

D. Ice packs

E. Zinc oxide

Answer: B

Swimmers or surfers with seabather's eruption present with an urticarial maculopapular rash on areas of the body that were covered by the swimsuit. The rash may appear while the bather is in the water or up to 1.5 days later. The rash may last for 2 to 28 days; most reactions resolve within 1 to 2 weeks. Systemic symptoms include fever, nausea, vomiting, and headache and are more likely to affect children. Initial treatment involves the topical application of heat or vinegar. Further treatment is symptomatic and may include topical corticosteroids, oral antihistamines, and oral steroids. Twice-daily application of thiabendazole (Mintezol) can be beneficial. The swimsuit should be cleaned thoroughly because larvae can persist and reenvenomate.

480. A patient with hematuria and upon examination, he has aniridia (absence of the iris). What's the diagnosis?

A. Neuroblastoma

B. Renal cell carcinoma

C. Retinoblastoma

D. Wilms tumor

Answer: D

Patients with an unusual complex of congenital developmental abnormalities, such as aniridia (see the image below), genitourinary (GU) malformations, and mental retardation, are at high risk (>30%) of having a Wilms tumor. At birth, the association is aniridia, GU malformations, and mental retardation (AGR) syndrome. With the discovery of a Wilms tumor in these patients, the association is referred to as WAGR syndrome. These syndromes result from the loss of chromosomal material from the short arm of chromosome 11.

481. An 13-year-old girl presents for evaluation of short stature (<10th percentile) and absence of breast development. Her mother reports that the patient was the same height as her peers until a few years ago. On physical exam, patient is found to have appropriate pubic hair and normal external female genitalia. There were no other significant findings except for elevated blood pressure in both arms and weak femoral pulses. What is the patient's most likely cardiac defect ?

A. Coarctation of the aorta

B. Eisenmenger's syndrome

C. Epstein's anomaly

D. Patent ductus arteriosus

E. Tetralogy of Fallot

Answer: A

Cardiovascular complications in Turner's syndrome are the most common cause of excess early mortality, with a life expectancy that may be reduced by more than 10 years. Congenital cardiac abnormalities are described in approximately one third of patients.

These abnormalities are mostly left heart obstructions, the most common of which are bicuspid aortic valve (16%) and coarctation of the aorta (11%).

482. Which of the following is not a clinical feature of Vitamin A de□ciency

A. Increased susceptibility to infections

B. Night blindness

C. Vomiting and diarrhea

D. Xeropthalmia

Answer: C

An early symptom is delayed adaptation to the dark, a result of reduced re-synthesis of rhodopsin; later, when vitamin A deficiency is more advanced, it leads to night blindness as a consequence of the absence of retinal in the visual pigment, rhodopsin, of the retina. In early vitamin

A deficiency, the cornea keratinizes, becomes opaque, is susceptible to infection, and forms dry, scaly layers of cells (xerophthalmia).

483. The development of "basic trust" is among the most important psychosocial tasks of the first year of life. It is the process whereby predictable events and people lead to a sense of inner certainty. Basic trust in infants is most closely associated with which aspect of early development?

A. Attachment

B. Autonomy

C. Object constancy

D. Parallel play

E. Separation anxiety

Answer: B

Attachment refers to the process by which a young child experiences a sense of security and positive self-worth in response to a caregiver's predictable responses to an infant's feelings. Secure attachment with a small number of caregivers is the foundation for basic trust in individuals and events that provides for healthy cognitive, social, and emotional development. Separation anxiety is a normal response of an infant from about 9 to 15 months of age when he or she appears upset when a new person enters the environment. Autonomy refers to the psychological independence that develops gradually between 1 and 3 years. Object constancy is a developmental marker of early cognitive maturity when, beginning at about 9 months, an infant is able to detect a hidden object ("out of site is no longer out of mind"). Parallel play refers to playing with another child in close proximity but not interactively.

484. A 6 year old child has frequent vomiting and Gastro-Esophageal Reflux Disease (GERD). Which of the following options represents the pathophysiologic mechanism of GERD:

A. All of the above

B. Delayed gastric emptying

C. Poor esophageal motility

D. Weak lower esophageal sphincter pressure

Answer: A

Schematically, the esophagus, lower esophageal sphincter (LES), and stomach can be envisioned as a simple plumbing circuit as described by Stein and coworkers. [15] The esophagus functions as an antegrade pump, the LES as a valve, and the stomach as a reservoir. The abnormalities that contribute to GERD can stem from any component of the system. Poor esophageal motility decreases clearance of acidic material. A dysfunctional LES allows reflux of large amounts of gastric juice. Delayed gastric emptying can increase the volume and pressure in the reservoir until the valve mechanism is defeated, leading to GERD. From a medical or surgical standpoint, it is extremely important to identify which of these components is defective so that effective therapy can be applied.

485. Which of the following statements is correct about the delivery of high-quality CPR, which optimizes blood flow and oxygen delivery?

A. AEDs should be used in children aged 1–8 years, ideally with pediatric AED pads, at an initial dose of 2 J/kg.

B. Advanced life-support interventions, such as drug delivery and intubation, are organized around 3-minute intervals.

C. Bradycardia (HR <60 beats/minute with poor perfusion despite adequate oxygenation and ventilation) should be recognized early and treated with chest compressions.

D. Compression-to-ventilation ratios should be 15:2, regardless of the number of rescuers, to optimize oxygen delivery, as the vast majority of pediatric arrest is due to asphyxia, rather than arrhythmias.

E. Epinephrine should be administered in a standard dose every 3–5 minutes in cardiac arrest with the optimal routes being intravenous, intraosseus, or endotracheal.

Answer: A

The AHA CPR guidelines emphasize effective chest compressions for all victims and the PALS guidelines recommend that advanced life support interventions be performed at 2-minute intervals of uninterrupted CPR. The AHA recommends a 30:2 compression-toventilation ratio for single rescuers and a 15:2 ratio for 2 or more rescuers, based on expert consensus and the prevalence of asphyxia arrest in children. These ratios were established to optimize myocardial and systemic blood flow by minimizing interruptions in chest compressions while maintaining adequate arterial oxygen content. If treated early before it progresses to arrest, bradycardia has a high survival rate with chest compressions. Compressions should be initiated for a HR of <60 BPM with poor perfusion despite adequate oxygenation and ventilation. If a shock is indicated it should be delivered within 10 seconds or less of the last chest compression and an AED is recommended for children aged 1–8 years suffering from cardiac arrest. Pediatric pads are ideal, although the adult pads may be used if necessary. The current recommendation is an initial 2 J/kg shock, although this dose may be inadequate in arrests of longer duration and larger doses can be used. Although no drug increases

survival from pediatric cardiac arrest, vasoconstrictors do increase blood pressure and therefore coronary and cerebral blood flow and return to spontaneous circulation in animal models. The AHA recommends a standard dose of IV epinephrine every 3–5 minutes for cardiac arrest. High-dose epinephrine is no longer recommended for routine resuscitation as it was found to be associated with decreased survival and neurological outcomes in an RCT. Intravenous and intraosseus routes of drug administration are preferred to endotracheal routes, as drug absorption by the ETT is poor and unpredictable and optimal drug doses are not known.

486. A 10 year old girl presents with scaly erythematous plaques with follicular hyperkeratosis over elbows and knees. What is the other area in the body most likely to be affected?

A. Adrenal

B. Eye

C. Heart

D. Kidney

Answer: B

Blepharitis involves chronic inflammation of the eyelids and is one of the more common eye problems associated with psoriasis. Another common ocular finding is anterior uveitis, which has been reported to occur in 7% to 20% of patients with psoriasis

487. Most infants experience no head lag when pulled to sit at which age?

A. 11 months

B. 4 months

C. 6 months

D. 8 months

Answer: B

Developmental Milestones (4 months)

1. Sits with trunk support

2. No head lag when pulled to sit

3. Rolls from front to back

4. Lifts head and chest

5. When held erect pushes with feet

6. Reaches toward object and waves at toy

7. Grasps an object and brings to mouth

8. Plays with rattle

9. Laughs out loudly

10. Excited at sight of food

11. Smiles spontaneously at pleasurable sight/sound

12. May show displeasure if social contact is broken

13. Asymmetric tonic re□ex gone

14. Palmar grasp gone

488. Which of the following is the most common cause of tinnitus ?

A. Acoustic neuroma

B. Age-related hearing loss

C. Earwax blockage

D. Noise-induced hearing loss

Answer: D

Tinnitus (ringing of the ears) Environmental noise is a common and preventable cause of hearing loss in industrialized societies. Noiseinduced hearing loss is the most common cause of tinnitus. Causes of tinnitus Noise-induced hearing loss, Meniere disease, Acoustic neuroma, Multiple sclerosis, Depression and anxiety, High blood pressure, Antibiotics, including polymyxin B, erythromycin, vancomycin and neomycin, Diuretics, Quinine medications used for malaria or other health conditions. Aspirin taken in uncommonly high doses (usually 12 or more a day),Age-related hearing loss

489. A 9-month-old boy is being evaluated because of recurrent ear infections, eczema, profuse bleeding during circumcision procedure, and thrombocytopenia.

Which of the following is the most likely diagnosis?

A. Ataxia telangiectasia

B. Bloom syndrome

C. Hereditary angioedema

D. Wiskott–Aldrich syndrome

Answer: D

Wiskott–Aldrich Syndrome

1. Wiskott-Aldrich syndrome (WAS) is a condition with variable expression, but commonly includes immunoglobulin M (IgM) deficiency.

2. X -linked Recessive disorder.

3.Bloody diarrhea during infancy (usual presenting symp toms)

4.Prolonged bleeding from circumcision site

Wiskott–Aldrich Syndrome :

1. Thrombocytopenia

2. Tiny platelet (Thrombocytopenia)

3. Eczema (seen before 6 months of age)

4. Recurrent infection

490. All of the following statements concerning HIV infection are true EXCEPT:

A. CD4 cell counts re□ect the risk of opportunistic infections

B. HIV suppression is best achieved by regularly rotating antiretroviral regimens

C. Therapy can reduce HIV burden to undetectable levels

D. Viral burden predicts disease progression

Answer: B

Sustainable suppression of HIV is best achieved by combination antiretroviral therapy to which the patient has not been exposed previously and that is not cross-resistant to drugs given to the patient previously. CD4 count less than 100 is a risk factor for opportunistic infection.

491. Which of the following is the most common cause of nephritic syndrome in children?

A. Focal segmental glomerulosclerosis

B. IgA nephropathy

C. Minimal change disease

D. Systemic lupus erythematosis

Answer: C

1. Nephrotic syndrome is urinary excretion of >3 g of protein/day due to a glomerular disorder plus edema and hypoalbuminemia.

2. Minimal change disease (MCD) is the most common cause of nephrotic syndrome in children

3. Focal segmental glomerulosclerosis (FSGS) is the most common cause of nephrotic syndrome in adults.

4. It is more common among children and has both primary and secondary causes.

5. Diagnosis is by determination of urine protein/creatinine ratio in a random urine sample or measurement of urinary protein in a 24-h urine collection; cause is diagnosed based on history, physical examination, serologic testing, and renal biopsy.

6. Prognosis and treatment vary by cause.

492. A child with history of trauma then developed knee pain and swelling with tenderness on passive movement. What's the next step?

A. Blood culture

B. Empirical Antibiotics

C. Examination of synovial fluid

D. Knee x-ray

Answer: C

Septic arthritis should be considered whenever a person has rapid onset pain in a swollen joint, regardless of fever. One or multiple joints can be affected at the same time. The diagnosis of septic arthritis is based on physical exam and prompt arthrocentesis which yields synovial fluid from within the affected joint. This fluid should be collected before the administration of antibiotics and should be sent for gram stain, culture, leukocyte count with differential, and crystal studies. Imaging such as x-ray, CT, MRI, or ultrasound are nonspecific. They can help determine areas of inflammation but cannot confirm septic arthritis. When septic arthritis is suspected, x-rays should generally be taken Ultrasound can be done and is effective at detecting joint effusions

493. A 6-month-old girl is found to have bilateral leukocoria on her wellchild exam. After referral to a pediatric ophthalmologist and appropriate imaging studies, she is diagnosed with bilateral retinoblastoma. Which of the following tumors is she also at high risk for?

A. Hepatoblastoma

B. Hodgkin lymphoma

C. Medulloblastoma

D. Neuroblastoma

E. Osteosarcoma

Answer: E

The child in this vignette most likely has inherited a germline mutation in one copy of the tumor suppressor gene RB1 . Hereditary RB mutations are more likely to present bilaterally and at a younger age (younger than 11 months). The RB1 gene has been localized to chromosome 13. The loss of the retinoblastoma protein, pRB, allows unregulated growth and proliferation, thereby contributing to tumorgenesis. The patient is at risk for developing new retinoblastoma tumors during early childhood, and for developing osteosarcoma at any age. There is a dramatically increased risk of osteosarcoma in the radiation field; this is one reason why chemotherapy or localized cryotherapy is preferred over radiation for the treatment of these tumors. Hepatoblastoma, neuroblastoma, Hodgkin lymphoma, and medulloblastoma have not been specifically identified as RB dependent tumors.

494. A child is born with micrognathia, glossoptosis, and a U-shaped cleft palate. This combination of findings is most appropriately classified as a:

A. Association

B. Disruption

C. Sequence

D. Syndrome

Answer: C

The combination of findings describes the Pierre Robin Sequence. It is not a syndrome because it does not have a single consistent etiology. It is a sequence of embryologic events starting with failure of the jaw to grow. The tongue then prevents the palatal folds from fusing. A disruption is a chemical or physical interference of a structure with normal primary embryogenesis. A field defect results from spatially related abnormalities. An association is a set of defects that occur more frequently together than expected by chance alone

495. Which of the following is a acyanotic heart disease?

A. Transposition of the great vessels

B. Tricuspid atresia

C. Truncus arteriosus

D. VSD

Answer: D

Congenital heart disease is classified by the presence or absence of cyanosis.Acyanotic "Left to right shunt":

1-VSD

2-ASD

3-PDA

Cyanotic "Right to left shunt":

1-Tetralogy of Fallot

2-Tricuspid atresia

3- Transposition of the great vessels

4-Truncus arteriosus

5-Total anomalous pulmonary venous drainage

496. NICU child suddenly developed distress with absent breath sounds. Where will you place the butterfly needle?

A. 2nd intercostal space, midclavicular line

B. 3rd intercostal space, anterior axillary line

C. 4th intercostal space, , anterior axillary line

D. 5th intercostal space,, anterior axillary line

Answer: A

Insert needle into the pleural space (directly over the top of the rib in the second or third intercostal space in the midclavicular line) until air is aspirated into the syringe. Expel air through the three-way stopcock.

497. All of the following are considered habit disorders except:

A. Stuttering

B. Thumb sucking

C. Tics

D. Trichotillomania

Answer: A

Stuttering is often discussed with habit disorders; however, it is probably not a true habit in that it is not regarded as a tension relieving activity.Tic disorders are characterized by repetitive, sudden movements and/or vocalizations that are seemingly purposeless in nature. Habit disorders are typified by repetitive behaviors focused on the body and include trichotillomania, skin picking, nail biting, thumb sucking, and cheek chewing.

498. A 2-year-old child, previously well, is presented with sudden onset of wheezing. Chest X-ray reveals airtrapping in the left lung with shifting of the heart and mediastinum to the right.Which of the following is the likely diagnosis?

A. Acute bronchiolitis

B. Bronchial asthma

C. Foreign body

D. Left pneumothorax

Answer: C

When aspiration of a foreign body is clinically suspected, either because of a history of choking episode or asymmetric breath sounds or

wheezing, inspiration AND expiration radiographs should be obtained. Most aspirated foreign bodies are not radiopaque. They are detectable indirectly due to their effect on air flow through the airway. Most commonly, a foreign body results in a “ball valve” effect, in which the air can flow into the lung around the object on inspiration but cannot flow out of the lung on expiration. This results in hyperaeration of the involved lung or lobe. The finding may be subtle or absent on inspiration views; however, expiration view will demonstrate the air trapping as a unilateral hyperlucent lung that does not deflate as does the normal side.In young children, bilateral decubitus films may substitute for the expiration view: the dependent lung should deflate and become more opaque. When the dependent lung remains expanded and hyperlucent, air trapping is confirmed. Passive or assisted expiration can also be done by gently compressing the child’s abdomen with a lead-gloved hand. In questionable cases, fluoroscopy of the chest may be useful to demonstrate air trapping; with each expiration, the heart and mediastinum shift toward the normal side that deflates properly during exhalation.

499. Which of the following is the treatment of choice for kawasaki disease ?

A. Exchange transfusion

B. IV ceftriaxone

C. Intravenous immunoglobulin

D. None of the above

Answer: C

Explanation: the recommended initial therapy for Kawasaki disease includes intravenous immune globulin (IVIG; 2 g/kg) adminis- tered as

a single infusion over 8 to 12 hours and aspirin (initial dose of 30 to 50 mg/kg daily divided into four doses). IVIG : to reduce risk of coronary artery aneurysm Aspirin : reduce risk of thrombosis at risk of coronary arteries aneurysm within the first week of illness in about one third of affected children .

500. A 7-month-old previously healthy female infant is brought to the ED. Her mother reports a 2-day history of poor oral intake associated with diarrhea and vomiting. Her mother found the 7-month-old in the crib this morning limp and lethargic and immediately came to the ED. A glucose level is collected and is noted to be 25 mg/dL. A dextrose bolus is initiated. No hepatomegaly is noted on physical examination. Electrolytes reveal a bicarbonate level of 18 mg/dL, without other significant abnormalities. A stat ammonia level is noted to be normal. Urinalysis reveals specific gravity 1030, negative glucose, negative protein, and negative ketones. What is the most likely underlying diagnosis?

A. Fatty acid oxidation disorder

B. Glycogen storage disease

C. Hypoglycemia related to viral gastroenteritis

D. Organic acidemia

E. Urea cycle disorder

Answer: A

Mitochondrial fatty acid oxidation provides the main source of energy when the supply of glucose is limited. Patients present with hypoketotic hypoglycemia during fasting or stress. Defects in fatty acid oxidation do not allow generation of adequate acetyl CoA for ketone body

production. Hypoglycemia related to poor oral intake and increased loss from viral gastroenteritis, should lead to an appropriate physiological ketone body response in patients with a normal fatty acid oxidation pathway (note negative urinary ketones in the urinalysis). Organic acidemias would also lead to signi□cant ketonuria. GSDs are most often associated with hepatomegaly. Ammonia level would be elevated in urea cycle defects.

501. The radiographic finding of notching of the ribs is associated with:

A. Anomalous pulmonary venous return above the diaphragm

B. Coarctation of the aorta

C. Pulmonary hypertension

D. Systemic hypertension

Answer: B

Rib notching is caused by increased collateral arteries trying to supply the lower trunk and extremities and bypass the aortic coarctation

502. A 12-year-old African boy presented with a 7-cm mass at the left side of lower jaw. Histological examination of the mass showed sheets of intermediate-sized lymphoid cells, with nuclei having coarse chromatin and several nucleoli, and many mitoses. Cytogenetic analysis of the cells from the mass showed t(8; 14) karyotype.Which of the following is the most likely diagnosis?

A. Acute lymphoblastic leukemia

B. Burkitt lymphoma

C. Diffuse large B-cell lymphoma

D. Follicular lymphoma

Answer: B

A rare, fast-growing type of leukemia (blood cancer) in which too many white blood cells called B lymphocytes form in the blood and bone marrow. It may start in the lymph nodes as Burkitt lymphoma and then spread to the blood and bone marrow, or it may start in the blood and bone marrow without involvement of the lymph nodes. Both Burkitt leukemia and Burkitt lymphoma have been linked to infection with the Epstein-Barr virus. Burkitt lymphoma is an aggressive form of lymphoma that affects the B-lymphocytes . It accounts for approximately 0.3-1.3% of all non-Hodgkin lymphomas. Burkitt lymphoma is relatively rare in Western countries, but is quite common in Central Africa. Burkitt lymphoma, particularly the endemic form that is common in Africa, is associated with the Epstein-Barr Virus (EBV) in nearly 100% of cases. In the sporadic forms that occur in Western countries, EBV is present in approximately 30% of cases and in 40% of immunodeficiency-associated cases.

503. Child swallowed caustic soda and presented with drooling of saliva and bluish discoloration of the skin. What is the best initial step?

A. CT scan of neck

B. Emergent endoscope

C. MRI of the neck

D. Secure airway

Answer: D

This patient's condition cause by caustic soda is indicative of acute distress and resulting bluish discoloration of the skin. He is in imminent danger and need secure airway in order to save the life according to protocols of ATLS. So treacheostomy should be the best initial step followed by detailed analysis of injury and further planning.

504. Which of the following options represents the radiological sign of duodenal atresia?

A. None of the above

B. Steeple sign

C. bird beak appearance R.

D. double bubble appearance

Answer: D

X-ray shows classic double bubble with no distal bowel gas.

505. What is the treatment of choice for pertussis?

A. Azithromycin

B. Ciprofloxacin

C. Clindamycin

D. Streptomycin

Answer: A

Pertussis, also known as “whooping cough,” is a highly contagious, acute respiratory illness caused by Bordetella pertussis. Pertussis is spread by aerosol droplets expelled while coughing or sneezing in proximity to others. Infection with B. pertussis in individuals without immunity is characterized by three phases: the catarrhal phase, the paroxysmal phase and the convalescent phase. The catarrhal phase is the earliest phase of illness; it lasts one to two weeks and is characterized by non-specific symptoms including generalized malaise, rhinorrhea, and mild cough; mild temperature elevations may be present, but high fever is uncommon. The paroxysmal stage begins during the second week of illness. The hallmark symptom, paroxysmal cough, is a series of severe, vigorous coughs that occur during a single expiration. The convalescent phase is characterized by a gradual reduction in the frequency and severity of cough. It usually lasts one to two weeks, but may be prolonged. Labs show an elevated WBC count with lymphocytosis. Culture is the gold standard. reatment is with Macrolides (eg, azithromycin, erythromycin, clarithromycin)

506. Which of the following is recognized to be associated with infantile hypertrophic pyloric stenosis?

A. Any macrolide administered during the first 2 week of life

B. Any maternal macrolide administered during pregnancy

C. Erythromycin administered during the first 2 week of life

D. Maternal azithromycin administered during pregnancy

Answer: C

A 7- to 10-fold relative risk for infantile hypertrophic pyloric stenosis has been reported in infants younger than 6 week of age treated with orally administered erythromycin. The highest risk appears to be in the first 2 week of life in term infants, and with courses of 14 days or longer. The risk of IHPS after treatment with azithromycin or clarithromycin is unknown.

507. What is the mode of inheritance in neurofibromatosis?

A. Autosomal dominant

B. Autosomal recessive

C. Multifactorial

D. X-linked recessive

Answer: A

1. Neurofibromatosis type 1 (NF1) is a multisystem genetic disorder that is characterized by cutaneous, most notably café-au-lait spots and axillary freckling.2. It is an autosomal dominant genetic disorder.Diagnosis: At least two of the following clinical features must be present to make the diagnosis of Neurofibromatosis:1. Six or more café-au-lait macules >5 mm in diameter in prepubertal and >15 mm in diameter in postpubertal individuals; for each lesion, the longest diameter is measured.

2. Two or more neurofibromas of any type or one plexiform neurofibroma.

3. Freckling in the axillary or inguinal regions.

4. Optic glioma.

5. Two or more Lisch nodules (iris hamartomas).

6. A distinctive bony lesion such as sphenoid dysplasia or thinning of the long bone cortex with or without pseudoarthrosis.

7. A first-degree relative (parent, sibling, or offspring) with NF1 based upon the above criteria.

508. A 6-year-old boy presents to the doctor with a neck swelling that moves when he protrude his tongue. Which of the following is the most likely diagnosis?

A. Branchial cleft cyst

B. Laryngocoele

C. Ranula

D. Thyroglossal Cyst

Answer: D

Thyroglossal Cyst: Failed obliteration of thyroglossal duct. It is the most common form of congenital cyst in the neck. Clinical features: Midline neck mass (often cystic) inferior to hyoid bone and superior to thyroid. Elevates with tongue protrusion Treat infection with antibiotics (avoid incision and drainage). Surgical removal when not infected (Sistrunk procedure). Ranula is a benign mass that comes out of the floor of the mouth. The ranula present as a swelling of connective tissue consisting of collected mucin from a ruptured salivary gland caused by local trauma. Ranulas may spontaneously resolve, especially in infants and young children.

509. Which of the following milestones are appropriate for a 2-month old with normal development?

A. Pulls to stand

B. Removes cloth on face

C. Smiles on social contact

D. Throws ball

Answer: C

510. What type of vaccine is the influenza vaccine that is given intranasally?

A. Conjugate vaccine

B. Live attenuated vaccine

C. Subunit vaccine

D. Toxoid vaccine

Answer: B

There are five main types of vaccines: attenuated (live) vaccines, inactivated vaccines, toxoid vaccines, subunit vaccines, and conjugate vaccines. Live, attenuated vaccine list: Vaccinia (smallpox) Measles, mumps, rubella (MMR combined vaccine) Varicella (chickenpox) Influenza (nasal spray) Rotavirus Zoster (shingles) Yellow fever

511. Mother changes her baby diaper many times a day Labs all within the normal except low sodium. What is your diagnosis?

A. Acute distal renal tubular acidosis

B. Acute proximal renal tubular acidosis

C. Congenital Chloride diarrhea

D. None of the above

Answer: C

Congenital chloride diarrhea (CCD) is caused by a variety of mutations in the SLC26A3, there is excessive fecal losses of fluid and electrolytes, affected individuals present in the neonatal period with hyponatremia, hypochloremia, and metabolic alkalosis (unlike the metabolic acidosis present in most chronic diarrheas); there may be a history of polyhydramnios. Reference: UpToDate Congenital chloride diarrhea: serum electrolyte levels may be within the reference range, especially in neonates and treated patients. However, typical findings include low concentrations of serum chloride, sodium, and potassium.

512. You see a patient in an urgent care center and notice the presence of microbrachycephaly and micrognathia. The patient has a low hairline, synophrys, arched eyebrows, long eyelashes, a thin upper lip and low-set ears. In examining the patient's extremities, you note spade like hands, 2–3 syndactyly of toes. What is the most likely syndrome?

A. Beckwith–Wiedemann syndrome

B. Cleidocranial dysplasia

C. Cornilia de Lange syndrome

D. Moebius sequence

E. Sturge–Weber syndrome

Answer: C

This patient most likely has Cornelia de Lange syndrome. Moebius sequence is associated with congenital facial palsy, cranial nerve VI and VII palsy, distal limb deficiencies, occasional arthrogryposis, and/or mental retardation Sturge–Weber syndrome is associated with hemangiomata in the distribution of the trigeminal nerve, glaucoma, and seizures Beckwith–Wiedemann syndrome is associated with coarse facial features, macroglossia (often with secondary maxillary and mandibular deformity), ear lobe creases, posterior auricular pits, mid face hypoplasia, omphalocele, generalized overgrowth or hemihypertrophy, visceromegaly, Wilms tumor (and other malignancies), cryptorchidism, and cardiomyopathy.

513. Addison's disease (primary adrenal insuficiency) is associated with

A. Decreased ACTH production

B. Hypernatremia

C. Hypothalamic dysfunction

D. Increased ACTH production

E. Increased urine 17-hydroxysteroids and 17-ketosteroids

Answer: D

Primary adrenal insufficiency (Addison's disease) is a condition resulting from adrenocortical insufficiency. Secondary adrenal insufficiency is secondary to a lack of ACTH production from the

pituitary gland. The primary disease results in electrolyte disturbances, such as hyponatremia, hyperkalemia, low bicarbonate, and elevated BUN. The plasma renin and ACTH are increased with primary adrenal insufficiency. Other laboratory findings include moderate neutropenia, lymphocytosis, eosinophilia, low plasma cortisol, decreased urine 17-hydroxysteroids, and decreased 17-ketosteroids. There is also a failure of plasma cortisol to rise after administration of ACTH (corticotropin). Symptoms include weakness, fatigue, anorexia with nausea, vomiting, and diarrhea.

Physical findings include hypoglycemia, sparse axillary hair, and increased pigmentation of the gingival mucosa, nipples, labia, and linea alba. Treatment involves the replacement of glucocorticoids and mineralocorticoids. Symptoms of adrenal crisis include severe abdominal pain, generalized muscle weakness, hypotension, and shock. Severe cases may result in death.

514. A full-term infant in the newborn nursery is born to a 16-year-old mother who is diagnosed with syphilis. The mother reports severe allergic reaction to penicillin when she was treated for strep throat a year ago. You would like to treat the mother as well as the child. What is the drug of choice for treatment of syphilis in an adolescent patient with penicillin drug allergy?

A. Azithromycin

B. Ceftriaxone

C. Penicillin G

D. Tetracycline

E. Vancomycin

Answer: D

Penicillin G is the treatment of choice for all forms of syphilis including congenital, primary, secondary, tertiary, and neurosyphilis. In penicillinallergic individuals, tetracycline, doxycycline, or erythromycin is used as an alternative. In neonates, ceftriaxone can be used as an alternative if penicillin G is unavailable. Regimen durations range from 2 to 4 weeks depending on the particular infection.

515. 4 weeks old boy with acute onset forceful non bilious vomiting after feeding. On abdominal examination: There is olive mass at epigastric area.

What is the 1st investigation should you do?

A. Abdominal US

B. Abdominal X-ray

C. CT scan-Abdomen

D. PH monitoring

Answer: A

Hypertrophic pyloric stenosis (HPS) causes a functional gastric outlet obstruction as a result of hypertrophy and hyperplasia of the muscular layers of the pylorus. Typical presentation is onset of initially nonbloody, usually nonbilious vomiting at 4-8 weeks of age The diagnosis is easily made if the presenting clinical features are typical, with projectile vomiting, visible peristalsis, and a palpable pyloric tumor. Early in the course of the disease, however, some of the classic signs may be absent. An enlarged pylorus, classically described as an "olive," can be palpated in the right upper quadrant or epigastrium of the abdomen in 60-80% of infants. Ultrasonography has become the criterion standard imaging technique for diagnosing hypertrophic

pyloric stenosis. It is reliable, highly sensitive, highly specific, and easily performed.

516. The most common sequelae to periventricular leukomalacia is

A. Bladder dysfunction

B. Cerebral palsy

C. Hypotonia

D. Sensory disturbance

Answer: B

Periventricular leukomalacia (PVL), or white-matter injury is a form of brain injury characterized by the death of white matter near the cerebral ventricles due to damage and softening of the brain tissue. It can affect fetuses or newborns;premature infants are at the greatest risk of the disorder. Affected individuals generally exhibit motor control problems or other developmental delays, and they often develop cerebral palsy or epilepsy later in life. Predisposing Factors Those generally considered to be at greatest risk for PVL are premature, very low birth-weight infants. It is estimated that approximately 3-4% of infants who weigh less than 1,500 g (3.3 lb) have PVL, and 4-10% of those born prior to 33 weeks of gestation (but who survive more than three days postpartum) have the disorder. Injury Pathway

Two major factors appear to be involved in the development of PVL:

1. Decreased blood or oxygen flow to the periventricular region (the white matter near the cerebral ventricles)

2. Damage to glial cells, the cells that support neurons throughout the nervous system. These factors are especially likely to interact in premature infants, resulting in a sequence of events that leads to the

development of white matter lesions. A Valvular pulmonic stenosis B Right ventricular hypertrophy C Infundibular stenosis D Aorta overriding Flip Question40 out of 42 A 2 year old female child developed fever, cough and respiratory distress. On chest x-ray consolidation is seen in right lower lobe. She improved with antibiotics but on follow up at 8 weeks was again found to have increasing consolidation in right lower lobe and fever. Your next investigation would be: (DNB June 2011) A Bronchoscopy B Bacterial culture of the nasopharynx C CT scan of the chest D Allergen sensitivity test Flip Question41 out of 42 Which of the following defines Pentalogy of Fallot? (DNB Nov 2011) A TOF with PDA B TOF with ASD C TOF with CoA D TOF with Polysplenia Flip Question42 out of 42 The drug of choice for rheumatic fever prophylaxis in a penicillin allergic patient is (DNB June 2012) A Erythromycin B Clindamycin C Vancomycin D Gentamycin Flip As Seen On People Talking About Us This product has helped us to setup our e-learning courses easily. It is very user friendly and help us to earn extra revenue.

517. Therapy of a "blue" or "tet" spell could include all of the following Except:

A. Epinephrine

B. Knee-chest position

C. Morphine

D. Phenylephrine

Answer: A

Spells are associated with reduction of an already compromised pulmonary blood flow, which, when prolonged, results in severe systemic hypoxia and metabolic acidosis. Depending on the frequency and severity of hypercyanotic attacks, 1 or more of the following procedures should be instituted in sequence: (1) placement of the infant

on the abdomen in the knee-chest position while making certain that the infant's clothing is not constrictive, (2) administration of oxygen (although increasing inspired oxygen will not reverse cyanosis caused by intracardiac shunting), and (3) injection of morphine subcutaneously in a dose not in excess of 0.2 mg/kg. Calming and holding the infant in a knee-chest position may abort progression of an early spell. Premature attempts to obtain blood samples may cause further agitation and be counterproductive. Because metabolic acidosis develops when arterial P o 2 is <40 mm Hg, rapid correction (within several minutes) with intravenous administration of sodium bicarbonate is necessary if the spell is unusually severe and the child shows a lack of response to the foregoing therapy. Recovery from the spell is usually rapid once the pH has returned to normal. Repeated blood pH measurements may be necessary because rapid recurrence of acidosis may ensue. For spells that are resistant to this therapy, intubation and sedation are often sufficient to break the spell. Drugs that increase systemic vascular resistance, such as intravenous phenylephrine, can improve right ventricular outflow, decrease the right-to-left shunt, and improve the symptoms. β-Adrenergic blockade by the intravenous administration of propranolol (0.1 mg/kg given slowly to a maximum of 0.2 mg/kg) has also been used. Epinephrine is potentially dangerous because it may exacerbate inotropy and contractile forces, which may obstruct the right ventricular infundibulum.

518. Turner syndrome chromosomes?

A. 45 XO

B. 46 xy

C. 47 xxx

D. 47xxy

Answer: A

Turner syndrome is due to a chromosomal abnormality in which all or part of one of the X chromosomes is missing or altered. While most people have 46 chromosomes, people with TS usually have 45. The chromosomal abnormality may be present in just some cells in which case it is known as TS with mosaicism.

519. Which of the following karyotypes is associated with Kallmann syndrome?

A. 45,XXY

B. 46 XX

C. 47,XYY

D. Trisomy 18

Answer: B

Kallmann syndrome is an X-linked recessive disorder of migration of fetal gonadotropin-releasing hormone (GnRH) and olfactory neurons, resulting in hypogonadotropic hypogonadism and rhinencephalon hypoplasia. Affected boys and girls have normal genotype and internal reproductive organs. However, the congenital absence of GnRH secretion results in short stature and delayed or absent puberty. Girls, such as this patient, may have primary amenorrhea and absent breast development. Adolescent boys have a eunuchoid appearance with small external genitalia and absent secondary sexual characteristics (eg, pubic/axillary hair, voice deepening, libido). The most distinguishing clinical feature from other causes of hypogonadism is anosmia/hyposmia (decreased sense of smell). Kallmann's syndrome consists of a congenital absence of GnRH secretion (i.e. low FSH and LH) associated with anosmia and a normal karyotype (46 XX).

520. You are seeing a 15-month-old patient who has microcytosis (MCV 55), mild anemia (Hgb 10 g/dL), and normal serum iron. You recall that his newborn screen showed a small amount of abnormal hemoglobin (hemoglobin Barts), so you order a repeat hemoglobin electrophoresis. The results are normal. You suspect he has the following:

A. Hemoglobin H disease

B. Silent carrier for α-thalassemia

C. α-Thalassemia trait

D. β-Thalassemia major

E. β-Thalassemia trait

Answer: C

Hemoglobin Barts is a tetramer of 4 γ-globin chains. The presence of hemoglobin Barts in the neonatal period indicates that there is an excess of γ-globin chains relative to α-globin chains. (Remember, fetal hemoglobin is made up of α 2 γ 2 .) Once γ-chain synthesis is turned off and replaced by β-globin chains, a similar excess of β-globin would result in the formation of hemoglobin H (a tetramer of 4 β-globin chains). Since the repeat hemoglobin electrophoresis does not show the presence of hemoglobin H, the decrease in the amount of α-globin is not as severe as that seen in hemoglobin H disease (3 α-globin gene mutations), but since the patient is slightly anemic and microcytic, the patient is not a silent carrier (single α-globin gene mutation). Hence, the patient likely has α-thalassemia trait (2 α-globin gene mutations). Patients with β-thalassemia trait have a relative excess of α-globin chains compared with β-globin chains.

521. Barrett's esophagus is associated with

A. Adenocarcinoma of the esophagus

B. Overuse of PPIs

C. Tracheoesophageal fistula

D. Transformation of columnar epithelium to squamous epithelium

E. Trauma associated with prior esophagogastroduodenoscopy

Answer: A

Barrett's esophagus is the result of chronic gastroesophageal reflux. The condition causes metaplasia and transformation of squamous to columnar epithelium in the areas affected. Patients usually report symptoms of pyrosis and, occasionally, dysphagia if strictures develop. Men are more commonly affected than women. The diagnosis is made with esophagoscopy and biopsy of suspected areas. Treatment is accomplished with H2-blockers and PPIs. PPIs strongly inhibit gastric acid secretion. They act by irreversibly inhibiting the H+–K+ adenosine triphosphatase pump of the parietal cell. By blocking the final common pathway of gastric acid secretion, the PPIs provide a greater degree and duration of gastric acid suppression compared with H2-receptor blockers. Clinical trials have clearly shown that the PPIs provide better symptom control, esophageal healing, and maintenance of remission than H2-receptor blockers or prokinetic agents. Long-term use of PPIs in humans has not been associated with an increased risk of gastric carcinoma, although this was initially a concern. Prolonged use of the drugs has been associated with gastric atrophy; however, atrophy is more likely to be a problem in patients infected with H. pylori. The PPIs are fairly well tolerated. The most common side effects are nausea, diarrhea, constipation, headache, and skin rash. PPIs are more expensive than standard-dose H2- receptor blockers or prokinetic agents. However, when prescribed appropriately to patients with severe

symptoms or refractory disease, the PPIs are more cost-effective because of their higher healing and remission rates and the consequent prevention of complications. Occasionally, severe cases of Barrett's esophagitis are treated with surgery. Because of a 10% increased risk for the development of adenocarcinoma in the affected areas, follow-up with endoscopy every 3 to 5 years is indicated, although screening endoscopy time frames are controversial. Treatment of gastroesophageal re□ux disease associated with Barrett's esophagus has not been shown to eliminate the metaplasia of that condition or the risk of malignancy. Consequently, patients with Barrett's esophagus require periodic endoscopic biopsy to assess esophageal tissue for malignant changes.

522. A 12-year-old girl presents to your office with severe earache for 1 day. Yesterday she won several ribbons at a swimming meet. Initially the ear was pruritic, but has become more painful. On physical examination, she complains of severe pain when the auricle is pulledsuperiorly. You gently use your otoscope to try to see the tympanic membrane, but because of the edematous ear canal you are able to see only part of the canal. You are not able to visualize the tympanic membrane. The most likely organism causing her symptoms is:

A. Aspergillus niger

B. Haemophilus influenzae

C. Moraxella catarrhalis

D. Pseudomonas aeruginosa

E. Staphylococcus aureus

Answer: D

This child has otitis externa or “swimmer’s ear,” which is an infection of the outer ear canal, as opposed to otitis media, an infection in the middle ear. The skin of the ear canal protects against infection. A layer of sebaceous and apocrine glands produces cerumen with an antimicrobial lysozyme. This lining is also slightly acidic (pH 6.9). Excessive moisture (from swimming, showering, or a humid environment) can change the acidic environment of the ear canal and increase the likelihood of bacterial or fungal infection. Trauma can also predispose to infection. A bacterial infection (90% of cases) is more likely than a fungal infection. The differential diagnosis of otitis externa includes acute otitis media with perforation, mastoiditis, contact dermatitis, furunculosis, and foreign body. In this case there was tenderness when the auricle was manipulated. As a result, the diagnosis of acute otitis media with perforation is less likely. Otitis externa is most commonly caused by P. aeruginosa followed by S. aureus. S. aureus also causes a variety of infections (eg, cellulitis, omphalitis, lymphadenitis, and infections associated with foreign bodies, such as catheters); however, it is not the most common cause of otitis externa. H. influenzae can cause both acute otitis media and conjunctivitis (usually on the same side of the ear infection). A. niger can cause ear infections but is most likely part of the normal ear flora. M. catarrhalis is associated with otitis media, not otitis externa.

523. Which of the following conditions is associated with machinery-like heart murmur?

A. Atrial Septal Defect

B. Mitral stenosis

C. Patent ductus Arteriosus

D. Ventricular Septal Defect

Answer: C

1. Patent ductus arteriosus (PDA) is a persistence after birth of the normal fetal connection (ductus arteriosus) between the aorta and pulmonary artery, resulting in a left-to-right shunt.

2. Symptoms may include failure to thrive, poor feeding, tachycardia, and tachypnea. A continuous murmur at the upper left sternal border is common.

3. Manifestations depend on the size of the PDA and the age of the child, but a continuous murmur is characteristic and, if loud, has a "machinery-sounding" quality.

4. Over time, a large shunt causes left heart enlargement, pulmonary artery hypertension, and elevated pulmonary vascular resistance, ultimately leading to Eisenmenger syndrome if untreated.

5. Diagnosis is by echocardiography.

6. For premature infants with hemodynamically significant PDA, give a COX inhibitor (eg. ibuprofen lysine or indomethacin). Surgical closure may benefit patients with a hemodynamically significant PDA in whom medical therapy has failed.

7. If the connection persists, surgical or catheter-based correction is indicated.

524. A child with barking cough to the ER and you make a diagnosis of croup. No fever or shortness of breath. Vitals are normal. Which of the following is not considered part of correct management of croup?

A. nebulised antibiotics

B. nebulised epinephrine

C. single dose oral dexamethasone

D. single dose parenteral dexamethasone

Answer: A

525. A 10-year-old male presents to your office with 12 days of bloody diarrhea, abdominal pain, and weight loss. He has been afebrile. His mom has a history of ulcerative colitis and she is very concerned her son has now developed this condition. What enteric pathogens should be ruled out prior to referral to gastroenterology?

A. C. dificile , Salmonella , Giardia , and Campylobacter

B. C. dificile , Salmonella , Shigella , and E. coli 0157/H7

C. Cryptosporidium , Giardia , C. difficile , and E. coli 0157/H7

D. Giardia , Yersinia , Salmonella , and E. coli 0157/H7

E. Yersinia , Salmonella , C. difficile , and Cryptosporidium

Answer: B

Salmonella , Shigella , Campylobacter , Yersinia , E. coli 0157/ H7 , and C. difficile can all cause bloody diarrhea and should be excluded before a diagnosis of inflammatory bowel disease can be made. Giardia and Cryptosporidium can cause chronic diarrhea; however, it is watery and not bloody diarrhea.

526. A 6-year-old male presents to your office with facial swelling, rash and abdominal pain after being stung by a bee at school

during recess. The patient's mother notes that he has been stung before but not previously developed the symptoms presently seen. Which of the following statements is true regarding the management of hymenoptera (bee, hornet, yellow jacket, wasp, and ant) stings?

A. This patient is almost certain to develop worsening symptoms and therefore requires immediate intubation to protect his airway.

B. This patient's symptoms are consistent with anaphylaxis and should be treated with intramuscular epinephrine, corticosteroids, H1/H2 blockers and intravenous □uids as needed.

C. This patient's symptoms are consistent with a local reaction and may be treated with a cold compress and comfort measures.

D. This patient's symptoms are not life threatening and no immediate treatment is indicated. An allergy referral should be made.

E. This patient's symptoms will resolve once the stinger and venom sac are carefully removed with tweezers.

Answer: B

The patient described above is experiencing a systemic allergic reaction. Patients with systemic reactions may experience cutaneous, mucocutaneous, respiratory, cardiovascular, and gastrointestinal symptoms. Patients who experience symptoms in 2 or more or of the above categories after receiving a sting meet criteria for anaphylaxis that may be severe and in some cases fatal. Anaphylaxis should be treated with epinephrine, H1 and H2 blockers, steroids, and observation. Immediate intubation is not indicated in all cases of anaphylaxis. Patients who have been observed for anaphylaxis should be sent home with epinephrine to be administered in the event of a subsequent sting and should receive referral to an allergist. Prompt removal of barbed honeybee stinger and venom sac may decrease the dose of venom received but alone is insufficient to resolve this patient's systemic symptoms.

527. A 3-year-old child is brought to the clinic after his mother noticed blue discoloration of his fingernails. Physical examination shows perioral cyanosis and a systolic murmur along the left sternal border. When the child squats, the loudness of the murmur increases and the cyanosis improves.

Chest x-ray shows a boot-shaped heart with a concave main pulmonary artery segment and diminished pulmonary vascular markings. Which of the folllowing is the most likely diagnosis?

A. Ebstein's anomaly

B. Eisenmenger's syndrome

C. Hypoplastic right heart syndrome

D. Tetralogy of Fallot

Answer: D

Tetralogy of Fallot consists of 4 features: a large ventricular septal defect, right ventricular outflow tract and pulmonary valve obstruction, right ventricular hypertrophy, and over-riding of the aorta. Manifestations depend on the degree of right ventricle outflow obstruction; severely affected neonates have marked cyanosis, dyspnea with feeding, poor weight gain, and a harsh grade 3 to 5/6 systolic ejection murmur. Symptoms include cyanosis, dyspnea with feeding, poor growth, and hypercyanotic "tet" spells (sudden, potentially lethal episodes of severe cyanosis). Squatting improves cyanosis and increases the intensity of systolic murmur. A harsh systolic murmur at the left upper sternal border with a single 2nd heart sound (S2) is common. Diagnosis of tetralogy of Fallot is suggested by history and clinical examination.Chest x-ray shows a boot-shaped heart with a concave main pulmonary artery segment and diminished pulmonary

vascular markings. Give neonates with severe cyanosis an infusion of prostaglandin E1 to open the ductus arteriosus. Definitive treatment is surgical repair. Repair surgically at 3 to 6 mo or earlier if symptoms are severe.

528. In an infant, congestive cardiac failure is diagnosed by:

A. Basal crypts

B. Elevated JVP

C. Liver enlargement

D. Pedal edema

Answer: C

In infants CHF is difficult to diagnose.

The symptoms of congestive cardiac failure are as under:

1. Poor feeding

2. labored breathing

3. Poor weight gain

4. Tachypnea and subcostal retraction

5. Excessive sweating

6. Flaring of alae nasi

7. Irritability

8. Hepatomegaly nearly always occur

9. Weak cry

529. A 10-year-old boy is brought to your office for evaluation of shortness of breath and wheezing during sport class at his school. Which of the following is treatment of choice?

A. Inhaled Beta agonist before exercise

B. Long-acting Beta agonist

C. Oral steroid

D. lpratropium inhalers before exercise

Answer: A

Exercise-induced asthma is the most likely diagnosis here. Asthma is an intermittent obstructive airway disease characterized by dyspnea, cough and wheezing follow ing exposure to various triggers. Atopic dermatitis and allergic rhinitis are commonly associated conditions. In exercise-induced asthma, the trigger is high minute ventilation of dry, cold air, which stimulates mast cell degranulation and airway constriction. Beta agonists and mast cell stabilizers are both important in the management of exercise-induced asthma. Short-acting betaadrenergic agonists used 20 minutes prior to exercise are typically sufficient to prevent symptoms and are considered first-line therapy.

Long-acting beta-adrenergic agonists may be used in children or athletes who engage in athletic activities throughout the day.

530. A woman brings her 3-year-old boy to the emergency room after witnessing him swallowing a small battery. Plain radiographs reveal that the battery is located in the esophagus Which of the following is the most appropriate management for this child?

A. Barium swallow study

B. Immediate endoscopic removal

C. Observation

D. Reassurance

Answer: B

Foreign Body in the Esophagus

1. Majority of cases between 6 months and 3 years

2. Coins and small toys item are the most common

3. Upper esophageal sphincter (UES) cricopharyngeus is the most common site,

4. Initial bout of choking, gagging, and coughing may be followed by salivation, dysphagia, vomiting and refusal to eat.

5. Stridor, wheezing, cyanosis, or dyspnea if FB impinge on the larynx
6.

Diagnosis: Plain film AP and lateral Neck, chest and abdomen

Management

1. Batteries must be removed immediately, they cause mucosal injury

2. Asymptomatic blunt object, e.g., coin can be observed for up to 24 h

3. Symptomatic patient with esophageal FB must be removed immediately.

531. You have diagnosed a 1-year-old infant with pertussis after he presents with difficulty breathing and "fits" of coughing for the

past 2 days. Which of the following is the most common complication of pertussis?

A. Death

B. Encephalopathy

C. Pneumonia

D. Rib fractures

E. Seizures

Answer: C

There are numerous complications associated with pertussis.

The most common complications are pneumonia (22%) and otitis media. Seizures (2%) and encephalopathy (<1%) are uncommon. For infants less than 2 months of age, the fatality rate is 1%. Rib fractures secondary to violent fits of coughing have been reported in adults and adolescents with pertussis. In general, pertussis is an afebrile condition. As a result, if a fever is noted, it is important to check for a secondary bacterial infection, such as otitis or pneumonia.

532. What is the risk of exposure to MERSA-virus?

A. 33

B. 44

C. 55

D. 66

Answer: D

(80÷100)×(500÷6)= 66 According to a research specialist it should be 100/500

533. A 6-year-old girl is brought to the physician with low–grade fever, headache and sore throat. She has not received any vaccinations. Physical examination shows a maculopapular rash and posterior auricular and suboccipital lymphadenopathy. Which of the following is the most likely diagnosis?

A. Measles

B. Mumps

C. Rubella

D. Scarlet fever

Answer: C

Rubella

1. **Rubella** is generally a benign communicable exanthema tous disease.

2. **It is caused by rubella virus**, which is a member of the Rubivirus genus of the family Togaviridae.

3. Disease transmission: by **droplet inhalation** from the respiratory tract of an infected host.

4. Incubation period: **14-21 days.**

Clinical presentation :

Lymphadenopathy:

1. Retroauricular

2. Postauricular

3. Posterior occipital

Rash:

1. Maculopapular erythematous rash last for 3 days

2. Forschheimer spots; rose colored spot on soft palate

Other manifestation:

1. Pharyngitis and conjunctivitis

2. Anorexia, headache, and malaise

3. Low -grade fever and polyarthritis

534. A young boy had recurrent tonsillitis. He was given antibiotic and planned for surgery. Post tonsillectomy, the patient has loss of taste of the posterior 1/3 of tongue. What is the nerve likely to be injured?

A. Facial

B. Glossopharyngeal

C. Trigeminal

D. Vagus

Answer: B

Tongue has both sensory and motor supply and also some special supply for carrying taste supply. Sensory supply of tongue is by

trigeminal nerve. Motor supply of tongue is by hypoglossal nerve. Taste from anterior two-third of tongue is carried by Facial nerve, posterior one-third by glossopharyngeal nerve and posterior most part by vagus nerve.

535. All of the following statements concerning acute lymphocytic leukemia (ALL) are true Except:

A. Chromosomal abnormalities are identified in most cases of ALL

B. Exposure to medical radiation is associated with an increased incidence of ALL

C. Most cases (about 85%) are derived from T-cell progenitors

D. Staging of ALL is based on bone marrow biopsy and cerebrospinal fluid examination

Answer: C

About 85% of cases of ALL are derived from progenitors of B cells, about 15% are derived from T cells, and about 1% are derived from mature B cells.

536. You suspect infant botulism in a 14-week-old male infant who presents with constipation and poor feeding, as well as a weak cry, poor suck, an expressionless face, and significant head lag on examination.

What is the best next step in management of this patient?

A. Admit the baby and start IV aminoglycosides.

B. Admit the baby to the hospital for supportive care and immediately administer human-derived Botulism Immune Globulin Intravenous (BIG-IV).

C. Admit the baby to the hospital for supportive care.

D. None of the above.

E. Send a stool specimen for toxin assay to confirm diagnosis prior to hospital admission.

Answer: B

BIG-IV, currently marketed as BabyBIG ® , is a human-derived botulism antitoxin that neutralizes botulinum toxin. Treatment with BIG-IV should be instituted as soon as possible and should not be delayed for laboratory confirmation. BIG-IV immediately binds and neutralizes all circulating botulinum toxin and remains present in neutralizing amounts in the circulation for up to 6 months. This allows regeneration of nerve endings to proceed and leads to full recovery. Early treatment with BIG-IV within 0 to 3 days of admission shortens hospital stay by up to 1 week when compared with BIG-IV administered at 4 to 7 days of admission. In infant botulism, supportive care is the mainstay of therapy. However, the early use of BIG-IV is now standard. Specific treatment with BIG-IV is highly effective, shortening hospital stays from 5.5 to 2.5 weeks, and reducing morbidity and mortality. It is not recommended in other forms of botulism.

537. A 7-year-old boy is brought to the physician with 1-week history of generalized edema, fatigue, and abdominal pain. ExaminationÂreveals periorbital edema. Which of the following might be expected if a kidney biopsy were performed?

A. Crescent formation

B. Diffuse thickening of basement membrane

C. Normal findings

D. Subepithelial spikes

Answer: C

1. This child has **minimal change disease**, which is the major cause (over 90% of cases)

2. of nephrotic syndrome in children aged 2 to 6 years.

3. The most prominent clinical chemistry finding in these patients is massive proteinuria.

4. The urinary protein in minimal change disease, in contrast to other causes of nephrotic syndrome, is often composed predominantly of albumin.

5. Many other clinical chemistry changes may also be seen, including decreased serum albumin levels, hyperlipidemia, increased serum levels of alpha2- and beta-globulins, decreased IgG, and increased fibrinogen.

6. Minimal change disease characteristically shows normal or near normal appearance of the glomeruli by light microscopy and extensive fusion of foot processes of the glomerular podocytes by electron microscopy.

7. Renal function is typically normal.

8. **Diagnosis** is based on clinical findings or renal biopsy.

9. **Prognosis** is excellent.

10. **Treatment** is with corticosteroids or, in patients who do not respond

538. A young boy with head trauma came with painful swelling in nose. On examination, there is swelling on both sides of nasal septum, what will be best management?

A. Antihistamine

B. Decongentant

C. Inscision and drainage

D. X-ray nasal septum

Answer: C

This patient has presented to us with acute pain after trauma. This is most likely due to blood accumulation within the nasal septum. The best approach is to relieve the symptom by immediately incision and drainage of the accumulated blood. X ray nasal septum can confirm the diagnosis but is not required in urgent situations. Antihistamine and decongestant have no role in this emergency situation.

539. A 65-year-old man complains of gynecomastia and galactorrhea with erectile dysfunction. The most likely diagnosis is

A. Adrenal adenoma

B. Breast cancer

C. Diabetes mellitus

D. Prolactinoma

E. Testicular cancer

Answer: D

Prolactinomas are the most common functioning, secreting pituitary tumors. Galactorrhea, oligomenorrhea, primary and secondary amenorrhea, and infertility are seen in women with prolactinomas. Men may experience impotence, infertility, and, less commonly, gynecomastia and/or galactorrhea. Prolactin levels >300 μg per L usually indicate a pituitary adenoma. Patients with hypogonadism, impotence, or galactorrhea may have abnormal prolactin levels associated with prolactinomas. Some medications, including oral contraceptives, phenothiazines, tricyclic antidepressants, antihypertensives (e.g., α- methyldopa), and opioid-type medications, may increase prolactin levels. Other causes for hyperprolactinemia include nipple stimulation, pregnancy, stress, sexual intercourse, sleep, hypoglycemia, hypothyroidism, sarcoidosis, paraneoplastic syndromes (bronchogenic carcinoma and hypernephroma), and chronic renal failure. Treatment (controversial) for larger tumors involves the use of bromocriptine (dopamine agonist), which lowers the serum prolactin level. If residual tumor remains, surgery or radiotherapy may be necessary. With small tumors, close observation may be instituted if the patient is asymptomatic.

540. A 12-year-old girl presents to doctor with a painful ear. She has been actively swimmingÂrecently. Examination reveals a tender left tragus but normal appearing skin on the tragus and auricle. The left external canal appears erythematous, edematous, and an exudate is noted in the canal. The left tympanic membrane is slightly dull, but mobile, and has no erythema. Which of the following is the most likely diagnosis?

A. Cholesteatoma

B. Meniere's disease

C. Otitis Media

D. Otitis externa

Answer: D

Otitis externa (swimmer s ear)

1. Normal flora of external canal includes Pseudomonas aeruginosa (most common cause), S. aureus (second most common cause), coagulase-negative Staphylococcus, diphtheroids, Micrococcus spp., and viridans streptococci

2. **Causes** excessive wetness, dryness, skin pathology, or trauma

3. **Symptoms** significant pain (especially with manipulation of outer ear), conductive hearing loss â€¨

4. **Findings** edema, erythema, and thick otorrhea, preauricular nodes

5. Malignant external otitis is invasive to temporal bone and skull Base with facial paralysis, vertigo, other cranial nerve abnormalities

6. Requires immediate culture, intravenous antibiotics, and imaging (CT scan), may need surgery

7. **Treatment** topical otic preparations Â± corticosteroids

8. **Prevention** ear plugs, thorough drying of canal, and 2% acetic acid after getting wet

541. Which of the following milestones are appropriate for a 24-month old with normal development?

A. Begins rolling

B. Builds a tower of four cubes

C. Recognizes parents

D. Walks first steps

Answer: B

Developmental Milestones (24 months)

1. Walks down stairs holding rail, both feet on each step

2. Kicks ball without demonstration

3. Throws a ball overhead

4. Takes off clothes without button

5. Imitates circle

6. Imitates horizontal line

7. Builds a tower of four cubes

8. Opens door using knob

9. Follows two step command

10. Points to 5–10 pictures

11. Uses two word sentence

542. A full-term infant in the newborn nursery is born to a 19-year-old mother who is diagnosed with syphilis. What is the drug of choice for treatment of neonatal syphilis?

A. Azithromycin

B. Erythromycin

C. Penicillin G

D. Tetracycline

E. Vancomycin

Answer: C

Penicillin G is the treatment of choice for congenital syphilis and neurosyphilis, and every effort should be made to treat these infections with penicillin G. All infants should be evaluated for CSF infection prior to initiation of treatment. In children with neurosyphilis, CSF should be reexamined at the end of therapy. All infants treated for syphilis should also have vision testing, hearing testing, and developmental evaluation. In penicillin-allergic individuals, tetracycline or erythromycin given orally for 2 weeks provides an alternative.

543. The most useful test for diagnosis of neurocysticercosis is:

A. Computed tomography (CT)

B. Rapid antigen testing

C. Serologic testing

D. Stool examination

Answer: A

Cysticercosis is an infection with the larval form of the pork tapeworm, Taenia solium, which resides in the small intestine of humans. Neurocysticercosis (NCC), invasion of the nervous system, is a major cause of acquired epilepsy and other neurological morbidity in many areas of the world. eurocysticercosis is commonly diagnosed with the routine use of diagnostic methods such as computed tomography (CT) and magnetic resonance imaging (MRI) of the brain. CT and MRI reveal that the cyst wall is thin and well demarcated from the parenchyma. The cysts lack perilesional edema and do not enhance after administration of contrast medium.

544. Which of the following is true regarding duchenne muscular dystrophy?

A. Almost exclusively in females

B. It is an autosomal recessive disorder

C. It is associated with decreased serum creatine phosphokinase.

D. Muscle weakness is progressive, symmetric, and starts in childhood.

Answer: D

Duchenne Muscular Dystrophy is an X- linked recessive disorder (only affects males) resulting in an absence of dystrophin. Normal newborn, develops waddling, poor head control, difficulty standing or climbing (Gower's Sign), hyper trophic calves (pseudo-hypertrophy), generally unable to walk after 12 years of age, death in 75% by the age of 20 due to dilated cardiomyopathy. Clinical features: Muscle weakness is progressive, symmetric, and starts in childhood. Proximal muscles primarily affected (pelvic girdle). CPK elevated even prior to muscle weakness. Genetic testing for dystrophin gene is important, and muscle biopsy is diagnostic. EMG shows characteristic myopathic features

545. A 12-day-old infant is found to have poor feeding, irritability, and prolonged jaundice. A urine catheterization is found to be positive for leukocyte esterase and urine culture returns a gram-positive organism to be further identified. He is started on appropriate antibiotics. This neonate was at higher risk for a urinary tract infection because:

A. He was blood type O.

B. He was circumcised.

C. He was exclusively breastfed.

D. He was male.

E. He was term.

Answer: D

The infant in the clinical scenario above has a urinary tract infection that will need treatment with IV antibiotics. Of the risk factors listed, the only one conveying an increased risk of urinary tract infection in the neonatal age group was being male. This risk factor changes by 1 year of age so that females become the higher-risk group. Term infants are less likely to have urinary tract infections as compared with preterm infants. Similarly uncircumcised males are more likely to suffer from UTIs than are their circumcised counterparts (although possibility of a UTI is not an indication for a circumcision given the low frequency and usually mild nature of the disease in males). Breast-feeding has not been shown to increaseone's risk of a urinary tract infection and, if anything, is likely protective. In older adults, blood type B or AB has been shown to predispose individuals to developing urinary tract infections.

546. A 2-year-old boy is brought by his mother to the emergency room with excessive drooling after he swallowed a coin. Radiograph showed the coin still in the esophagusWhich of the following is the most appropriate management for this patient?

A. CT scan of the abdomen

B. Immediate removal

C. Observation

D. Ultrasound

Answer: B

Foreign Body in the Esophagus

1. Majority of cases between 6 months and 3 years

2. Coins and small toys item are the most common

3. Upper esophageal sphincter (UES) cricopharyngeus is the most common site, and the next is the lower esophageal sphincter (LES)

4. 30 % of cases are asymptomatic

5. Clinical features: Initial bout of choking, gagging, and coughing may be followed by salivation, dysphagia, and refusal to eat, vomiting

6. Diagnosis: Plain film AP and lateral Neck, chest and abdomen (wood, glass, plastic, bone, and aluminum may be radiolucent)

7. Management: batteries must be removed immediately, they cause mucosal injury as little as 1 hour, involving all esophageal layers within 4 hours.

8. Asymptomatic blunt object, e.g., coin can be observed for up to 24 hours.

547. An infant is rushed to the ER for profuse vomiting and you are asked to evaluate him. You notice that the vomitus is bile tinged, and you become concerned about a possible congenital anomaly. What is the most likely diagnosis ?

A. Esophageal atresia

B. Hypertrophic pyloris stenosis

C. Imperforated anus

D. Midgut malrotation with volvulus

Answer: D

Intestinal malrotation can present as either an acute or chronic process. Additionally, various types of rotational defects are recognized. The history of present illness varies depending on these different factors. Acute midgut volvulus See the list below: Usually occurs during the □rst year of life Sudden onset of bilious emesis Diffuse abdominal pain out of proportion to physical examination Chronic midgut volvulus See the list below: Chronic midgut volvulus is due to intermittent or partial twisting that results in lymphatic and venous obstruction. The most common symptoms are recurrent abdominal pain and malabsorption syndrome. [24] Further history taking among older patients with acute midgut volvulus may reveal presence of missed diagnosis of chronic midgut volvulus. Other clinical features include recurrent bouts of diarrhea alternating with constipation, intolerance of solid food, obstructive jaundice, and gastroesophageal reflux.

548. Which of the following is wrong regarding Breath-holding spell?

A. Cyanotic form is the most common

B. The occurrence of episodic apnea in children, possibly associated with

loss of consciousness, and changes in postural tone.

C. They are most common in children between 2 and 5 months.

D. They may be confused with a seizure disorder.

Answer: C

1. A breath-holding spell is an episode in which the child stops breathing involuntarily and loses consciousness for a short period immediately after a frightening or emotionally upsetting event or after a painful experience.

2. These spells are usually benign and occur in children age 6 months-2 years. The 2 types are cyanotic and pallid

3. Cyanotic form: This form is the most common and often occurs as part of a temper tantrum or in response to a scolding or other upsetting event.

4. During a cyanotic breath-holding spell, children hold their breath (without necessarily being aware they are doing so) until they lose consciousness. Typically, the child cries out, exhales, and stops breathing. Shortly afterward, the child begins to turn blue and unconsciousness ensues. A brief seizure may occur. After a few seconds, breathing resumes and normal skin color and consciousness return.

5. They are most common in children between 6 and 18 months and usually not present after 5 years of age.

6. They are unusual before 6 months of age.

7. A positive family history can be elicited in 25% of cases.

8. They may be confused with a seizure disorder.

549. A 3-day-old comatose male neonate is noted to have an ammonia level of 550 micromol/L. What is the next most critical treatment option that should be initiated emergently to provide the best neurocognitive outcome?

A. Administer IV sodium benzoate

B. Administer a bolus of IV arginine

C. Administer lactulose for gut sterilization

D. Make immediate arrangements to initiate hemodialysis

E. Start a 20 mg/kg bolus of normal saline

Answer: D

Hyperammonemia presents a medical emergency. Studies have shown that hyperammonemic coma lasting longer than 72 hours invariably leads to severe brain damage and intellectual disability. When newborns are in a coma due to plasma ammonia levels above 200 μmol/L, hemodialysis should be initiated. This is the most rapid and effective mechanism for reducing ammonia levels. Intravenous (IV) arginine, and IV sodium benzoate in combination with IV sodium phenylacetate (Ammonul) are used to provide alternate pathways for nitrogen excretion and should be initiated while preparing for hemodialysis, but this therapy does not reduce exceedingly high ammonia levels in a timely fashion. IV □uids should be used judiciously because of the risk for cerebral edema. Lactulose does not have a role in the emergency management of severe hyperammonemic coma in neonates.

550. Contraindication to breast feeding includes all of the following maternal conditions except:

A. Hepatitis B infection

B. Herpetic lesions of the breast

C. Tuberculosis

D. Varicella Zoster infection

Answer: A

TB: Breast-feeding is contraindicated until completion of approximately 2 weeks of appropriate maternal therapy. Infants routinely receive hepatitis B immune globulin and hepatitis B vaccine if mother is HbsAg positive. No delay in initiation of breast-feeding is required. Breastfeeding is contraindicated with active herpetic lesions of the breast. Varicella zoster infection: Infant should not have direct contact to active lesions Infant should receive immune globulin.

551. A 2-year-old boy is brought by his mother to the emergency room because he swallowed a coin, he has no symptoms, and radiograph showed the coin still in the esophagus. Which of the following is the most appropriate management for this patient?

A. CT scan

B. Observe for 12–24 hour

C. Removed immediately

D. Serial x-rays

Answer: B

Foreign Body in the Esophagus

1. Majority of cases between 6 months and 3 years

2. Coins and small toys item are the most common

3. Upper esophageal sphincter (UES) cricopharyngeus is the most common site, and the next is the lower esophageal sphincter (LES)

4. 30 % of cases are asymptomatic

5. Any history of ingestion should be taken seriously and investigated even with no symptoms

Clinical picture:

1. Initial bout of choking, gagging, and coughing may be followed by salivation, dysphagia, and refusal to eat and vomiting

2. Pain in the neck, throat, or sternal notch regions

3. Stridor, wheezing, cyanosis, or dyspnea if FB impinge on the larynx

4. Cervical swelling, erythema, subcutaneous crepitations suggest perforation

Diagnosis : Plain film AP and lateral Neck, chest and abdomen (wood, glass, plastic, bone, and aluminum may be radiolucent)

Management:

1. Batteries must be removed immediately, they cause mucosal injury as little as 1 hour, involving all esophageal layers within 4 hours

2. Asymptomatic blunt object, e.g., coin can be observed for up to 24 hours

3. Symptomatic patient with esophageal FB must be removed immediately.

4. The management for this patient: Observe for 12–24 h, removal if the coin do not pass stomach or if the patient became symptomatic

552. Mark is a 4-year-old boy who is brought to your office because of parental concerns about his development. His mother describes a

typical birth history with no significant medical problems. She says that Mark always seems "a little behind" other kids his age. His language development has always been delayed; he had no words until he was 30 months old and continues in speech therapy. She states that Mark has trouble making eye contact and has no friends at preschool. She finds him playing by himself, always doing the same activity even when there are new toys or games. What is the most likely diagnosis?

A. Asperger disorder

B. Autistic disorder

C. Childhood disintegrative disorder

D. Pervasive developmental disorder-NOS

E. Rett syndrome

Answer: B

The child described in this vignette most likely has autistic disorder as he has symptoms of disability in socialization, communication, and fixed repetitive interests and routines.The key distinguishing factor is that children with Asperger disorder do not have any significant language delay or cognitive disability. Pervasive developmentdisorder-NOS is characterized by impairment in the same 3 areas of social interaction, communication, and stereotyped behaviors; however, children with PDD-NOS do not meet all the criteria for autism. More specifically, children with PDD-NOS often have less impairment in social skills and intellectual deficits less common. Rett syndrome is more common in girls and is characterized by normal development until 6 to 18 months and then regression. Notably, there is a decrease in head growth and loss of language and motor skills. The diagnosis can be confirmed in about 80% of cases with DNA testing for methyl-CpG-binding protein 2 (MECP2). Childhood disintegrative disorder also presents with loss of developmental milestones in at least 2 of the following areas: language, social skills or adaptive behavior, bowel or bladder control, play, and motor skills.

553. Which of the following facts should prompt you to suspect an underlying inborn error of metabolism in a critically ill child?

A. A history of multiple sick contacts with similar symptoms currently in the family.

B. A patient who has fever and signs of septic shock.

C. A patient whose symptoms present after their □rst prolonged fast.

D. No past medical history, need for medications, or hospitalizations.

E. Normal laboratory values including glucose, urinalysis, and pH.

Answer: C

Signs and symptoms of an inborn error of metabolism can be nonspecific and vague. In particular, clues to suspecting an inborn error of metabolism can include: children who have a clinical status worse than expected given the history of present illness; children who do not respond to conventional therapies like most children with a similar presentation; unexpected metabolic abnormalities on laboratory investigation (eg, hyperammonemia, metabolic acidosis, hypoglycemia); multiple episodes of similar presentations in the past, family history of unexplained death, evidence of chronic disease (eg, failure to thrive, liver or renal failure, hearing loss, developmental delay); or symptoms that present after an inciting event including change in diet or prolonged fast.

554. A child is brought to the clinic by her father. She is clinically well. The father reports that he was recently diagnosed with von Hippel–Lindau syndrome. He wants to know whether his daughter is also affected. What do you need to know to best answer his question?

A. How old he was when he was diagnosed

B. If there was more than one tumor present at diagnosis.

C. Location of his presenting tumor

D. Results of his mutation analysis

E. Whether there are other affected members of the family

Answer: D

In order to determine whether the child inherited the condition from the father, it is first necessary to know whether the father's mutation is identifiable. If it is, then it is straightforward to test the child to see if she inherited the mutation. Knowing whether there are other affected members of the family will help in definition of whether this is sporadic or inherited, but will not give any specific information about the child's risk. The father's tumor status and age at diagnosis are relevant to his health and management, but do not impact heritability.

555. Elderly patient of 70 yeas presented to you with vasomotor rhinitis?

Which of the following antihistamine is best for him?

A. Chlorpheniramine

B. Clemastine

C. Diphenhydramine

D. Fexofenadine

Answer: D

Antihistamines of 1st generation include clemastin, diphenhydramine and chlorpheniramine. They have greater side effects including anti muscarinic side effects like dry mouth, constipation, drowsiness, sedation etc. They must be avoided in elderly. The second generation antihistamine are preferred because of their least side effects and good safety profile. Examples include Loratidine, desloratidine and fexofenadine.

556. Loss of gag reflex but normal uvula, which nerve is affected?

A. Accessory

B. Glossopharyngeal

C. Hypoglossal

D. Vagus

Answer: B

Gag reflex has two limbs. The afferent limb is supplied by glossopharyngeal nerve and efferent limb is supplied by vagus nerve.

To differentiate the defect of gag reflex, uvula provides a critical clue.

Uvula is deviated in vagus nerve injury but remains midline in glossopharyngeal injury. So this patient has CN IX injury.

557. 4 month infant presents with congestive cardiac failure. On examination, the infant has a bulging fontanel with a bruit which can be auscultated. CT shows a mid-line lesion with dilated lateral ventricles.

What is the most likely diagnosis?

A. Arachnoid cyst

B. None of the above

C. Teratoma

D. Vein of Galen malformation

Answer: D

A Vein of Galen malformation (VGAM)

1. It usually causes high-output heart failure in the newborn resulting from the decreased resistance and high blood flow in the lesion.

2. Associated findings include cerebral ischemic changes such as strokes or steal phenomena that result in progressive hemiparesis.

3. Hemorrhage from the malformation can occur, although this is not a common finding. Finally, the malformation may result in mass effects, causing progressive neurological impairment.

4. Alternatively, the malformation may cause obstruction of the cerebrospinal fluid (CSF) outflow and result in hydrocephalus teratoma or arachnoid cyst not causes bruit on auscultation. II.

Arachnoid cysts

1. They are cerebrospinal □uid covered by arachnoidal cells and collagen that may develop between the surface of the brain and the cranial base or on the arachnoid membrane, one of the three membranes that cover the brain and the spinal cord.

2. Arachnoid cysts are a congenital disorder, and most cases begin during infancy; however, onset may be delayed until adolescence III.

Teratoma

1. A teratoma is an encapsulated tumor with tissue or organ components resembling normal derivatives of all three germ layers. There are rare occasions when not all three germ layers are identifiable.

2. The tissues of a teratoma, although normal in themselves, may be quite different from surrounding tissues, and may be highly disparate; teratomas have been reported to contain hair, teeth, bone and very rarely more complex organs such as eye, torso, and hands, feet, or other limbs. 3. Usually, however, a teratoma will contain no organs but rather one or more tissues normally found in organs such as the brain, thyroid, liver, and lung.

558. Risk factors for obstructive sleep apnea syndrome include all of the following except:

A. All of the above

B. Long or soft palate

C. Retroposition of the mandible

D. Small triangular chin

Answer: C

All of the answers are risk factors as well as the more obvious such as Pierre Robin syndrome and Prader-Willi syndrome.

559. Which of the following is the drug of choice for a child with absence seizures?

A. Carbamazepine

B. Ethosuximide

C. Lamotrigine

D. Phenytoin

Answer: B

Absence (petit mal) seizures

1. Absence seizures are a type of generalized seizures.

2. Presents with brief (few seconds) episodes of impaired consciousness, normal muscle tone, possible eye blinking, no postictal confusion.

3. It is more common in children

4. Petit mal seizures are characterized by a sudden cessation of mental activity.5. May occur repeatedly throughout the day.

6. Diagnosis confirmed by EEG.

7. Hyperventilation during the EEG reveals a generalized 3Hz spike-and-wave pattern on a normal background.

8. The treatment of choice is ethosuximide or valporic acid (Ethosuximide is used almost exclusively for childhood absence seizures)

560. An 11-year-old boy is diagnosed with actinomycosis after presenting to the clinic with a neck mass. The diagnosis is confirmed after an excisional biopsy and a Gram stain of the tissue showed gram-positive filamentous, acid-fast negative organisms. Which of the following is the preferred treatment for this infection?

A. Bactrim

B. Ceftriaxone

C. Clindamycin

D. Penicillin

E. Vancomycin

Answer: D

Prolonged treatment with penicillin and surgery is the usual treatment for actinomycocsis. Initially, intravenous aqueous penicillin should be given for up to 4 weeks for cervicofacial disease followed by oral penicillin for up to 12 months. Patients allergic to penicillin may be treated with erythromycin, clindamycin, doxycycline, or tetracycline.

Ceftriaxone, vancomycin, and clindamycin are all active against Actinomyces species but are not considered first-line therapy. Data regarding trimethoprim–sulfamethoxazole (Bactrim) activity are not available.

561. A patient presents with a cough, fever, rhinorrhea, malaise, with conjunctival suffusion. There are small, grayish, irregular lesions surrounded by an erythematous base, on the buccal mucus membrane near the second molar teeth. What is the most likely diagnosis?

A. Measles

B. Parainfluenza

C. Respiratory syncytial infection

D. Rubella

Answer: A

Measles Clinical course of infection First prodromal symptoms begin after a 10-12 day incubation period. These can include fever, conjunctivitis, coryza, cough and bronchiolitis. Nearly all infected susceptible individuals develop clinical disease. Koplik's spots appear on the buccal mucosa 1–2 days before rash onset and may last for 2-4 days. Measles rash, an erythematous maculopapular exanthema, develops 2–4 days after the onset of fever and spreads from the head to the body over the next 3–4 days. The rash, which blanches on pressure early in the course, fades in the order of appearance during the next 3–4 days and assumes a nonblanching appearance. The rash is less faint than for rubella, and, unlike rubella, often coalesces.

562. A 12-hour-old boy is presented to ER with deep jaundice and lethargy. He was full term of unremarkable pregnancy and labor. Body Wt was 3 Kg Mother blood group is AB -ve and the father blood group is O +ve. Peripheral smear showed anisocytosis. Direct Coombs test is +ve.Which of the following is the most likely cause of the baby's condition?

A. ABO incompatibility

B. G6PD de□ciency

C. Group B streptococci infection

D. Rhesus incompatibly

Answer: D

Rh disease (also known as rhesus isoimmunisation, Rh (D) disease, rhesus incompatibility, rhesus disease, RhD hemolytic disease of the newborn, rhesus D hemolytic disease of the newborn or RhD HDN) is a type of hemolytic disease of the newborn (HDN). The disease ranges from mild to severe, and typically occurs only in some second or subsequent pregnancies of Rh negative women where the fetus's father is Rh positive, leading to a Rh+ pregnancy. During birth, the mother may be exposed to the infant's blood, and this causes the development of antibodies, which may affect the health of subsequent Rh+ pregnancies. In mild cases, the fetus may have mild anaemia with reticulocytosis. In moderate or severe cases the fetus may have a more marked anaemia and erythroblastosis fetalis (hemolytic disease of the newborn). When the disease is very severe it may cause hydrops fetalis or stillbirth.

563. 6 month old infant brought by his parents with history of repeated vomiting; his pulse was (190). He had dry mucous membranes and sunken anterior fontanel. What is the appropriate volume of fluid that should be given initially?

A. Bolus 10 ml/kg of body weight

B. Bolus 20 ml/kg of body weight

C. Slow infusion 10 ml/kg of body weight

D. Slow infusion 20 ml/kg of body weight

Answer: B

564. You are examining a newborn term boy in your clinic and notice several unusual features. He appears to lack irises and has mild hypospadias. You question the parents, and there is no family history of either aniridia or genitourinary abnormalities. You explain that you will need to follow this patient with serial abdominal ultrasounds. Which of the following statements about this baby is also true?

A. This patient also has hemihypertrophy

B. This patient has a deletion of chromosome 11p15

C. This patient has a deletion of the PAX6 gene

D. This patient will eventually develop a Wilms tumor (nephroblastoma)

E. This patient will eventually develop a hepatoblastoma

Answer: C

This patient has WAGR syndrome (Wilms tumor, aniridia, genitourinary abnormalities, and mental retardation), which is a contiguous gene syndrome involving the loss of chromosome 11p13, which contains both the PAX6 gene (causing aniridia and mental retardation) and the WT1 gene (predisposing the patient to Wilms tumor and genitourinary abnormalities). However, as the WT1 gene is a classic tumor suppressor gene, Wilms tumors only develop in ~30% of the patients who develop a "second hit" to their wild-type copy. All patients with WAGR should be screened every 3–4 months from birth until age 5 with abdominal ultrasound. WAGR syndrome is not associated with hemihypertrophy. Loss of chromosome 11p15 causes the Beckwith– Wiedemann syndrome, which is associated with hemihypertrophy and increased risk of Wilms tumor, hepatoblastoma, and other malignancies.

565. A previously healthy 3-year-old girl presents with dysuria for 1 day, upper respiratory symptoms, and low-grade temperatures with a maximum of 100.0 F and no other symptoms. Her mother also reports she complains of some pain when bathing and cleaning her genital area. Her mother collects a clean-catch urine specimen. Urine dipstick shows normal specific gravity, 1□□esterase, and negative nitrites, and is otherwise negative.

Culture is sent. You empirically prescribe cephalexin for 10 days. Two days later the culture results are available and demonstrate 5000k enterococci, 10,000 E. coli , and 10,000k Staphylococcus epidermidis . You call the mother back, and her daughter's symptoms have resolved. The appropriate assessment and recommendation for the patient is:

A. Add amoxicillin to her regimen.

B. Admit the patient for polymicrobial UTI and start IV antibiotics.

C. Change her antibiotic to cipro□oxacin.

D. Complete the 10-day course of cephalexin.

E. Discontinue the cephalexin.

Answer: E

Isolation of multiple organisms with low colony counts from a urine culture usually represents contamination. The positive leukocyte esterase can also be from a vaginal contaminant and this pattern of laboratory results likely represents normal vaginal flora and/or a mild vaginitis. Antibiotics should be discontinued. The parents should continue to ensure good perineal hygiene. If Enterococcus were thought to be a true pathogen, cephalexin would not be effective. If the Enterococcus was amoxicillin sensitive, the regimen would still not cover S. epidermidis . Finally, ciprofloxacin would not be effective for

Enterococcus spp. or S. epidermidis and should be reserved for Pseudomonas or bacterial infections resistant to first-line therapies.

566. A 6 year old child with known Type 1 Diabetes Mellitus lost consciousness at school. The time of last insulin injection is unknown. What would be the most appropriate immediate next step to take?

A. IM Glucagon

B. IV ranger lactate

C. Insulin

D. Take him to the hospital

Answer: A

Explanation: Because the patient could have hypoglycemic attack so give him shot of glucagon to increase his blood sugar.A glucagon injection should be used on a child that has lost consciousness due to hypoglycemia.

567. A 11-year-old boy is brought to the doctor with left knee pain. The pain worsens with activity and improves with rest. He denies any history of trauma. Which of the following is the most likely diagnosis?

A. Duchenne muscular dystrophy

B. Osgood-Schlatter disease

C. Osteoporosis

D. Stress fracture

Answer: B

Osgood-Schlatter disease (OSD)

1. Inflammation of the insertion of the patellar tendon in the tibial tubercle (tibial tubercle apophysitis).

2. It is more common in adolescent boys active in sports.

3. OSD is characterized by pain and swelling at the tibial tubercle, the point of insertion of the patellar tendon.

4. OSD generally occurs in children 9 to 14 years of age who have undergone a rapid growth spurt. It is bilateral in 25 to 50 percent of cases, although the involvement is typically asymmetric.

5. OSD occurs most frequently in participants of sports that involve running, cutting, and jumping (eg, soccer, football, basketball, volleyball, gymnastics, figure skating, ballet).

6. OSD disease is an overuse injury caused by repetitive strain and chronic avulsion of the secondary ossification center (apophysis) of the tibial tubercle.

7. The most common presenting complaint is anterior knee pain that increases gradually over time, from a low-grade ache to pain that causes a limp and/or impairs activity

8. Pain is exacerbated by direct trauma, kneeling, running, jumping, squatting, climbing stairs, or walking uphill, and is relieved by rest.

568. A 14 year old boy presented to the clinic to take his second dose of varicella vaccine (His 1st one was taken a year ago). Which of the following is the correct management?

A. Check his varicella titer then give the second dose

B. Give the second dose

C. None of the above

D. Start from the beginning and give first and second dose

Answer: B

People 13 years of age and older (who have never had chickenpox or received chickenpox vaccine) should get two doses at least 28 days apart.

569. Oral contraceptive agents are associated with increased risk of all of the following except:

A. Carbohydrate intolerance

B. High levels of high-density lipoproteins

C. Premature epiphyseal closure

D. Thrombophlebitis

Answer: C

Oral contraceptive agents in the available doses contain too little estrogen to close growth plates. In addition, most females use oral contraceptive agents after the adolescent growth spurt. Other complications of oral contraceptives are quite rare in adolescent patients, and thrombophlebitis or diabetes is very unusual.

570. A 3-year-old boy brought to the doctor with a history of recurrent respiratory tract infections. Physical examination reveals absent tonsils. The absolute level of T lymphocytes is normal but the level of B lymphocytes is very low. What is the most likely diagnosis?

A. Acrodermatitis Enteropathica

B. Ataxia-Telangiectasia

C. Severe Combined Immunode□ciency

D. X-linked agammaglobulinemia

Answer: D

X-linked agammaglobulinemia presents in male children with increased sino-pulmonary infections. B cells and lymphoid tissues are diminished. There is a decrease or absence of the tonsils, adenoids, lymph nodes, and spleen. T cells are normal. Treat the infections as they arise. Long-term regular administration of intravenous immunoglobulin (IVIG) keeps these children healthier.Affected patients present with recurrent respiratory tract bacterial infections, including sinusitis, otitis media, and pneumonia, between 6 and 18 months of age. Physical examination may reveal absent tonsils and other palpable lymphoid tissue.Findings suggestive of X-linked agammaglobulinemia include a normal number ofT lymphocytes (CD3-positive) but a very low number of B lymphocytes (CD19-positive).

571. A 19-year-old man is seen in the emergency room. He has miosis, bronchoconstriction, and diarrhea. He is also sweating, excessively salivating, and vomiting. His breath has a garlic odor. The most likely diagnosis is

A. Alcohol overdose

B. Cocaine overdose

C. Cyanide ingestion

D. Diabetic ketoacidosis

E. Organophosphate poisoning

Answer: E

Organophosphate insecticides are inhibitors of acetylcholinesterase and result in an accumulation of acetylcholine at the synaptic junction. Organophosphate poisoning is characterized by miosis, bronchoconstriction, sweating, salivation, headache, vomiting, diarrhea, muscle weakness, and convulsions. The patient's breath typically has a garlic odor. Treatment involves gastric lavage followed by activated charcoal or adequate cleansing if skin exposure occurs.

Parasympathetic stimulation can be counteracted by the administration of atropine sulfate until symptoms disappear or until signs of atropine use occur (e.g., dilated pupils, dry mouth). Also, pralidoxime helps remove the organophosphate from the cholinesterase.

572. A 5-month-old girl has bilateral retinoblastoma. Neither parent has a history of having had retinoblastoma. Chromosomal analysis of the patient's stimulated peripheral blood lymphocytes is done; the photograph is of a representative karyotype. Which of

the following critical events has most likely resulted from an aberration involving chromosome 13 ?

A. Proto-oncogene activation

B. Proto-oncogene ampli□cation

C. Proto-oncogene loss

D. Tumor-suppressor gene loss

Answer: D

Mutations in the RB1 gene are responsible for most cases of retinoblastoma. RB1 is a tumor suppressor gene, which means that it normally regulates cell growth and stops cells from dividing too rapidly or in an uncontrolled way. Most mutations in the RB1 gene prevent it from making any functional protein, so cells are unable to regulate cell division effectively. As a result, certain cells in the retina can divide uncontrollably to form a cancerous tumor

573. A person comes to you complaining of increased sound during the chewing of food, Whenever he speaks, he hear is own sound much louder than before. Which of the following muscle is likely to be injured?

A. Palatoglossus

B. Stapedius

C. Stylopharangeus

D. Tensor tympani

Answer: D

The tensor tympani is a muscle within the ear,Innervation of the tensor tympani is from the tensor tympani nerve, a branch of the mandibular division of the trigeminal nerve. Injury leads to increased intensity of chewing and self-sounds. Stapedius is supplied by, nerve to stapedius, a branch of facial nerve. This muscle help dampen the external noise or decrease the amplitude of high intensity sounds.

574. A patient presented to you with squamous cell carcinoma on his lower lip. Which of the following lymph node is draining this?

A. Deep cervical

B. Inguinal

C. Submandibular

D. Submental

Answer: D

Submental group of lymph nodes have afferents that drain the central portions of the lower lip and floor of the mouth and the apex of the tongue. Their efferents pass partly to the submandibular lymph nodes and partly to a gland of the deep cervical group. Submandibular (aka submaxillary) group of lymph nodes drain the medial palpebral commissure, the cheek, the side of the nose, the upper lip, the lateral part of the lower lip, the gums, and the anterior part of the margin of the tongue. Their efferent vessels pass to the superior deep cervical glands.

575. which of the following is the underlying pathophysiology in Type I diabetes?

A. Liver increased uptake of fatty acid

B. Poor triglyceride uptake

C. destruction of pancreatic β-cells

D. peripheral resistance to insulin action

Answer: C

Type 1 diabetes mellitus is a chronic autoimmune disease associated with selective destruction of insulinproducing pancreatic β-cells

576. Most common known side effect of long term steroid use in children?

A. Excitable behavior

B. Growth retardation

C. Intraocular Hypertension

D. Labile mood

Answer: B

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577. A 9-year-old girl is brought to the emergency room with stridor, high fever and drooling. Examination reveals cervical lymphadenopathy. What is the most likely causative organism of this patient's epiglottitis?

A. Haemophilus Influenza type A

B. Haemophilus Influenza type B

C. Streptococci group A

D. Streptococci group B

Answer: B

Epiglottitis is a medical emergency, and rapid treatment must be initiated in order to prevent obstruction of the airway. The most common cause of epiglottitis in children is Haemophilus Influenza type B. Epiglottitis presents with sore throat, dysphagia, drooling, muffled voice, and cough. Examination reveals cervical lymphadenopathy, andthe child assumes a tripod position. "Hot potato voice," as if the patient is struggling with a mouthful of hot food is common in children who can speak.on chest x-ray, a characteristic "Thumbprint sign" is seen on lateral film. Management : Immediate endotracheal intubation in the operating room in patients with severe airway obstruction.

578. A 9-year-old boy with a history of syncope is found to have a prolonged QTc interval on ECG. What would be the most appropriate therapy?

A. Implant a pacemaker

B. Implant an intracardiac de□brillator

C. Initiate beta blocker therapy

D. Start amiodarone

E. Start digoxin

Answer: C

Beta-blockers are the primary treatment for long QT syndrome as it minimizes the adrenergic stimulation that results in rapid changes in heart rate with dispersion of repolarization across the myocardium.Pacemaker or ICD may be needed in select cases when symptoms persist despite beta blocker therapy; however, they are not a substitute for beta blockers, which remain the primary treatment for long QT syndrome.

579. Which of the following drugs is associated with drug-induced LE?

A. Azithromycin

B. Digoxin

C. Hydralazine

D. Metoprolol

E. Penicillin

Answer: C

Drug-induced LE is associated with the use of procainamide (most common), hydralazine, INH, penicillamine, sulfonamides, quinidine, thiouracil, methyldopa, and cephalosporins. All patients with druginduced LE have positive reactions to ANA testing; however, they usually do not have positive reactions to antibodies to double-stranded DNA. Other laboratory findings supporting drug-induced lupus include anemia, leukopenia, thrombocytopenia, positive rheumatoid factor ,

positive cryoglobulins, positive lupus anticoagulants, false-positive Venereal Disease Research Laboratory (VDRL) test results, and positive results on a direct Coombs' test. Signs and symptoms include polyarthralgias, fever, butterfly rash affecting the facial area, alopecia, photosensitivity, pleurisy, proteinuria, and glomerulonephritis. In most cases, the symptoms disappear when the medication is discontinued. Steroids may be necessary for severe cases.

580. What is the most common complication of mumps in children ?

A. Meningitis

B. Myocarditis

C. Orchitis

D. Pancreatitis

Answer: A

The most common complication of mumps in children is meningitis, sometimes associated with encephalitis, and in young adults orchitis.

Most complications due to mumps infection resolve without permanent damage. Death following mumps is rare and is mostly due to mumps encephalitis.

581. All the following are seen in rickets except?

A. Bow legs

B. Craniotabes

C. Rachitic rosary

D. casal necklace

Answer: A

Signs and symptoms of rickets can include bone tenderness, and a susceptibility for bone fractures particularly greenstick fractures.[7] Early skeletal deformities can arise in infants such as soft, thinned skull bones – a condition known as craniotabes[8][9] which is the first sign of rickets; skull bossing may be present and a delayed closure of the fontanelles. Young children may have bowed legs and thickened ankles and wrists;[10] older children may have knock knees.[7] Spinal curvatures of kyphoscoliosis or lumbar lordosis may be present. The pelvic bones may be deformed. A condition known as rachitic rosary can result as the thickening caused by nodules forming on the costochondral joints. This appears as a visible bump in the middle of each rib in a line on each side of the body. This somewhat resembles a rosary, giving rise to its name. The deformity of a pigeon chest [7] may result in the presence of Harrison's groove. Hypocalcemia, a low level of calcium in the blood can result in tetany – uncontrolled muscle spasms. Dental problems can also arise.[7] An X-ray or radiograph of an advanced sufferer from rickets tends to present in a classic way: the bowed legs (outward curve of long bone of the legs) and a deformed chest. Changes in the skull also occur causing a distinctive "square headed" appearance known as "caput quadratum".[11] These deformities persist into adult life if not treated. Long-term consequences include permanent curvatures or disfiguration of the long bones, and a curved back

582. A 9-year-old boy was referred to a tertiary hospital for early signs of puberty. Examination revealed hirsutismand voice

harshening. Serum testosterone level was high.Increased activity of which of the following cells in testis is the likely cause?

A. Leydig cells

B. Peritubular myoid cells

C. Secondary spermatocytes

D. Sertoli cells

Answer: A

Leydig cells, also known as interstitial cells of Leydig, are found adjacent to the seminiferous tubules in the testicle. They produce testosterone in the presence of luteinizing hormone (LH). ertoli cells keep the germ cells that start the process healthy and nourished. They also function at the end of spermatogenesis by absorbing extra cytoplasm from newly created spermatozoa, just prior to their release into the lumen of the seminiferous tubule.

583. A 33 year old man comes to you with history of swelling in the neck for 5 days associated with mild fever and flu like illness. You check the swelling and found it to be lymph nodes. You order labs. There is marked lymphocytosis in the blood and hetrophile antibody test in negative. What is the causative agent?

A. HHV4

B. HHV5

C. HHV6

D. HHV8

Answer: B

HHV4 is EBV and causes infection mononucleosis. It usually causes mild flue like illness. Reactive lymphocytosis is seen on peripheral blood smear. Hetrophile antibody test is positive. It is associated with marked splenomegaly. It is also associated with nasopharyngeal carcinoma. HHV5 is CMV and cause CMV retinitis in HIV patient. It is most common oppurtunistic pathogen in transplant patients. It also cause mononucleosis like symptoms but heterophile antibody test is negative. HHV6 is roseola infantum (exanthem subitum). It causes high grade fever for few days followed by febrile seizures in some cases. HHV8 is primary cause of kaposi sarcoma in HIV patients.HHV8 is primary cause of kaposi sarcoma in HIV patients.

584. A 16-yr-old female has had headaches for 3 months and visual changes for 2 week and now has galactorrhea. Her last normal menstrual period was 4 months ago. The most likely cause of her galactorrhea is:

A. Elevated estrogen levels

B. Elevated prolactin levels

C. Migraines

D. Stress of having amenorrhea

Answer: B

A prolactin-secreting pituitary adenoma resulting in high levels of prolactin will cause galactorrhea. Other potential causes of galactorrhea include oral contraceptive pills, some antihypertensive medications, and some tranquilizers.

585. A 6-month-old infant is brought by his mother complaining that he is hardly gaining weight for the past three months. On examination, he is afebrile, and mildly tachypneic with bounding pulse. Cardiac auscultation revealed continuous cardiac murmur in the pulmonic area.Which of the following is the most likely diagnosis?

A. Atrial septal defect

B. Coarctation of aorta

C. Patent ductus arteriosus

D. Ventricular septal defect

Answer: C

Patients can present at any age. The typical child with a patent ductus arteriosus (PDA) is asymptomatic. At times, the patient may report decreased exercise tolerance or pulmonary congestion in conjunction with a murmur.The murmur of a PDA is described as a medium pitched high-grade continuous murmur heard best at the pulmonic position, with a harsh machinelike quality that often radiates to the left clavicle.

586. A 6-year-old girl is brought to the emergency room with nosebleeds and bleeding from the gums. The child recently recovered from a respiratory tract infection.

Which of the following is the most appropriate management for this patient?

A. Blood transfusion

B. Bone marrow biopsy

C. Fresh frozen plasma

D. Prednisone

Answer: D

Idiopathic Thrombocytopenic Purpura (ITP)

1. Immune (idiopathic) thrombocytopenic purpura (ITP) of childhood is characterized by acquired thrombocytopenia and is a generally benign disorder of unknown cause

2. ITP in children is typically acute and self-limited.

3. ITP in adults tend to be of insidious and chronic course, and treated with immunosuppression by steroids.

4.The condition often occurs about 2-3 weeks after an infection.

Etiology

1. Antiplatelet antibody

2. Often a few weeks after infection â€¨

Clinical presentation

1. Petechiae, ecchymoses, epistaxis

2. Variable symptoms, but usually healthy appearing child

Laboratory

1. Thrombocytopenia

2. Normal to increased size of platelets

3. Normal RBCs and WBCs

Treatment

1. Observation

2. IVIg

3. Steroids e.g Prednisone

587. A 6-mo-old is presented with tachycardia, tachypnea, and poor feeding for 3 mo. Physical examination reveals a continuous machinery murmur and a wide pulse pressure with a prominent apical impulse. The most likely diagnosis is:

A. Aortic stenosis

B. Patent ductus arteriosus

C. Pulmonic stenosis

D. Ventricular septal defect

Answer: B

Patent ductus arteriosus (PDA) is a condition wherein the ductus arteriosus fails to close after birth. Early symptoms are uncommon, but in the first year of life include increased 'work of breathing' and poor weight gain. An uncorrected PDA may lead to congestive heart failure with increasing age. Patients with a small PDA have an audible longejection or continuous murmur heard best at the left upper sterna border that radiates to the back. Patients with moderate size PDAs may present during adulthood. These patients often will have wide, bounding peripheral pulses and an audible continuous murmur. For pulmonary stenosis, A sharp pulmonic ejection click immediately after

the 1st heart sound is heard at the left upper sternal border during expiration. The 2nd heart sound is split, with a pulmonary component of normal intensity that may be slightly delayed. A relatively short, lowor medium-pitched systolic ejection murmur is maximally audible over the pulmonic area and radiates minimally to the lung fields bilaterally.

In aortic stenosis, Mild to moderate valvular aortic stenosis is usually associated with an early systolic ejection click, best heard at the apex and left sternal edge. Unlike the click in pulmonic stenosis, its intensity does not vary with respiration. Clicks are unusual in more-severe aortic stenosis or in discrete subaortic stenosis. If the stenosis is severe, the 1st heart sound may be diminished because of decreased compliance of the thickened left ventricle. Normal splitting of the 2nd heart sound is present in mild to moderate obstruction. the murmur of a vsd is a loud, harsh, or blowing holosystolic murmur present and heard best over the lower left sternal border

588. You received a child with barking cough for last 3 days with fever and drooling. What will be the □nding on auscultation?

A. Coarse crackles at the base

B. Decreased intensity of sounds

C. Normal vesicular sound

D. Wheezing because of secretion

Answer: D

Croup or barking cough or seal like cough also known as laryngotracheobronchitis is caused by Parainfluenza virus. Mild cases can have normal respiratory vesicular sounds but sever cases have wheezong because of secretion. Coarse crackles at the base of lung

indicate fluid and is usually a finding in CHF. Decreased intensity of heart sounds is seen in pleural effusion.

589. A 20-month-old toddler presents with a fever of 101.5□F, "ear tugging" of his right ear, and rhinorrhea. His father reports that he was seen by a different doctor about 1.5 weeks ago, diagnosed with an ear infection, and given a prescription for amoxicillin for 10 days. The 10 days are over, and the child still has a fever and does not seem to have improved signi□cantly.

Which of the following is not a reason the prior treatment may have failed?

A. Alteration in outer membrane proteins of the bacteria causing infection

B. An active influx system importing too much antibiotic

C. Beta-Lactamase production

D. Decreased antibiotic uptake in the infected cells

E. Poor compliance with therapy

Answer: B

There are several mechanisms bacteria may use to develop resistance to antibiotics. These include enzyme production that inactivates the antibiotic (eg, β-lactamase production), active efflux systems that decrease uptake of the antibiotics into the infected cells, or changes in the outer membrane proteins of the bacteria blocking the entry of antibiotics. In addition, poor or difficult compliance is always a potential factor in any treatment failure.

590. A 6 year old child presents with hip pain. Hip X-ray was normal but US showed fluid in the joint. Labs revealed: high ESR and CRP, otherwise normal. What is your next step?

A. CT hip and pelvis.

B. MRI

C. Urgent incision and drainage

D. send home on analgesics

Answer: C

urgent surgical I&D followed by IV antibiotics standard of care for septic hip joints, in possible septic arthritis it is better to err on the side of surgical drainage considered a surgical emergency in the hip due to chondrolytic effect of pus. I&D removes damaging enzymes which are chondrolytic . Surgery also reduces intraarticular pressure and decreases epiphyseal ischemia

591. A 2-year-old boy is brought by his mother to the emergency room because he swallowed a coin, he has no symptoms, and radiograph showed the coin still in the esophagus.

Which of the following is the most appropriate management for this patient?

A. CT scan

B. Observe for 12â€“24 hour

C. Removed immediately

D. Serial x-rays

Answer: B

Foreign Body in the Esophagus

1. Majority of cases between 6 months and 3 years

2. Coins and small toys item are the most common

3. Upper esophageal sphincter (UES) cricopharyngeus is the most common site, and the next is the lower esophageal sphincter (LES)

4. 30 % of cases are asymptomatic

5. Any history of ingestion should be taken seriously and investigated even with no symptoms

Clinical picture:

1. Initial bout of choking, gagging, and coughing may be followed by salivation, dysphagia, and refusal to eat and vomiting

2. Pain in the neck, throat, or sternal notch regions

3. Stridor, wheezing, cyanosis, or dyspnea if FB impinge on the larynx

4. Cervical swelling, erythema, subcutaneous crepitations suggest perforation

Diagnosis : Plain film AP and lateral Neck, chest and abdomen (wood, glass, plastic, bone, and aluminum may be radiolucent)

Management:

1. Batteries must be removed immediately, they cause mucosal injury as little as 1 hour, involving all esophageal layers within 4 hours

2. Asymptomatic blunt object, e.g., coin can be observed for up to 24 hours

3. Symptomatic patient with esophageal FB must be removed immediately.

4. The management for this patient: Observe for 12-24 h, removal if the coin do not pass stomach or if the patient became symptomatic

592. A 5 year old has petechia, hematuria and proteinuria. 2 weeks ago, he develop bloody diarrhea. The doctor prescribed symptomatic treatment and probiotics. Current blood tests show platelets 95, WBC 48. What is the most likely causative organism?

A. salmonella

B. schistosomiasis

C. shiga-toxin producing e.coli

D. shigella

Answer: C

Hemolytic uremic syndrome (HUS) is a disease characterized by hemolysis, thrombocytopenia, and acute kidney injury, although other organs may be involved. Most cases are due to infection with Shig toxin-producing Escherichia coli (STEC). Most cases of HUS (90%) occur following infection with STEC, typically serotype O157. Other serotypes of Escherichia coli can produce toxin, and the largest recorded outbreak of STEC HUS occurred in Northern Europe in 2011 because of infection with serotype O104. Infection is acquired by ingestion of contaminated food and is followed about 3 days later, although not invariably, by abdominal pain and diarrhea that progresses to a colitic illness with bloody diarrhea (hence its previous name: diarrhea-positive HUS). Features of TMA and AKI develop over the following 3 to 4 days in 5% to 15% of patients with STEC infection.

593. A 5-year-old boy is brought by his mother to the emergency room with low-grade fever and joint pain. Physical examination reveals enlarged cervical lymph nodes, splenomegaly and petechiae. Which of the following is the most likely diagnosis?

A. Acute lymphoblastic leukemia

B. Burkitt lymphoma

C. Multiple myeloma

D. Myelodysplastic syndrome

Answer: A

1. Acute lymphocytic leukemia (ALL) is the most common pediatric cancer; it also strikes adults of all ages.2. Malignant transformation and uncontrolled proliferation of an abnormally differentiated, longlived hematopoietic progenitor cell results in a high circulating number of blasts, replacement of normal marrow by malignant cells, and the potential for leukemic infiltration of the CNS and abdominal organs.3. Symptoms include fatigue, pallor, infection, bone pain, and easy bruising and bleeding.

Other presenting signs and symptoms of pediatric ALL include the following:1. Patients with B-precursor ALL: Bone pain, arthritis, limping; fevers (low or high); neutropenia; fatigue, pallor, petechiae, and bleeding; lymphadenopathy and hepatosplenomegaly 2. Patients with mature-B ALL: Extramedullary masses in the abdomen or head/neck; CNS involvement (eg, headache, vomiting, lethargy, nuchal rigidity) 3. Patients with T-lineage ALL: Respiratory distress/stridor due to a mediastinal mass Examination of peripheral blood smear and bone marrow is usually diagnostic.Treatment typically includes combination chemotherapy to achieve remission, intrathecal

chemotherapy for CNS prophylaxis and/or cerebral irradiation for intracerebral leukemic infiltration, consolidation chemotherapy with or without stem cell transplantation, and maintenance chemotherapy for up to 3 yr to avoid relapse.

594. A 37 year old intravenous drug user is referred by his GP for a suspected Bells Palsy. On examining his inner ear there are a number of vesicles visible on his ear drum. His cranial nerve examination reveals a weakness of the whole of the left side of his face. The most likely diagnosis is?

A. Bells Palsy

B. HIV

C. Ramsay Hunt Syndrome

D. Steven Johnson Syndrome

E. Stroke

Answer: C

Ramsay Hunt syndrome (RHS) is a complication of shingles. It is the name given to describe the symptoms of a shingles infection affecting the facial nerve. Shingles is caused by the same virus that causes chickenpox (varicella zoster virus, or VZV). As a result of this infection, the facial nerve becomes inflamed and irritated. Bell's palsy is a type of facial paralysis that results in an inability to control the facial muscles on the affected side. The cause is usually unknown. And there are no vesicles on examination. Stroke can involve facial nerve but associated with certain neurological deficit, Steven johnson syndrome present with vesicular eruption on skin or mucosal surfaces. But does involve facial paralysis. HIV is not associated with any such symptom.

595. A 2-week-old term infant girl is brought to the emergency room because her parents noticed that her eyes and skin have "looked yellow" for the past 2 days and she has been somewhat fussy on the day of presentation. Laboratory evaluation reveals a total bilirubin of 8.2 mg/dL and a direct bilirubin of 6.5 mg/dL. Rectal temperature is 38.4□C. On examination, the child is well nourished, has moist mucous membranes, is crying but easily consolable with feeds, and appears jaundiced from head to toe with scleral icterus present. Which of the following is the next most appropriate laboratory test to send?

A. Catheterized urinalysis and culture

B. Epstein-Barr virus PCR

C. Factors V and VII

D. Serum ammonia

E. Total and free carnitine

Answer: A

Other than fever and fussiness, this infant with direct hyperbilirubinemia is well appearing. Urine culture to rule out urinary tract infection and/or urosepsis as a cause of direct hyperbilirubinemia is an appropriate first-tier diagnosticstudy to order in this case. In the ill-appearing infant or the well-appearing infant with normal first-tier diagnostic studies, additional studies such as Epstein-Barr virus PCR, serum ammonia, total and free carnitine, and factors V and VII levels may be appropriate.

596. A 9-month-old boyÂis being evaluated because of recurrent ear infections, eczema, profuse bleeding during circumcision procedure, And thrombocytopenia.

Which of the following is the most likely diagnosis?

A. Ataxia Â telangiectasia

B. Bloom syndrome

C. Hereditary angioedema

D. Wiskott Aldrich syndrome

Answer: D

Wiskott Aldrich Syndrome

1. Wiskott-Aldrich syndrome (WAS) is a condition with variable expression, but commonly includes immunoglobulin M (IgM) deficiency.

2. **X -linked Recessive disorder.**

3.Bloody diarrhea during infancy (usual presenting sympÂ toms)

4.Prolonged bleeding from circumcision site

Wiskott Aldrich Syndrome :

1. Thrombocytopenia

2. Tiny platelet (Thrombocytopenia)

3. Eczema (seen before 6 months of age)

4. Recurrent infection

597. A 1 month old infant presents with vomiting after feeds, although his appetite is good and wants to eat despite the vomiting. His labs show hypokalemia and low chloride. Most likely diagnosis is?

A. Congenital diaphragmatic hernia

B. Esophageal atresia

C. Hirchsprung's disease

D. Hypertrophic pyloric stenosis

Answer: D

The classic presentation of Infant hypertropic Pyloric Stenosis is the 3- to 6-week-old baby who develops immediate postprandial, non-bilious often projectile vomiting and demands to be re-fed soon afterwards (a "hungry vomiter").

598. A 50 year old man presented with facial nerve weakness for last 3 years. It is not improving with steroids or other drugs. There is no other associated deficit. MRI shows mass in posterior nasopharynx. A diagnosis of nasopharyngeal carcinoma is made. Which of the following viral infection is associated with this infection?

A. HHV4

B. HHV5

C. HHV6

D. HHV8

Answer: A

HHV4 is EBV and causes infection mononucleosis. It usually causes mild flue like illness. Reactive lymphocytosis is seen on peripheral blood smear. Hetrophile antibody test is positive. It is associated with marked splenomegaly. It is also associated with nasopharyngeal carcinoma. HHV5 is CMV and cause CMV retinitis in HIV patient. It is most common oppurtunistic pathogen in transplant patients. It also cause mononucleosis like symptoms but heterophile antibody test is negative. HHV6 is roseola infantum (exanthem subitum). It causes high grade fever for few days followed by febrile seizures in some cases. HHV8 is primary cause of kaposi sarcoma in HIV patients.

599. A 5-year-old child is brought to the clinic after his mother noticed blue discoloration of his fingernails. Physical examination shows perioral cyanosis and a systolic murmur along the left sternal border. When the child squats, the loudness of the murmur increases and the cyanosis improves.Which of the following suggests a diagnosis of tetralogy of fallot?

A. A mediastinal mass on chest x-ray

B. ECG will show leftÂaxis deviation and leftÂventricle hypertrophy.

C. ECG will show right axis deviation and right ventricle hypertrophy.

D. The ECG will show a superior axis deviation.

Answer: C

1. Tetralogy of Fallot consists of 4 features: a large ventricular septal defect, right ventricular outflow tract and pulmonary valve obstruction, right ventricular hypertrophy, and over-riding of the aorta.

2. Manifestations depend on the degree of right ventricle outflow obstruction; severely affected neonates have marked cyanosis, dyspnea

with feeding, poor weight gain, and a harsh grade 3 to 5/6 systolic ejection murmur.

3. Symptoms include cyanosis, dyspnea with feeding, poor growth, and hypercyanotic "tet" spells (sudden, potentially lethal episodes of severe cyanosis).

4. Squatting improves cyanosis and increases the intensity of systolic murmur.

5. A harsh systolic murmur at the left upper sternal border with a single 2nd heart sound (S2) is common.

6. Diagnosis of tetralogy of Fallot is suggested by history and clinical examination.

7.The ECG will show right axis deviation and right ventricle hypertrophy. A boot-shaped heart with normal heart size and decreased pulmonary venous markings will appear on the chest x-ray.

7. Give neonates with severe cyanosis an infusion of prostaglandin E1 to open the ductus arteriosus.

8. Definitive treatment is surgical repair.

9. Repair surgically at 3 to 6 mo or earlier if symptoms are severe.

600. A 1-year old girl is brought to the clinic with low grade fever and ulcers on the buccal mucosa and the tongue. Physical examinations shows a maculopapular rash on the hand, feet, buttocks and groin. Which of the following is the most likely diagnosis?

A. German measles

B. Hand-foot-and-mouth disease

C. Herpangina

D. Measles

Answer: B

Hand-Foot-Mouth Disease

1. Hand-foot-and-mouth disease (HFMD) is an acute viral illness that presents as a vesicular eruption in the mouth, but it can also involve the hands, feet, buttocks, and/or genitalia.

2. Most common cause is Coxsackievirus A16

3. Treatment is supportive.

Clinical presentation

1. Low grade fever

2. Vesicles in the anterior and posterior oropharynx and may progress to ulceration.

3. Maculopapular, vesicular, or pustular rash on the hand, feet, buttocks and groin.

4. Most cases are mild and resolve in 3–5 days.

601. A child presents with developmental delay, mild low calcium, pigeon chest, bulging of frontal bone, mild high alkaline phosphates, normal phosphate. What's the diagnosis?

A. Dermatomyositis

B. Osteoporosis

C. Paget disease

D. Rickets

Answer: D

Presentation of rickets is well recognized. Generalized muscular hypotonia of an unknown mechanism is observed in most patients with clinical (as opposed to biochemical and radiographic) signs of rickets. Craniotabes (areas of thinning and softening of bones of the skull) manifests early in infants with vitamin D deficiency, although this feature may not be present in infants, especially those born prematurely. If rickets occurs at a later age, thickening of the skull develops. This produces frontal bossing and delays the closure of the anterior fontanelle. In the long bones, laying down of uncalcified osteoid at the metaphases leads to spreading of those areas, producing knobby deformity, which is visualized on radiography as cupping and flaring of the metaphyses. Weight bearing produces deformities such as bowlegs and knock-knees. In the chest, knobby deformities results in the so-called rachitic rosary along the costochondral junctions. The weakened ribs pulled by muscles also produce flaring over the diaphragm, which is known as Harrison groove. The sternum may be pulled into a pigeon-breast deformity. In more severe instances in children older than 2 years, vertebral softening leads to kyphoscoliosis. The ends of the long bones demonstrate that same knobby thickening. At the ankle, palpation of the tibial malleolus gives the impression of a double epiphysis (Marfan sign). Because the softened long bones may bend, they may fracture on one side of the cortex (ie, greenstick fracture).

602. A 14-year-old boy with pneumonia was just discharged from the hospital after being treated with broadspectrum antibiotics for 2 weeks. He started having diarrhea on day 14 of illness. Stool testing revealed positive Clostridium difficile toxin by ELISA. Which of the following is the best treatment option at this point?

A. IV vancomycin.

B. No treatment is needed.

C. Oral metronidazole.

D. Oral vancomycin.

E. Rifampin.

Answer: C

C. difficile is a spore-forming, obligate anaerobic, grampositive bacillus.

Manifestations of C. difficile –associated disease (CDAD) include infection ranging from diarrhea to a pseudomembranous colitis. Risk factors include antimicrobial therapy, prolonged nasogastric tube placement, and repeated enemas. Treatment for C. difficile infection can be challenging. Antibiotics or chemotherapeutic agents should be immediately discontinued if possible. In approximately 20% of immunocompetent patients, CDAD will resolve within 2 to 3 days of discontinuing the offending agent. Metronidazole for 7 to 10 days is the more cost-effective choice for the initial treatment of patients with CDAD. Although vancomycin is indicated for patients who do not respond initially to metronidazole or in cases of severe CDAD, vancomycin is only effective when given orally or by enema.

603. 5 year old girl presents with cola (dark) colored urine, with a history of sore throat 6 days ago. Based on the history, you suspect Poststreptococcal glomerulonephritis (PSGN). Which of the following tests will you do to confirm the diagnosis?

A. All of the above

B. Anti-DNAse B

C. Anti-streptolysis O titres

D. Complement level (C3)

Answer: A

PSGN Occurs 1-3 wk following initial primary GAS infection of pharynx or skin. Diagnosis is confirmed with elevated serum antibody titers against streptococcal antigens (ASOT, anti- DNAseB (best single test)), low serum complement (C3). consider biopsy only if; acute renal failure, nephrotic syndrome, absence of streptococcal or normal compliment. If it Glomerular involvement occurred in less than a week after URTI it's due to IgA Nephropa- thy (burger disease) , normal complement.Therefore all the options given will aid in diagnosis of PSGN.

604. A 6-yr-old girl with documented α1-antitrypsin deficiency presents to the emergency department for assessment of large-volume hematemesis. Physical examination is remarkable for clear lung fields, pallor, and splenomegaly. Hepatomegaly and petechiae are absent. Which of the following is the most likely source of the hematemesis?

A. Esophageal varices

B. Peptic ulcer disease

C. Swallowed blood from pulmonary hemorrhage

D. Thrombocytopenia secondary to hypersplenism

Answer: A

Severe α 1-antitrypsin deficiency presenting in early childhood often involves the liver and could lead to cirrhosis, portal hypertension, and esophageal varices.

605. A 5-day-old, large-for-gestational-age, 4,500-g boy has a bilirubin level of 21 mg/dL. There is no anemia or polycythemia, but on examination he has a large cephalohematoma. The next therapeutic activity should be to:

A. Administer phototherapy

B. Aspirate the hematoma

C. Perform an incision and drainage of the hematoma

D. Undertake prophylactic blood transfer

Answer: A

Phototherapy is clearly indicated. Aspiration or incision and drainage (I + D) should not be done to manage a cephalohematoma.

606. A 2-year-old male presents with a decline in growth and slight weight loss. He has been anorexic and been noted to have chronic diarrhea. Initial lab studies reveal a mild anemia and a slight decrease in serum albumin. You suspect celiac disease. Which of the following is the most likely diagnosis?

A. Bacterial Gastroenteritis

B. Celiac disease

C. Crohn Disease

D. Giardiasis

Answer: B

1. Celiac disease is an immunologically mediated disease in genetically susceptible people caused by intolerance to gluten, resulting in mucosal inflammation and villous atrophy, which causes malabsorption.

2. Symptoms usually include diarrhea and abdominal discomfort.

3. Diagnosis is by small-bowel biopsies showing characteristic though not specific pathologic changes of villous atrophy that resolve with a strict gluten-free diet.

4. Treatment of celiac disease is a gluten-free diet (avoiding foods containing wheat, rye, or barley).

607. A 56 years old man presented to you with gradual onset of headache, dizziness, and tinnitus. His symptoms have been increasing for the last 3 years and now he has facial disturbances. On examination the face is deviated to one side. Which of the following is most likely cause?

A. Acoustic neuroma

B. Bell's palsy

C. Labyrynthitis

D. Menier's disease

Answer: A

Acoustic neuromas: Benign tumor of Schwann cells of CN 8 that can lead to hearing loss secondary to nerve compression. Acoustic neuromas are intracranial, extra-axial tumors that arise from the Schwann cell sheath investing either the vestibular or cochlear nerve. Presents with hearing loss, dizziness, tinnitus; unilateral facial palsy; decreased sensation may be seen on examination. Acoustic neuroma may produce vertigo and tinnitus. Imaging: MRI can localize tumor. Bell's palsy present with isolated facial nerve injury without any other system or nerve involvement.

608. You are asked to consult on for the care of a patient who is unable to be fed enterally and requires longterm nutritional support. A hematocrit suggests iron-deficiency anemia, and iron replacement is needed. What is the most appropriate method of iron replacement?

A. Addition of iron to routine prolonged parenteral nutrition

B. Intravenous bolus infusion

C. Prolonged intravenous iron administration

D. Subcutaneous iron administration

Answer: B

Ideally, iron should be provided enterally; however, in this case, intravenous bolus infusion is the best choice. Prolonged intravenous administration is associated with iron overload, oxidant injury, and gram-negative septicemia. Intramuscular administration is associated with pain and staining of skin. Subcutaneous administration is not effective. Finally, adding iron to parenteral nutrition is not compatible with a lipid preparation.

609. Most infants are able to roll from front to back at which age?

A. 2 months

B. 3 months

C. 4 months

D. 9 months

Answer: C

Developmental Milestones (4 months): Sits with trunk support. No head lag when pulled to sit. Rolls from front to back. Lifts head and chest. When held erect pushes with feet. Reaches toward object and waves at toy. Grasps an object and brings to mouth. Plays with rattle. Laughs out loudly. Excited at sight of food. Smiles spontaneously at pleasurable sight/sound. May show displeasure if social contact is broken. Asymmetric tonic re□ex gone. Palmar grasp gone

610. The most common cause for nosebleeds in children is which of the following?

A. Bleeding disorder

B. Child abuse

C. Foreign body

D. Nose picking

Answer: D

Epistaxis is defined as the bleeding from inside the nose or nasal cavity. Usually self limiting with application of constant pressure for 5 min by squeezing sides of the nose shut. Most nosebleeds are benign, self-limiting, and spontaneous, but some can be recurrent. Most nosebleeds that occur in children are anterior nosebleeds resulting from inflammation in Kiesselbach plexus on the anterior nasal septum.

The most common cause of epistaxis in children is voluntary nose picking.

611. You are treating a 17-year-old girl with otitis externa. There is no surrounding cellulitis or adenitis. Which of the following treatments is not appropriate for this case?

A. A combination ciprofloxacin and hydrocortisone otic preparation

B. A combination polymyxin B/neomycin/ hydrocortisone otic preparation

C. Ciprofloxacin otic drops

D. Ofloxacin otic drops

E. Systemic antibiotics to cover Pseudomonas aeruginosa

Answer: E

Topical antibiotics are su□cient to treat otitis externa. Systemic antibiotics can be used if there is a cellulitis or cervical adenitis. In addition, topical steroids can be helpful to relieve swelling and pain. If a fungal infection is suspected, topical steroids should not be used.

612. A 1-year-old boy is brought to the emergency room because of the passage of several maroon-colored stools per rectum. The abdominal exam reveals normal bowel sounds and no masses. Which of the following is the most likely diagnosis ?

A. Biliary atresia

B. Intussusception

C. Meckel’s diverticulum

D. Pyloric stenosis

E. Zenker’s diverticulum

Answer: C

Meckel's is the most common cause of gastrointestinal bleeding in children. Painless melena or bright red blood per rectum is a classic presentation, but there are other presentations as well. Meckel's diverticulum is the most common congenital anomaly of the gastrointestinal tract, affecting about 2% of the population. Meckel's diverticulum affects the distal ileum and represents the remnants of the proximal end of the embryologic yolk stalk (i.e., the omphalomesenteric or vitelline duct) which normally obliterates completely by the 8th week of gestation. While most cases of Meckel's diverticulum are asymptomatic, complications such as perforation, hemorrhage from peptic ulceration, intussusception, volvulus orintestinal obstruction are associated life-threatening disease states.

613. Which of the following is the most likely causative organism of infant botulism?

A. Clostridium botulinum

B. Clostridium difficile

C. Staphylococcus aureus

D. Streptococcus pyogenes

Answer: A

Infant botulism

1. Ingestion of honey or exposure to soils increases the risk

2. Age between 3 weeks and 6 months

3. Symptoms develop 3–30 days from the time of exposure

4.The most common cause of infant botulism is eating honey or corn syrup, or using pacifiers that have been coated with contaminated honey.

5.Infant botulism is caused by the ingestion of Clostridium botulinum spores.

Clinical presentation

1. Constipation usually is the initial finding

2. Feeding difficulty is a common presenting symptoms

3. Hypotonia

4. Increased drooling

5. Weak cry

6. Truncal weakness

7. Cranial nerve palsies

8. Generalized weakness with ventilatory failure

Treatment of infant botulism

1. Botulism immune globulin (BIG) IV should be started as early as possible if clinically suspected.

2. No antibiotics.

614. A 2-year child came to the clinic with his mother. He scribbles circles, runs around and climbs onto the chair, plays with his friends but does not share his toys. He speaks 10 words. He names the picture you point to.

What is the best thing to tell his mom?

A. Delayed language development

B. Delayed social development

C. He is normal

Answer: C

denver 2 milestones for 2 year old: 2 yrs: learns to climb up stairs first, then down 2 word phrases; uses more complex toys and understands sequence of putting toys, puzzles together imitation, parallel and symbolic, play patient above has appropriate milestones

615. An essential tremor most commonly affects the?

A. Hands

B. Head

C. Legs

D. Tongue

E. Voice

Answer: A

Tremor is a symptom of many disorders, including Parkinson's disease, essential tremor, orthostatic tremor, cerebellar disease, peripheral neuropathy, and alcohol withdrawal. Tremors may be classified as postural, rest, or action tremors. Symptomatic treatment is directed to the tremor type:

• Parkinson's tremor. The tremor in Parkinson's disease occurs at rest and is characterized by a frequency of 4 to 6 Hz and medium amplitude. It is classically referred to as a pill-rolling tremor of the hands, but can also affect the head, trunk, jaw, and lips. Combination therapy with carbidopa and levodopa is commonly used for parkinsonian tremor.

• Essential tremor. Essential tremor is the most common movement disorder. Its onset occurs anywhere between the second and sixth decades of life and its prevalence increases with age. The tremor is usually bilateral. The tremor is minimal or absent at rest. The tremor is slowly progressive over a period of years, and the specific pathophysiology of essential tremor remains unknown. Essential tremor occurs sporadically or can be inherited (in 50% of patients, inheritance is autosomal dominant). It most commonly affects the hands, but can also affect the head, voice, tongue, and legs. In many cases, essential tremor is alleviated by small amounts of alcohol, an effect not found in Parkinson's disease. Essential tremor may be amenable to propranolol or primidone.

• Other tremors. Propranolol may be useful in treating alcohol withdrawal tremor, and INH may control the cerebellar tremor associated with multiple sclerosis. Clonazepam may relieve orthostatic tremor. Other agents are also available for the treatment of tremor.

When medical therapy fails to control the tremor, surgical options such as thalamotomy, pallidotomy, and thalamic stimulation should be

considered in severe cases. Thalamic stimulation, the most recent of these surgical approaches, offers the advantage over ablative procedures of alleviating tremor without the creation of a permanent lesion.

616. Which of these patients will most likely be diagnosed with rheumatic fever from his symptoms?

A. Child with arthralgia and fever

B. Child with fever and sore throat, no other symptoms

C. Child with knee swelling and joint pain and sore throat

D. Child with non-migratory rash, no other symptoms

Answer: C

According to revised Jones criteria, the diagnosis of rheumatic fever can be made when two of the major criteria, or one major criterion plus two minor criteria, are present along with evidence of streptococcal infection: elevated or rising antistreptolysin O titre or DNAase.[8] Exceptions are chorea and indolent carditis, each of which by itself can indicate rheumatic fever. Major criteria: carditis (clinical and/or subclinical), arthritis (monopolyarthritis or polyarthritis, or polyarthralgia), chorea, Erythema marginatum, and subcutaneous nodules Minor criteria: fever (≥38.5° F), sedimentation rate ≥30 mm and/or CRP ≥3.0 mg/dl, and prolonged PR interval (unless carditis is a major criterion)

617. Child presented with bronchiolitis. What is your management?

A. All of the above

B. Give Oxygen

C. IV ampicillin

D. Oral prednisone

Answer: B

Explanatiom: Bronchiolitis management: mild to moderate distress: supportive; PO or IV hydration, antiperytics for fever, reg or humidified high flow O2. Severe distress: as above-+ intubation and ventilation as needed. Consider Rebetol(Ribavirin) in high risk groups(bronchopulmonary dysplasia, CHF, congenital lung disease, immundef). Bronchodilators and steroids are not recommended.

618. A 17-year-old female presents to the emergency department with fever and lower abdominal pain. She is sexually active and occasionally uses condoms. On physical examination, you note a temperature of 38.4°C, and lower abdominal and pelvic tenderness. She has vaginal discharge, as well as cervical motion tenderness. You suspect pelvic inflammatory disease (PID). What treatment is recommended for PID?

A. Cefotetan 2 g IV q 12 h plus doxycycline 100 mg IV q 12 h

B. Cefotetan 2 g IV q 12 h plus metronidazole 500 mg PO b.i.d.

C. Ceftriaxone, 250 mg IM

D. Clindamycin 900 mg IV q 8 h

E. Doxycycline 100 mg PO b.i.d. for 14 days with metronidazole 500 mg PO b.i.d. for 14 days

Answer: A

Based on history and physical examination, this patient most likely has PID.There are multiple different antibiotic regimens recommended for the treatment of PID, for both inpatient and outpatient treatment. All regimens used to treat PID should be effective against N. gonorrhoeae and C. trachomatis becauseeven negative endocervical screening for these organisms does not rule out upper reproductive tract infection.

Cefotetan 2 g IV q 12 h plus doxycycline 100 mg IV q 12 h would effectively treat both N. gonorrhoeae and C. trachomatis . The other answer choices do not treat both organisms. Doxycycline 100 mg PO b.i.d. for 14 days with metronidazole 500 mg PO b.i.d. for 14 days does not treat N. gonorrhoeae . Ceftriaxone, 250 mg IM, does not treat C. trachomatis . Cefotetan 2 g IV q 12 h plus metronidazole 500 mg PO b.i.d. does not treat C. trachomatis . Clindamycin 900 mg IV q 8 h does not treat N. gonorrhoeae .

619. Before giving influenza vaccine you have to ask if the child has an allergy from which of the following substances?

A. Egg

B. fish

C. peanut

D. wheat

Answer: A

The recommendations for vaccination of people with egg allergies have not changed since last season (2016-2017). People with egg allergies can receive any licensed, recommended age-appropriate influenza vaccine and no longer have to be monitored for 30 minutes after receiving the vaccine. People who have severe egg allergies should be vaccinated in a medical setting and be supervised by a health care provider who is able to recognize and manage severe allergic conditions.

620. In a study they are selecting every 10th family in the city, what is the type of study

A. Non randomized study

B. Stratified study

C. Systematic study

Answer: C

Random sampling: preferred way of sampling, it is often difficult to do. It requires that a complete list of every element in the population be obtained. Computer generated lists are often used with random sampling. Systematic sampling: every Nth element is taken. This is similar to lining everyone up and numbering off "1,2,3,4; 1,2,3,4; etc". When done numbering, all people numbered 4 would be used. Convenience sampling: readily available data is used. That is, the first people the surveyor run into. Cluster sampling: accomplished by dividing the population into groups called clusters – usually geographically. The clusters are randomly selected, and each element in the selected clusters is used. Strati□ed sampling: divides the population into groups called strata. For instance, the population might be separated into males and females. A sample is taken from each of these strata using either random, systematic, or convenience sampling.

621. The role of elective cesarean section in preventing perinatal HIV transmission can best be described as:

A. Effective and routinely recommended

B. Effective and selectively recommended

C. Effective but not recommended

D. Ineffective and not recommended

Answer: B

A meta-analysis of over 1,000 pregnancies demonstrated that elective cesarean delivery prior to onset of labor decreased transmission by 87% if used in conjunction with zidovudine therapy in the mother and the infant. However, because these data predated the advent of highly active antiretroviral therapy (HAART), the additional benefit of cesarean section is probably negligible if the mother's viral load is <500 copies/ml.

622. Which of the following is associated with intellectual disability, large hands and feet, long face with large ears and large testicles?

A. Down syndrome

B. Fragile X syndrome

C. Patau syndrome

D. Prader Willi syndrome

Answer: B

1. Fragile X syndrome is an X-linked disorder affecting the methylation and expression of the FMR1 gene.

2. It is the most common inherited cause of intellectual disability.

3. Both males and females can be affected.

4. Presents with large jaw, testes, and ears and with autistic behaviors.

623. A 16 years old boy presented with left testicular pain since 2 hours, examination illustrates a tender and red left testis , Doppler ultrasound attached. The most likely diagnosis is?

A. Left hydrocele

B. Left inguinal hernia

C. Left testicular torsion

D. Left varicocele

E. Normal testes

Answer: C

Testicular torsion occurs when the spermatic cord (from which the testicle is suspended) twists, cutting off the testicle's blood supply. The most common symptom in children is rapid onset of severe testicular pain. The testicle may also be higher than usual and vomiting may occur.

624. A 13-year-old boy is referred to a geneticist for muscle weakness, easy fatigability, mental retardation and moderate degree of heart failure. Family history revealed that his mother died, after his delivery, with undiagnosed cardiac problem.Abnormality of which of the following cell organelles is the likely cause of his condition?

A. Lysosomes

B. Mitochondria

C. Ribosomes

D. Smooth endoplasmic reticulum

Answer: B

Mitochondrial disease is an inherited chronic illness that can be present at birth or develop later in life. It causes debilitating physical, developmental, and cognitive disabilities with symptoms including poor growth; loss of muscle coordination; muscle weakness and pain; seizures; vision and/or hearing loss; gastrointestinal issues; learning disabilities; and organ failure.

625. Which of the following sites has the highest oxygen concentration in the fetus?

A. Inferior vena cava

B. Right ventricle

C. Umbilical artery

D. Umbilical vein

Answer: D

Umbilical venous blood, which is delivered from the placenta, has the highest oxygen concentration in fetal blood. This blood is streamed across the right atrium, through the foramen ovale, and into the left atrium, where this well-oxygenated blood is delivered to the head and upper extremities. Less-oxygenated blood from the vena cava is streamed through the right atrium and ventricle, and then through the ductus arteriosus to the descending aorta and the umbilical arteries.

626. A 7-month-old boy is brought to the pediatrician's office for evaluation of vomiting that began 3 weeks prior. He has not gained any weight since his last visit 4 weeks ago. Since that visit, he was weaned from breast milk to cow's milk–based formula and pureed fruits and vegetables were introduced. Physical examination reveals a jaundiced, irritable infant. The liver edge is palpable 3 cm below the right costal margin. What is the most likely diagnosis?

A. Galactosemia

B. Glycogen storage disease type I

C. Hereditary fructose intolerance

D. Hypothyroidism

E. Milk protein intolerance

Answer: C

Hereditary fructose intolerance is an autosomal recessive disorder caused by a deficiency of the enzyme fructose-1,6- bisphosphate aldolase. The classical presentation occurs in infants on the initial presentation of fructose-containing foods with the acute onset of vomiting, hypoglycemia, and hypophosphatemia followed by the

development of hepatomegaly with steatosis, jaundice, and ascites. Chronic exposure to fructose causes poor feeding, failure to thrive, vomiting, irritability, and poor growth. Treatment involves strict avoidance of fructose, sorbitol, and sucrose. Galactosemia usually presents in the first few weeks of life following ingestion of galactose (contained in breast milk and cow's milk formula). Clinical features of galactosemia include jaundice, lethargy, vomiting, acidosis, cataracts, failure to thrive, and bleeding. Milk protein intolerance may present with vomiting and failure to thrive but does not cause jaundice or hepatomegaly. Glycogen storage disease type I generally presents with fasting hypoglycemia and may lead to hepatomegaly, but jaundice usually does not occur until there is chronic liver disease. Clinical features of congenital hypothyroidism include jaundice, hepatomegaly, and feeding difficulties. These infants may have other abnormalities on physical examination. In the United States, the vast majority of infants with congenital hypothyroidism are identified by newborn screening.

627. New born totally healthy with left thigh bruise. All examination normal. The newborn has a normal bleeding time,but the prothrombin time, Activated Prothrombin time, and Russell viper venom times were prolonged. What's the diagnosis?

A. Factor 10 deficiency

B. Hemophilia

C. Idiopathic thrombocytopenic purpura

D. Von Willebrand Factor

Answer: A

Clotting factor X, or Stuart-Prower factor, is a vitamin K–dependent serine protease that serves as the first enzyme in the common pathway

of thrombus formation. Factor X deficiency is a bleeding disorder that can be inherited or acquired. This disorder is one of the world's most rare factor deficiencies. Coagulation study findings in patients with factor X deficiency include the following:

● The prothrombin time (PT) is prolonged

● The activated partial thromboplastin time (aPTT) is prolonged

● The Russell viper venom time (RVVT) is prolonged; Russell viper venom cleaves factor X to produce active factor Xa

● Bleeding time is within the reference range

628. A 3-yr-old child presents with an abdominal mass and microscopic hematuria. The most likely tumor is:

A. Hodgkin disease

B. Neuroblastoma

C. Renal clear cell carcinoma

D. Wilms tumor

Answer: D

Wilms tumor accounts for most renal neoplasms in children, and can present with hematuria.

629. Which of the following vaccine is contraindicated in eczema, psoriasis and contact dermatitis?

A. Measels

B. Polio

C. Rubella (German measles)

D. Smallpox

Answer: D

Eczema or atopic dermatitis (in the past, even if not currently active). Patients with these diseases or a history of these diseases should not be vaccinated.Acute, chronic, or exfoliative skin conditions, including burns, impetigo, chickenpox, contact dermatitis, shingles, herpes, severe acne, Darier's disease (keratosis follicularis), and psoriasis. Until these conditions clear, patients should not be vaccinated.

630. A 2 year old boy presents with weakness of the lower limbs. CSF analysis reveals no cells, normal glucose and high protein. Which of the following is the most likely diagnosis?

A. Bacterial meningitis

B. Guillain-Barré syndrome (GBS)

C. Tuberculous meningitis

D. Viral meningitis

Answer: C

Lumbar puncture for cerebrospinal fluid (CSF) studies is recommended. During the acute phase of GBS, characteristic findings on CSF analysis include albuminocytologic dissociation, which is an elevation in CSF protein (>0.55 g/L) without an elevation in white blood cells. The increase in CSF protein is thought to reflect the widespread inflammation of the nerve roots.

631. Which of the following conditions is associated with short stature, webbed neck and wide-spaced nipples?

A. Down syndrome

B. Kallmann's syndrome

C. Klinefelter syndrome

D. Turner syndrome

Answer: D

1. Turner syndrome is one of the most common chromosomal abnormalities.

2. Turner syndrome is caused by the absence of one set of genes from the short arm of one X chromosome.

3. 45,X karyotype (about two thirds are missing the paternal X chromosome)

Clinical Presentation

1. Short stature

2. Shield chest: The chest appears to be broad with widely spaced nipples.

3. Lymphedema may be present at any age and is one finding that can suggest Turner syndrome on fetal ultrasonography.

4. Webbed neck and low posterior hairline due to lymph edema.

5. Pubic hair development is normal

6. Coarctation of the aorta is the most common cardiac defect associated with Turner syndrome.

7. Eye: Ptosis, strabismus, amblyopia, and cataracts are more common in girls with Turner syndrome.

632. An asthmatic patient want to prevent the attack of disease this year.

What is best given to prevent symptoms of allergy to pollens and dust?

A. Adrenaline

B. Ipratropium bromide

C. Montelukast

D. Terbutaline

Answer: C

Montelukast is leukotriene receptor antagonist and is preferred drug for preventing the exacerbation of the acute asthmatic attack. It acts via blocking the pathway of leukotrienes which act as constrictors.

633. A 5- year old boy brought to the clinic with f ever, runny nose, throat pain. Examination shows pharyngeal erythema and white exudate. Which of the following is the most likely diagnosis?

A. Croup

B. Epiglottitis

C. Peritonsillar abscess

D. Viral pharyngitis

Answer: D

viral pharyngitis is an inflammation of the oropharynx. Viral causes are more common in children. Viral causes include rhinovirus, coronavirus, adenovirus, RSV. Most cases are caused by viruses and occur as part of common colds and influenzal syndromes. Patients with pharyngitis present with sore throat (chief symptom), high fever, dysphagia, and red eyes.

634. A 15-year old female with 1-year history of fatigue, multiple areas of pain, tenderness. Labs are within the normal limits. Which of the following is the most likely diagnosis?

A. Familial Mediterranean fever

B. Fibromyalgia

C. Osteosarcoma

D. Vitamin D deficiency

Answer: B

1. Fibromyalgia is a chronic widespread pain disorder associated with fatigue, poor sleep, irritable bowel syndrome and depression for more than 3 months.

2. More frequent in girls 3. It is most prevalent in girls 13–15 years of age

4. Fibromyalgia pain worsens with exercise.

5. The only other drug other than tricyclic antidepressants studied extensively in fibromyalgia is cyclobenzaprine (either amitriptyline or cyclobenzaprine are the initial drugs of choice)

Clinical presentation :

1. 3 months of chronic pain

2. Body aching and stiffness

3. Pain may be described as sharp, dull, constant, intermit tent, burning, heavy or numb

4. They toss and turn at night from the pain

5. Tender points, aggravated by cold, humidity, fatigue, relieved by heat, massage, dry weather, activity

635. Which of the following is the most common chromosomal abnormality seen in a newborn live infant?

A. Down syndrome (Trisomy 21)

B. Edward syndrome (Trisomy 18)

C. Patau syndrome (Trisomy 13)

D. Turner syndrome

Answer: A

Three of the most common newborn aneuplodies are trisomies 13, 18, and 21. About one in 5,000 babies is born with trisomy 18, one in 16,000 is born with trisomy 13 and one in 700 babies is born with trisomy 21, the most frequently occurring chromosomal abnormality

636. You are counseling a mother on nutrition for her children. She is very interested in the roles that vitamins play in health. Which of the following is appropriate advice?

A. Folic acid (vitamin B 9) has no role in blood production.

B. Vitamin B 12 deficiency is common in infants.

C. Vitamin C deficiency can lead to mucosal bleeding.

D. Vitamin E deficiency leads to decreased clot generation.

E. Vitamin K is only important in the synthesis of procoagulants.

Answer: C

Vitamin C deficiency (scurvy) impairs collagen synthesis and can lead to mucosal bleeding, easy bruising, and poor wound healing. Vitamin K is required for production of both procoagulant and anticoagulant proteins. Vitamin E deficiency has been associated with the hypercoagulability in infants. B 12 deficiency occurs rarely in infants, but can present in exclusively breastfed infants of vegan mothers. Folate is required for rapidly dividing cells, and thus is often supplemented in hemolytic anemias.

637. A child is brought to ER with a barking cough, red epiglottis, and thumb sign on x ray. What's the best initial management?

A. Emergent tracheostomy

B. Endotracheal intubation

C. Examination of epiglottis

D. Nasopharyngeal Tube

Answer: B

DX: Acute epiglottitisIllustrated: The child should be intubated under controlled conditions with a general anaesthetic. Rarely, this is impossible and urgent tracheostomy is life-saving.

638. Introduction of complementary feeds includes all the following EXCEPT:

A. Complementary foods are combined with human milk or formula to provide the nutrients required for appropriate growth.

B. Introduction of multiple nutrient ingredient food at a time is recommended

C. Practices vary widely among regions and cultures.

D. Should not occur before 4 months and should not be delayed beyond 6 months.

Answer: B

The AAP provides the following recommendations for initiating complementary foods (Pediatric Nutrition Handbook, 6th edition): Introduce 1 single nutrient ingredient food at a time, and do not introduce other new foods for 3-5 days to observe for tolerance…The European Society for Pediatric Gastroenterology, Hepatology, and Nutrition Committee on Nutrition considers that exclusive breastfeeding for ~6 months is desirable, but that the introduction of

complementary foods should not occur before 17 weeks (~4 months) and should not be delayed beyond 26 weeks (~6 month).

639. A 35-year-old woman gives birth to a female infant who is growth restricted, microcephalic, and has a congenital heart defect. She has had 1 prior miscarriage and reports that she has a 3-year-old son with mental impairment. She also recalls being on a special diet as a child which she subsequently discontinued. Which of the following maternal conditions is most consistent with this history?

A. Alkaptonuria

B. Fragile X syndrome

C. Myotonic dystrophy

D. PKU

E. Type 1 diabetes mellitus

Answer: D

Intrauterine exposure of an unborn child to elevated phenylalanine concentrations due to maternal PKU can disrupt embryo-fetal development. Effects include facial dysmorphism resembling fetal alcohol syndrome,microcephaly, mental impairment, and malformations especially of the heart. None of the other maternal conditions listed above would lead to the clinical features described. Maternal diabetes leads to macrosomia not growth restriction.

640. A 4 years old boy presented with ear pain and fever. On examination, a diagnosis of otitis media is made. What is the most common bacteria?

A. H.influenzae

B. N.meningitidis

C. S pneumoniae

D. S. aureus

Answer: C

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. When the secretions of middle ear accumulate, they exert the pressure on tympanic membrane which is dangerous sign. If nothing done in time, the tympanic membrane may rupture, leading to hearing loss. Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears. Treatment: High-dose amoxicillin (10 days for empiric therapy). Resistant cases may require amoxicillin/clavulanic acid.

641. Which of the following are features of Turner's syndrome?

A. All of the above

B. Lymphedema

C. Thick skin neck

D. Webbed neck

Answer: A

Signs and symptoms of Turner syndrome may vary among girls and women with the disorder. For some girls, the presence of Turner syndrome may not be readily apparent, but in other girls, a number of physical features and poor growth are apparent early. Signs and symptoms can be subtle, developing slowly over time, or significant, such as heart defects. Before birth Turner syndrome may be suspected prenatally based on prenatal cell-free DNA screening — a method to screen for certain chromosomal abnormalities in a developing baby using a blood sample from the mother — or prenatal ultrasound.

Prenatal ultrasound of a baby with Turner syndrome may show: Large fluid collection on the back of the neck or other abnormal fluid collections (edema) Heart abnormalities Abnormal kidneys At birth or during infancy Signs of Turner syndrome at birth or during infancy may include: Wide or weblike neck Low-set ears Broad chest with widely spaced nipples High, narrow roof of the mouth (palate) Arms that turn outward at the elbows Fingernails and toenails that are narrow and turned upward Swelling of the hands and feet, especially at birth Slightly smaller than average height at birth Slowed growth Cardiac defects Low hairline at the back of the head Receding or small lower jaw Short fingers and toes In childhood, teens and adulthood The most common signs in almost all girls, teenagers and young women with Turner syndrome are short stature and ovarian insufficiency due to ovarian failure that may have occurred by birth or gradually during childhood, the teen years or young adulthood. Signs and symptoms of these include: Slowed growth No growth spurts at expected times in childhood Adult height significantly less than might be expected for a female member of the family Failure to begin sexual changes expected during puberty Sexual development that "stalls" during teenage years

Early end to menstrual cycles not due to pregnancy For most women with Turner syndrome, inability to conceive a child without fertility treatment

642. Bilious vomiting in the first 2 days of life and a "double bubble" sign on abdominal x-ray are strongly suggestive of which of the following?

A. Biliary atresia

B. Duodenal atresia

C. Meconium ileus

D. Sigmoid volvulus

Answer: B

1. Duodenal atresia results from a congenital malformation of the duodenum, and requires prompt correction in the neonatal period. It is considered to be one of the commonest causes of a fetal bowel obstruction.

2. Presents as bilious vomiting shortly after initiation of feeds.

3. The classic radiologic □nding is the "double-bubble" sign

4. Duodenal atresia can cause polyhydramnios and vomiting.

5. Patients with duodenal atresia should be examined closely for evidence of other conditions such as Down syndrome or heart disease.

6. Treatment involves nasogastric decompression and surgical correction.

Double bubble sign DDx

1. Duodenal web

2. Duodenal atresia

3. Duodenal stenosis

4. Annular pancreas

643. A 3-year-old boy presented with failure to thrive, nearly confluent erythematous macules on the scalp.Plane skull x-ray films showed multiple irregular osteolytic lesions or the skull as well as fibia and tibia.What is the most probable diagnosis?

A. Histiocytosis X

B. Metastasis from Wilm's tumour

C. Metastasis from osteosarcoma

D. Neuroblastoma

E. Osteosarcoma

Answer: A

Histiocystosis is primarily a paediatric disease: it may affect any age group, but the peak incidence is at 1 - 4 years of age. It is a rare disease with an incidence of 3 - 5 per million children aged 1 - 14 years.Cases are essentially sporadic. The spectrum of presentation is broad and protean, ranging from a benign course to a fulminant progressive disease.Almost any organ can be affected. According to the number of organs involved, it is possible to distinguish between single-system and multi-system disease.The majority of patients have single-system disease, most cases involving skin or bone.Multi-system disease consists of various combinations of multiple organ involvement, and there may also be organ dysfunction and pronounced generalized symptoms. Bones are affected in 80% of cases – in fact, the clinical hallmark of LCH is lytic bone lesions. Any bone can be affected, but most commonly the skull (Fig. 3), pelvis, spine, mandible and ribs are

involved.2 , 6 The lesions may be occult, but usually present with pain or swelling. Skeletal X-rays are superior to skeletal isotopes in identifying the lesions. The radiographic appearance depends on the phase of the disease.6 The early stage is characterised by an aggressive pattern of osteolysis and a periosteal reaction

644. Which of the following organisms is the cause of herpangina?

A. Coxsackie A virus

B. EBV

C. Parvovirus B19

D. S. pharyngitis

Answer: A

1. Herpangina is an acute febrile illness associated with small vesicular or ulcerative lesions on the posterior oropharyngeal structures (enanthem).

2. Herpangina typically occurs during the summer and usually develops in children.

3. Caused by Coxsackievirus type A is a subgroup of enterovirus which is a subgroup of picornavirus

4. Presents with sudden onset of high fever in 3–10 years of age, and can be associated with vomiting, malaise, myalgia, and backache

5. Poor intake, drooling, sore throat, dysphagia, and dehydration may occur

Oral lesions:

One or more small tender papular pinpoint vescular lesions, on erythematous base on anterior pillars of the faucets, soft palate, uvula, tonsils, and tongue, then ulcerate in 3–4 days.

645. A child complains of barking cough with inspiratory stridor. What's the best way to diagnose him?

A. Blood culture

B. Clinically

C. Laryngeal swab

D. X-ray

Answer: B

croup is a clinical diagnosis. Radiographs can be used as a tool to help con□rm this diagnosis, but are not required in uncomplicated cases. [20] The anteroposterior (AP) radiograph of the soft tissues of the neck classically reveals a steeple sign (also known as a pencil-point sign), which signifies subglottic narrowing, whereas the lateral neck view may reveal a distended hypopharynx (ballooning) during inspiration (see the images below). [21] However, these x-ray findings may not be seen in up to 50% of children with clinical symptoms of croup.

646. The most common cause of a community-acquired pneumonia in a 45- year-old otherwise healthy man is

A. Haemophilus in□uenzae

B. Klebsiella pneumoniae

C. Legionella pneumoniae

D. Mycoplasma pneumoniae

Answer: D

In young adults, causes for pneumonia include Mycoplasma, Chlamydia pneumoniae, influenza, adenovirus, Pneumocystis carinii (in immunocompromised patients), and other community-acquired organisms including Streptococcus, Haemophilus, and, occasionally, Legionella. Pneumonia in adults with no underlying disease is usually caused by S. pneumoniae, representing more than 50% of communityacquired pneumonias that require hospitalization. Other causes in this patient group include H. influenzae, Legionella, Mycoplasma (more commonly seen in young adults), and influenza viruses. If the patient is older than 60 years and has other signi□cant medical problems (e.g., diabetes, COPD, heart disease, alcoholism), the most common pathogens include the previously mentioned organisms as well as Klebsiella, Enterobacteriaceae, Chlamydia, and S. aureus. For patients with aspiration or nosocomial infections, the causative organisms include the previously mentioned organisms and the gram-negative organisms (including Pseudomonas) and anaerobes.

647. All of the following statements regarding Hirschsprung disease are true Except:

A. It is associated with VATER syndrome

B. It is associated with trisomy 21

C. It is uncommon in preterm infants

D. Males are affected more commonly than females

Answer: A

Hirschsprung disease, or congenital aganglionic megacolon, is a developmental disorder of the enteric nervous system, characterized by the absence of ganglion cells in the submucosal and myenteric plexus. It is the most common cause of lower intestinal obstruction in neonates, with an overall incidence of 1 in 5,000 live births. The male : female ratio for Hirschsprung disease is 4 : 1 for short-segment disease, and approximately 2 : 1 with total colonic aganglionosis. Prematurity is uncommon.. Hirschsprung disease may be associated with other congenital defects, including trisomy 21, Joubert syndrome, Goldberg-Shprintzen syndrome, Smith-Lemli-Opitz syndrome, Shah-Waardenburg syndrome, cartilage-hair hypoplasia, multiple endocrine neoplasm 2 syndrome, neurofibromatosis, neuroblastoma, congenital hypoventilation (Ondine's curse), and urogenital or cardiovascular abnormalities. Hirschsprung disease has been seen in association with microcephaly, mental retardation, abnormal facies, autism, cleft palate, hydrocephalus, and micrognathia.

648. An 8 yr. old female child following URTI developed maculopapular rash on the jaw spreading onto the trunk which cleared on the 3rd day without desquamation and tender post auricular and suoccipital lymphadenopathy. The diagnosis is :

A. Erythema infectiosum

B. Kawasaki disease

C. Measles

D. Rubella

Answer: D

Rubella, also known as German measles or three-day measles,[5] is an infection caused by the rubella virus.[3] This disease is often mild with half of people not realizing that they are infected.[6][1] A rash may start around two weeks after exposure and last for three days.[1] It usually starts on the face and spreads to the rest of the body.[1] The rash is sometimes itchy and is not as bright as that of measles.[1] Swollen lymph nodes are common and may last a few weeks.[1] A fever, sore throat, and fatigue may also occur

649. A 3-year-old male presents to your o□ce after his mother witnessed him swallowing a button battery earlier that morning. He has normal vital signs. He is asymptomatic including no respiratory distress, no dysphagia, no drooling, and no complaints of pain. You obtain a chest radiograph and discover the button battery is in the esophagus. What is the next appropriate step?

A. Observe for symptoms and obtain a repeat chest radiograph weekly to verify progression.

B. Observe for symptoms and obtain repeat chest radiograph within 6 hours to verify passage.

C. Refer to the emergency room now for urgent endoscopic removal.

D. Set up an urgent appointment with gastroenterology to have removal of the battery performed within the next 48 hours.

E. Since given no symptomatology, provide mom reassurance that it will pass spontaneously.

Answer: C

Twenty percent of foreign body impactions occur within the esophagus. Children may present with a choking episode, respiratory symptoms, coughing, drooling, refusing oral intake, dysphagia, or chest pain. If the

child is symptomatic, it warrants urgent endoscopy. Other reasons for an urgent endoscopy include an esophageal impaction with a button battery or sharp object. It is not appropriate to delay removal of a button battery in the esophagus as a button battery may cause a lowvoltage burn and corrosive injury of the esophageal mucosa. This injury may occur as early as 4 hours after impaction.

650. 1-day-old infant is noted to be cyanotic. Physical examination reveals a grade 2-3/6 systolic murmur and a single loud second heart sound. The chest radiograph reveals a normal-sized heart and decreased pulmonary vascular markings. The electrocardiogram (ECG) reveals left ventricular dominance. The next step in the management of this neonate is to administer:

A. Digoxin

B. Positive pressure ventilation

C. Prostaglandin E1

D. Sodium bicarbonate

Answer: C

The murmur may represent a patent ductus arteriosus (PDA). If the PDA closes, marked cyanosis would supervene, resulting in acidosis, shock, and death. Prostaglandin E1 (PGE1) maintains patency of the ductus arterious between the pulmonary artery and the aorta.

651. Which of the following options presents the most appropriate way of managing laryngotracheobronchitis?

A. IV salbutamol

B. Inhaled salbutamol and betamethasone

C. Nebulised hypertonic saline

D. Nebulized epinephrine and steroid

Answer: D

Croup, also known as laryngotracheobronchitis, is a type of respiratory infection that is usually caused by a virus.[1] The infection leads to swelling inside the trachea, which interferes with normal breathing and produces the classic symptoms of "barking" cough, stridor, and a hoarse voice.[1] Fever and runny nose may also be present.[1] These symptoms may be mild, moderate, or severe Croup is characterized by a "barking" cough, stridor, hoarseness, and difficulty breathing which usually worsens at night.[1] The "barking" cough is often described as resembling the call of a seal or sea lion.[4] The stridor is worsened by agitation or crying, and if it can be heard at rest, it may indicate critical narrowing of the airways. As croup worsens, stridor may decrease considerably Children with croup are generally kept as calm as possible.[3] Steroids are given routinely, with epinephrine used in severe cases.[3] Children with oxygen saturations under 92% should receive oxygen,[4] and those with severe croup may be hospitalized for observation.[10] If oxygen is needed, "blow-by" administration (holding an oxygen source near the child's face) is recommended, as it causes less agitation than use of a mask

652. A 4-year-old girl is brought by to the doctor with& high-grade fever and rash for the last 9 days. A brick-red, maculopapular rash first appeared on his face and subsequently spread to his trunk and extremities. Before the rash appears,she had a non-productive

cough, tearing of eyes, runny nose, sneezing, and intermittent nasal obstruction. Which of the following is the most likely diagnosis?

A. Erythema Infectiosum

B. Kawasaki disease

C. Measles

D. Scarlet Fever

Answer: C

Measles

1. Mode of transmission: respiratory droplets (airborne).

2. The virus is infectious for 3-4 days before the onset of morbilliform rash and 4 days after the exanthem.

Diagnosis

1. IgM level serology (most reliable test)

2. Antigen detection in respiratory epithelial cells

3. Tissue by immunofluorescent method or PCR

Clinical presentation

1. Coryza

2. Cough

3. Conjunctivitis

4. High fever

5. Koplik spots6.

Rash is erythematous maculopapular rash spread from upâ€“down and disappear the same way

Prevention

1. Intramuscular (IM) immunoglobulin prophylaxis should be given to unimmunized child if exposed to measles infection

2. Infants (6-12 months) should be pre -vaccinated before traveling to high risk areas, e.g., India.

Complications

1. Otitis media is the most common

2. Pneumonia (common cause of death)

3. Encephalitis

4. Subacute sclerosing panencephalitis (SSPE) is rare and it may occur after 6- 15 years

653. A 10-year-old male presents with a past medical history of asthma and complaints of seasonal rhinorrhea, nasal itching, and sneezing symptoms are worse in the late summer. On examination, he has boggy bluish nasal turbinates and his lungs, ears, and skin are clear. Which of the following is the most likely diagnosis?

A. Allergic rhinitis

B. Otitis externa

C. Sinusitis

D. Upper respiratory infection

Answer: A

Allergic rhinitis is seasonal or perennial itching, sneezing, rhinorrhea, nasal congestion, and sometimes conjunctivitis, caused by exposure to pollens or other allergens. The seasonal nature of the symptoms along with itching and sneezing are hallmarks of allergic symptoms. Asthma is commonly a disease that precedes the diagnosis of allergic rhinitis, and eczema may be another associated disease. Diagnosis is by history and occasionally skin testing. First-line treatment is with a nasal corticosteroid (with or without an oral or a nasal antihistamine) or with an oral antihistamine plus an oral decongestant.

654. 6-month-old infant who recently underwent a Kasai procedure (portoenterostomy) for biliary atresia presents to the pediatric emergency department with a fever. The patient's examination shows no clear source of the fever and urine laboratory results show no signs of infection. Blood laboratory results demonstrate amodest rise in the patient's bilirubin and white blood cell count. The most likely infectious etiology for the patient's condition is:

A. Cytomegalovirus

B. Entamoeba

C. Enterococcus

D. Salmonella

E. Streptococcus

Answer: C

This child having undergone a Kasai procedure is at high risk for developing bacterial cholangitis given the abnormal anatomy of the bile

ducts following surgery. Similar conditions that result in functional or mechanical obstruction of the bile ducts include gallstones, congenital hepatic □brosis, choledochal cysts, and primary sclerosing cholangitis. The most common bacterial causes of cholangitis are E. coli, Klebsiella, Enterobacter , and Enterococcus. Cytomegalovirus can cause hepatitis, although this is more commonly seen in immunocompromised children such as those with liver transplantation.

Entamoeba histolytica , along with other bacteria, is a cause of liver abscesses but not cholangitis. Streptococcus species and Salmonella can very rarely cause cholangitis but are more common causes of diffuse parenchymal liver disease. In developing countries, there are more likely to be parasitic causes of cholangitis, and etiologies include Cryptosporidium, Ehrlichia , and Fasciola hepatica .

655. Sexual abuse includes all of the following except:

A. Incest

B. Nonel of the above

C. Showing pornography to a child

D. Use of a child to create pornography

Answer: B

Child sexual abuse is a form of child abuse that includes sexual activity with a minor. A child cannot consent to any form of sexual activity, period. When a perpetrator engages with a child this way, they are committing a crime that can have lasting effects on the victim for years. Child sexual abuse does not need to include physical contact between a perpetrator and a child. Some forms of child sexual abuse include: Exhibitionism, or exposing oneself to a minor Fondling Intercourse Masturbation in the presence of a minor or forcing the minor to

masturbate Obscene phone calls, text messages, or digital interaction Producing, owning, or sharing pornographic images or movies of children Sex of any kind with a minor, including vaginal, oral, or anal Sex trafficking Any other sexual conduct that is harmful to a child's mental, emotional, or physical welfare

656. A 5-year-old child brought to the emergency room with hyperventilation, metabolic acidosis, high anion gap, tinnitus, and confusion. What did he ingest?

A. Aspirin

B. Isoniazid

C. Oral contraceptive

D. Penicillin

Answer: A

The earliest symptoms of acute aspirin poisoning may include ringing in the ears (tinnitus) and impaired hearing. More clinically significant signs and symptoms may include rapid breathing (hyperventilation), vomiting, dehydration, fever, double vision, and feeling faint.Later signs of aspirin poisoning, or signs of more signi□cant poisoning, can include drowsiness or confusion, bizarre behavior, unsteady walking, and coma.

Arterial blood gas (ABG) testing should be performed to evaluate for the presence of acid-base disturbances. Primary respiratory alkalosis may occur, followed by concomitant primary metabolic acidosis resulting from production of lactic acid, metabolites, and other organic acids. Therefore, the most common abnormality, especially in adults, is a mixed acid-base disturbance (a primary respiratory alkalosis plus a

primary metabolic acidosis). The presence of this finding should raise the suspicion of the possibility of an aspirin overdose.

657. A 6-year-old girl is brought to the physician with low -grade fever, headache and sore throat. She has not received any vaccinations. Physical examination shows a maculopapular rash and posterior auricular and suboccipital lymphadenopathy.

Which of the following is the most likely diagnosis?

A. Measles

B. Mumps

C. Rubella

D. Scarlet fever

Answer: C

Rubella

1. Rubella is generally a benign communicable exanthema tous disease.

2. It is caused by rubella virus, which is a member of the Rubivirus genus of the family Togaviridae.

3. Disease transmission: by droplet inhalation from the respiratory tract of an infected host.

4. Incubation period: 14–21 days.

Clinical presentation :

Lymphadenopathy:

1. Retroauricular

2. Postauricular

3. Posterior occipital

Rash:

1. Maculopapular erythematous rash last for 3 days

2. Forschheimer spots; rose colored spot on soft palate

Other manifestation:

1. Pharyngitis and conjunctivitis

2. Anorexia, headache, and malaise

3. Low -grade fever and polyarthritis

658. Which of the following is the most common cause of hearing loss in children?

A. Earwax Impaction

B. Noise-Induced Hearing Loss

C. Otitis Media

D. Presbycusis

Answer: C

1. Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae,

nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus.

2. Otitis Media is the most common cause of hearing loss in children is from otitis media.

3. Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

4. Treatment: High-dose amoxicillin (10 days for empiric therapy)5. Resistant cases may require amoxicillin/clavulanic acid.

6. Complications : TM perforation, mastoiditis, meningitis, cholesteatomas, and chronic otitis media.

7. Recurrent otitis media can cause hearing loss with resultant speech and language delay.

8. Chronic otitis media may require tympanostomy tubes.

659. A 2-year-old girl presented with signs of dehydration after two days of vomiting and diarrhea. Urinary sedimentexamination showed epithelial and dirty brown casts.Which of the following is the most likely renal pathology?

A. Diffuse cortical necrosis

B. Pyelonephritis

C. Rapidly progressive glomerulonephritis

D. Tubular necrosis

Answer: D

Acute tubular necrosis (ATN) is a medical condition involving the death of tubular epithelial cells that form the renal tubules of the kidneys.

ATN presents with acute kidney injury (AKI) and is one of the most common causes of AKI. Common causes of ATN include low blood pressure and use of nephrotoxic drugs. The presence of "muddy brown casts" of epithelial cells found in the urine during urinalysis is pathognomonic for ATN. Management relies on aggressive treatment of the factors that precipitated ATN (e.g. hydration and cessation of the offending drug). Because the tubular cells continually replace themselves, the overall prognosis for ATN is quite good if the cause is corrected, and recovery is likely within 7 to 21 days.

660. A 4 year old boy is taken to the emergency after he has ingested batter. His respiratory is normal but he has something behind his chest. X ray shows battery stucked in the esophagus. What is the best step?

A. CT scan

B. Laproscopic removal

C. Open surgery

D. Urgent endoscopy removal.

Answer: D

Urgent endoscopy and removal of battery is best option for this patient.

CT scan or further investigation is not necessary after establishing the diagnosis via history and chest x ray. Open surgery is not good option.

Similarly laproscopic surgery is not necessary when we can approach via endoscope and remove the battery.

661. A 1-mo-old female infant is presented with a chief complaint of poor feeding and lethargy. Parents report that the child was well until 3 days earlier, when poor feeding began. Pulse rate is 280 beats/min, respiratory rate is 50/min, and blood pressure is 80/50 mm Hg. Physical examination shows a gallop rhythm and an enlarged liver palpable 2-3 cm below the right costal margin. What would be the most likely diagnosis?

A. Pneumonia

B. Reentrant supraventricular tachycardia

C. Sepsis

D. Ventricular tachycardia

Answer: B

This is a very high heart rate for a simple sinus rhythm. The child is in heart failure, but the excessively high heart rate may be the cause, not the result, of heart failure.

662. Which of the following statements about clonidine is true?

A. Concomitant use with β-blockers decreases the risk of hypertensive crisis when both medications are discontinued.

B. It is classified as an ACE inhibitor.

C. Rapid withdrawal may precipitate a hypertensive crisis.

D. The mechanism of action involves the increased release of renin and α- receptor activation.

E. Use of the drug can exacerbate RLS.

Answer: C

Clonidine is a second-line drug used in the treatment of hypertension, RLS, nicotine withdrawal, prophylaxis for vascular headaches, and opiate withdrawal. Clonidine works by decreasing vascular resistance through α-receptor blockade and inhibiting renin release. Rapid withdrawal of the medication may precipitate a hypertensive crisis, which can be life threatening. Symptoms of hypertensive crisis include tachycardia, diaphoresis, headache, nervousness, and abdominal pain. Concomitant use with β-blockers may also increase the risk of hypertensive crisis when both medications are discontinued.

663. The drug of choice for cold-induced urticaria is

A. Cimetidine

B. Cyproheptadine

C. Diphenhydramine

D. Hydroxyzine

E. Verapamil

Answer: B

Urticaria is defined as an erythematous, pruritic rash that is often raised and occurs as discrete wheals and hives. The condition affects approximately 20% of the population. The rash involves the superficial layers of the skin. The center of the wheal is usually pale, and the rash

blanches with pressure. Involvement of the deeper layers is referred to as angioedema. The causes include allergen exposure; heat, cold, or sunlight exposure; and trauma. In many cases, a cause is never detected. The response is thought to be mediated by an IgE antibody. Those affected by cold may have cryoglobulins or cryofibrinogen, which become activated. In extreme cases, bronchoconstriction and anaphylaxis can occur. Unfortunately, an underlying cause is identified in only approximately 20% of cases. Treatment involves avoiding factors that trigger the response. Other treatment involves the use of antihistamine (H1) medications and histamine blockers (H2) such as cimetidine. Doxepin may also be beneficial. The drug of choice for coldinduced urticaria is cyproheptadine. Other causes of urticaria include medication use, malignancy, endocrinopathies, autoimmune diseases, insect bites, and infestations; psychogenic causes should also be investigated in complicated or persistent cases. Severe cases may require systemic steroids or the use of danazol.

664. Which of the following conditions is associated with machinery-like heart murmur?

A. Atrial Septal Defect

B. Mitral stenosis

C. Patent ductus Arteriosus

D. Ventricular Septal Defect

Answer: C

1. Patent ductus arteriosus (PDA) is a persistence after birth of the normal fetal connection (ductus arteriosus) between the aorta and pulmonary artery, resulting in a left-to-right shunt.

2. Symptoms may include failure to thrive, poor feeding, tachycardia, and tachypnea. A continuous murmur at the upper left sternal border is common.

3. Manifestations depend on the size of the PDA and the age of the child, but a continuous murmur is characteristic and, if loud, has a "machinery-sounding" quality.

4. Over time, a large shunt causes left heart enlargement, pulmonary artery hypertension, and elevated pulmonary vascular resistance, ultimately leading to Eisenmenger syndrome if untreated.

5. Diagnosis is by echocardiography.

6. For premature infants with hemodynamically significant PDA, give a COX inhibitor (eg. ibuprofen lysine or indomethacin). Surgical closure may benefit patients with a hemodynamically significant PDA in whom medical therapy has failed.

7. If the connection persists, surgical or catheter-based correction is indicated.

665. Most children are able to copy a circle at which age?

A. 1 year

B. 2 years

C. 3 years

D. 4 years

Answer: C

Developmental Milestones (3 years)

1. Balances on one foot for 3 seconds

2. Goes upstairs alternating feet, no rails

3. Pedals tricycle

4. Copies circle

5. Puts on shoes without laces

6. Draws a two to three part person

7. Knows own gender and age

8. Uses 200 + words

9. Uses three word sentences

666. Child was having rhinorrhea and then developed episodes of cough paroxysms followed by vomiting. Which of these vaccination may prevent him from having this disease?

A. DTaP

B. Flu vaccine

C. Measles

D. Pneumococcal

Answer: A

Initially, whooping cough has the same symptoms as the average cold:Mild coughing, Sneezing, Runny nose, Low fever (below 102 F).

Also diarrhea may be present. After about 7-10 days, the cough turns into “coughing spells” that end with a whooping sound as the child tries to breathe in air. Because the cough is dry and doesn't produce mucus, these spells can last up to 1 minute. The best way to prevent pertussis (whooping cough) among babies, children, teens, and adults is to get

vaccinated. The recommended pertussis vaccine for babies and children is called DTaP. This is a combination vaccine that helps protect against three diseases: diphtheria, tetanus and pertussis

667. A 10 year old child presents with fever, malaise, lymphnode enlargement & mouth ulcers. The child also reports experiencing a tingling, itching or burning sensation around their mouth before the appearance of the sores. What is the most likely diagnosis?

A. Apthous ulcers

B. Chanchroid

C. Herpes simplex virus infection type 1 (HSV 1)

D. Oral candidiasis

Answer: C

HSV-1 is a highly contagious infection, which is common and endemic throughout the world. Most HSV-1 infections are acquired during childhood, and infection is lifelong. The vast majority of HSV-1 infections are oral herpes (infections in or around the mouth, sometimes called orolabial, oral-labial or oral-facial herpes) Oral herpes infection is mostly asymptomatic, and the majority of people with HSV-1 infection are unaware they are infected. Symptoms of oral herpes include painful blisters or open sores called ulcers in or around the mouth. Sores on the lips are commonly referred to as “cold sores.” Infected persons will often experience a tingling, itching or burning sensation around their mouth, before the appearance of sores. After initial infection, the blisters or ulcers can periodically recur. The frequency of recurrences varies from person to person.

668. A child with cutaneous hemangioma, those hemangiomas could be found in which organ?

A. Kidneys

B. Liver

C. Lung

D. Spleen

Answer: B

-Spleen could be involved, but most commonly the liver

669. A 2 months old child is brought to your clinic with complains of spitting food. Abdominal examination is unremarkable. Stool for occult blood is negative. The infant is thriving and plots at the 50th centile. He is normal looking with no dehydration. What option presents the next logical step in the management?

A. Abdominal CT

B. Abdominal ultrasound

C. Admit to the ward for observation

D. Reassure the parent

Answer: D

Parents brought their baby to you who is on bottle feeding, on exam he has whitish lesion on either side of teeth seen with blackish lesion on

maxillary incisors and second molar teeth, there is history of leaving the baby with bottle in his mouth during sleeping. The diagnosis?

670. An 11-year-old boy presents to the clinic with a neck mass. His mother reports that she noticed the mass several months ago, but in the last few weeks the mass has become hard. On physical examination, the boy is afebrile and has normal vital signs. The mass is on the angle of his jaw. He has no cervical lymphadenopathy. You perform an excisional biopsy. The Gram stain ofthe tissue shows gram-positive filamentous, acid-fast negative organisms. After further questioning, the boy remembers having a molar tooth extracted several months before the mass developed. What is the most likely etiology?

A. Actinomycosis israelii

B. Bartonella henselae

C. Molluscum contagiosum

D. Moraxella catarrhalis

E. Mumps

Answer: A

This patient has cervicofacial disease secondary to actinomycosis. The most common form of actinomycosis is cervicofacial disease, which is characterized as a suppurative infection that progresses to a “woody” or lumpy mass. The lesion can also be complicated by fistula formation. “Sulfur granules” may be noted in the fistula drainage. The location is usually at the angle of the jaw, but can occur anywhere on the cheek, mandible, or anterior neck. The lesion is slowly progressive over several months; however, pain or fever is seldom prominent. Actinomyces species are part of the normal flora of the human

gastrointestinal tract. A. israelii , the species that most commonly produces human disease, is part of normal oral flora. Infection spreads by direct invasion from adjacent tissue. As a result, risk factors for actinomycosis include gingivitis, dental caries oral surgery, and local tissue damage. Mumps can cause swelling of the parotid glands; however, the causative organism is an RNA virus in the Paramyxoviridae family. B. henselae (cat scratch disease) can manifest as a regional lymphadenopathy near the site of inoculation. Bartonella is unlikely in this case, as no lymphadenopathy was noted. Also, instead of the slow development of a "woody" or hard appearance, the lymphadenopathy develops over 1 to 2 weeks. In cat scratch disease, the overlying skin is more likely to be warm and erythematous. M. catarrhalis usually presents as otitis media or sinusitis. Molluscum contagiosum is a benign viral infection of the skin. The lesions are usually flesh-colored or "pearly" papules about 5 mm in diameter with central umbilication.

671. A 10 -year old boy presents with pain, tenderness, and swelling in the upper pole of the right testicle. On examination a bluish dot is visible through the scrotum. Which of the following is the most likely diagnosis?

A. Hydrocele

B. Testicular torsion

C. Torsion of the testicular appendage

D. Varicocele

Answer: C

1. Torsion of testicular appendices is one of the most common causes of acute scrotum; it is the leading cause of acute scrotum in children.

2. Acute scrotal pain (the most common cause of scrotal pain between age 3 and 13 years).

3. The pain is less severe than testicular torsion.

4. Palpable tender nodule on the top portion of the testicle with blue discoloration (Blue dot sign)

5. The testis should be nontender to palpation. If present, tenderness is localized to the upper pole of the testis. Diffuse tenderness is more common in testicular torsion.

6. A blue-dot sign is present in only 21% of cases.

7. Doppler ultrasound can differentiate between torsion of appendix and testis. 8. Usually resolve spontaneously

672. A doctor asks a child to bend forward with the feet together, arms hanging and the knees in extension with the docto inspecting the patient from the back. What is the name of this test?

A. Adam's test

B. Brudzinski's test

C. PGALS test

D. Sexual abuse

Answer: A

The patient takes off his/her t-shirt so that the spine is visible. The patient needs to bend forward, starting at the waist until the back comes in the horizontal plane, with the feet together, arms hanging and the knees in extension. The palms are hold together. The examiner stands at the back of the patient and looks along the horizontal plane of the spine, searching for abnormalities of the spinal curve, like increased or

decreased lordosis/ kyphosis, and an asymmetry of the trunk. pGALS (paediatric Gait, Arms, Legs and Spine) is a simple quick musculoskeletal assessment to distinguish abnormal from normal joints in children and young people.

673. A 2-year-old male is brought to the office with a reluctance to move his left arm. This began when the mother was crossing the street with him, and while holding his hand the mother pulled on his arm to prevent a fall. Examination reveals mild tenderness at the radial head but is otherwise normal. X-rays are ordered and are normal. Which of the following is the most likely diagnosis in this child?

A. Colles fracture

B. Dislocation of the shoulder

C. Lunate subluxation

D. Radial head subluxation

Answer: D

1. Nursemaid's elbow, also called as subluxed radial head, is one of the most common elbow injuries in children between the ages of 1-5 years. Radial head subluxation, common among toddlers, is caused by traction on the forearm and usually manifests as refusal to move the elbow (pseudoparalysis).2. Symptoms may include pain and tenderness. Most patients cannot describe their symptoms and simply present with unwillingness to move the affected arm. The radial head may be only mildly tender.3. The child typically keeps the hand in a pronated position, and refuses (cries out in pain) attempted forearm supination.4. Pulling causes axial traction on the forearm, which causes the radial head to slip through parts of the annular ligament. 5. Diagnosis is made

clinically as radiographs are often normal 6. Treatment: Forearm hyperpronation or Forearm supination & elbow flexion

674. 4 year old child brought by his parents to pediatric outpatient clinic with them complaining of his massive uncontrolled appetite during the last 18 months. Weight was above 95th percentile, while height was below 5th percentile. Mother reported that her son was failing to thrive during his first two years, beside the fact that he was developmentally delayed compared to his siblings until he caught up late. O/E he had a high forehead, broad nose, small peripheries (Hands and Feet). What is the cause behind hi symptoms?

A. Genetic.

B. Irrelevant choice.

C. Metabolic.

D. Nutritional.

Answer: A

Prader-Willi syndrome (PWS) is the most common syndromic form of obesity. The syndrome is caused by absence of expression of the paternally active genes on the long arm of chromosome 15. The vast majority of cases occur sporadically. Toddlers with PWS demonstrate late acquisition of major motor milestones. Children between one and six years of age commonly manifest symptoms of hyperphagia with progressive development of obesity if access to food is unrestricted. Body composition is abnormal, with reduced lean body mass and increased fat mass as compared with normal and obese controls . Perhaps as a result of the reduced lean body mass, resting energy expenditure is also reduced. Short stature is usually present during

childhood and most patients fail to have a pubertal growth spurt. Most patients with PWS have growth hormone deficiency. PWS is a multigenic pathology that shows great clinical variability that shows great clinical variability. Features change from patient to patient and even during the lifetime of the individual patient. From Birth to 3 Years Pregnancy is generally normal, but some mothers may report decreased fetal activity, and newborns are often found in the breech position at time of delivery. Premature delivery may occur, and newborns that are adequate for gestational age frequently have low weight and length at birth. The majority of newborns with PWS present marked neonatal axial hypotonia (babies are described as “floppy”); this is associated with lethargy, decreased movement, weak crying, and poor reflexes, including poor sucking, often resulting in failure to thrive. The baby can present dysmorphic characteristics, such as narrow bifrontal diameter, dolichocephaly, almond-shaped eyes, downturned angles of the mouth with abundant and thick saliva, and small hands and feet. These are less pronounced at birth but can become more evident with age. Newborns generally present the clinical signs of hypogonadism. In males, the penis may be small; more characteristic is a hypoplastic scrotum that is small, poorly rugated, and poorly pigmented. Unilateral or bilateral cryptorchidism is present in 80–90% of males. In females, genital hypoplasia is often overlooked; however, the clitoris and labia, especially the labia minora, are generally small from birth. Hypotonia and hypogonadism are the first manifestations of a primitive hypothalamic alteration, which many studies indicate to be at the base of PWS. This central deficiency leads to many manifestations, in particular a pituitary hormonal deficit (GH, TSH, central adrenal insuficiency), satiety alteration, sleep disturbances, and a tendency for dysthermoregulation. Although hypotonia slowly evolves over time, gross motor and language milestones are delayed. Early milestones are reached on average at double the normal age (e.g., sitting at 12 months, walking at 24 months, and saying words at 2 years). From 3 to 10 Years During preschool age, PW patients develop a food obsession; children become overweight as a consequence of an insatiable appetite and compulsive eating, which can lead to morbid obesity in adolescence and adulthood if not kept under control. PWS eating habits are complex and multifactorial. They are thought to be associated with abnormalities

in the hypothalamic circuitry or the peripheral satiety signals. PWS individuals show differences in various gut hormones, including high levels of obestatin (an anorexigenic hormone) in infancy, with markedly elevated levels of ghrelin (an orexigenic hormone) in childhood and adulthood. The structural brain abnormalities present in these individuals might also contribute to appetite aberrations. Functional MRI studies indicate that these individuals assign a high reward value to food with increased activation of the limbic and paralimbic areas of the brain that drive eating behavior, even after meal, showing that the brain influencing appetite in this syndrome. During the first 6 years of life, children with PWS often do not achieve normal levels of cognitive, motor, and language development.

675. A 4-yr-old boy in good health presents with a 3-day history of a tender mass, 2 cm in diameter, midway between the umbilicus and the xyphoid process. He is afebrile, is eating normally, and has an otherwise normal physical examination. The most likely diagnosis is:

A. Incarcerated Epigastric hernia

B. Lipoma

C. Metastatic neuroblastoma

D. Rhabdomyosarcoma of the abdominal wall

Answer: A

Epigastric hernias typically appear in young children as a visible or palpable mass in the midline, between the umbilicus and the xiphoid. The mass is almost always small (<1 cm) and asymptomatic. The mass is typically present at all times but most apparent at times of irritability or straining. Occasionally, the mass is intermittent and the child relates

pain localized to the site of the hernia. Physical examination demonstrates a firm mass, directly in the midline, anywhere between the umbilicus and the xiphoid. Epigastric hernias typically contain only preperitoneal fat and are not reducible because of the small size of the fascial defect.The 3 day history and tenderness suggests incarceration.

676. A 3-year-old boy is brought to the emergency room with abdominal pain, vomiting and bloody stool. Ultrasound showed doughnut sign. Which of the following is the most appropriate management for this patient?

A. Air contrast enema

B. Observation

C. Plain film of the abdomen

D. Urgent surgery

Answer: A

1. Intussusception is the most common cause of intestinal obstruction in infants between 6 and 36 months of age.

2. Intussusception refers to the invagination (telescoping) of a part of the intestine into itself. It is the most common abdominal emergency in early childhood, particularly in children younger than two years of age

3. The hallmark physical □ndings in intussusception are a right hypochondrium sausage-shaped mass and emptiness in the right lower quadrant (Dance sign). This mass is hard to detect and is best palpated between spasms of colic, when the infant is quiet. Abdominal distention frequently is found if the obstruction is complete.

4. Intussusception is unusual in adults, and the diagnosis is commonly overlooked. In the majority of cases in adults, a pathologic cause is identified.

5. Sudden abdominal pain that lasts 1 min and is episodic; pallor, sweating, vomiting, bloody mucus in stool (i.e., currant jelly stool); abdominal tenderness; palpable, sausage-like abdominal mass
6.Ultrasound is the best initial test and will show a doughnut sign or target sign.

Treatment:

1. Air enemas are preferred because they are typically faster and safer than contrast.

1. Barium enema may reduce defect

2. If the enema fails, surgery must be performed to reduce the intussusceptions

677. A previously well 3½-mo-old presents with poor feeding, diaphoresis during feeding, and poor growth. Vital signs reveal a respiratory rate of 70/min, pulse of 175/min, and blood pressure of 90/65 mm Hg in the upper and lower extremities. The cardiac examination reveals a palpable parasternal lift and a systolic thrill. A grade 4 holosystolic murmur and a mid-diastolic rumble are noted. The chest radiograph reveals cardiomegaly.

The most likely diagnosis is:

A. Cardiomyopathy

B. Coarctation of the aorta

C. Myocarditis

D. VSD

Answer: D

A large VSD with a large left-to-right shunt produces significant heart failure. The age at onset usually corresponds to the time when the normally high fetal pulmonary vascular resistance declines in the first 1-3 mo of life. With decreasing pulmonary artery pressure, the left-toright shunt increases

678. A 17-year-old female presents with a 3-week history of recurrent nausea, vomiting, anorexia, and abdominal pain. This is the first time she has had these types of symptoms. She denies dieting or intentional weight loss, but her mother thinks she has lost about 15 lb in the last 3 weeks. She has not had any signi□cant diarrhea or constipation. On examination, her BMI is now □5th percentile for age. She has some mild abdominal distension and epigastric tenderness on abdominal examination. Her physical examination is otherwise unremarkable. Serum markers for inflammation (sedimentation rate, C-reactive protein), complete blood cell count, serum albumin, and serum lipase levels are all normal. An upper gastrointestinal contrast study is obtained and demonstrates a dilated stomach and duodenum with abrupt cutoff of the duodenum at the level of the third lumbar vertebra. Of the following, these findings are most consistent with:

A. Celiac disease

B. Chronic pancreatitis

C. Crohn disease

D. Duodenal stenosis

E. Superior mesenteric artery syndrome (SMAS)

Answer: E

SMAS is characterized by gastrointestinal obstruction resulting from compression of the duodenum between the abdominal aorta posteriorly and the superior mesenteric artery anteriorly SMAS is more common in females than in males and is associated with acute weight loss. Acute weight loss is thought to result in loss or reduction in size of the anterior mesenteric fat pad that contributes to the angle between the superior mesenteric artery and the aorta, which usually is between 45° and 60°. In individuals with SMAS, this angle can be significantly reduced. Symptoms of SMAS may be acute or chronic, and can include vomiting, nausea, anorexia, abdominal distension, abdominal pain, early satiety, and weight loss. The diagnosis of SMAS is commonly made by upper gastrointestinal contrast radiography that shows a dilation of the stomach and proximal duodenum, with abrupt cutoff or narrowing of the small bowel at the level of third vertebra just proximal to the ligament of Treitz. Retrograde peristalsis of contrast is sometimes observed in the proximal dilated segment of small bowel. The diagnosis can also be made by computerized tomography or at laparotomy. Treatment of SMAS is primarily aimed at bowel decompression, fluid stabilization, and nutritional support. Small, frequent meals may be helpful; in more severe cases, postpyloric feeds with a nasojejunal tube or parenteral nutrition may be necessary. Crohn disease can also present with nonspecific symptoms of abdominal pain, anorexia, and weight loss as well. Development of a small bowel stenosis is possible, but is usually secondary to chronic inflammation and fibrosis.The patient in this clinical vignette also lacks evidence of systemic inflammation, hypoalbuminemia, and symptoms of diarrhea, which would be more typical in the setting of chronic intestinal inflammation secondary to Crohn disease. Intestinal stenosis and atresia are relatively common congenital anomalies that can affect the duodenum. It would be highly unusual, however, to have a delayed presentation beyond the neonatal period without any other history of intestinal obstruction. Chronic pancreatitis can present with recurrent episodes of acute pancreatitis or with gradual onset of chronic abdominal pain. Radiographic findings,

such as calcfications within the pancreas on plain film or computerized tomography, are suggestive of chronic pancreatitis. Obstruction of the duodenum, however, is not a commonly associated finding. Finally, celiac disease is also characterized by involvement of the duodenum resulting in symptoms of abdominal pain and weight loss; however, duodenal inflammation in celiac disease does not typically result in obstruction.

679. Some muscles in ear act to reduce the noise or to decrease the amplitude of sound. Which of following is nerve supply to tensor tympani and stapedius muscle?

A. Facial and accessory

B. Facial and auditory

C. Trigeminal and facial

D. Trigeminal and vagus

Answer: C

The tensor tympani is a muscle within the ear,Innervation of the tensor tympani is from the tensor tympani nerve, a branch of the mandibular division of the trigeminal nerve. Injury leads to increased intensity of chewing and self-sounds. Stapedius is supplied by, nerve to stapedius, a branch of facial nerve. This muscle help dampen the external noise or decrease the amplitude of high intensity sounds.

680. A 10-year-old boy presents with fever, weight loss, and night sweats. Examination shows anterior mediastinal mass. Suspected diagnosis ?

A. Brucellosis

B. Leukemia

C. Meningitis

D. Non-Hodgkin’s lymphoma

Answer: D

The signs and symptoms of non-Hodgkin's lymphoma vary depending upon its location within the body. Symptoms include enlarged lymph nodes, fever, night sweats, weight loss, and feeling tired. Other symptoms may include bone pain, chest pain, or itchiness. Some forms are slow growing while others are fast growing.[1] Enlarged lymph nodes may cause lumps to be felt under the skin when they are close to the surface of the body. Lymphomas in the skin may also result in lumps, which are commonly itchy, red or purple. Lymphomas in the brain can cause weakness, seizures, problems with thinking and personality changes

681. A 2-year old is brought into the emergency department with a 2 day history of dry cough. He was previously well with no history of fever. His mother reported that he likes to play with his brothers Lego toys. On auscultation, you find right-sided wheezing. What is the most likely diagnosis?

A. Acute asthmatic attack

B. Bacterial pneumonia

C. Bronchiolitis

D. Foreign body

Answer: D

A suggestive history (sudden onset while a child was playing with toys or eating) coupled with choking or coughing episodes accompanied by new onset wheezing are highly suggestive of an airway foreign body

682. A 10-year-old boy presents to the doctor with pruritic rash. On examination, the rash is located on exposed skin of the trunk and extremities and is characterized by annular scaly plaques. Which of the following is the most likely diagnosis?

A. Erythema multiforme

B. Pityriasis rosea

C. Tinea corporis

D. Varicella zoster

Answer: C

Tinea corporis is a dermatophytosis that causes pink-to-red annular (Oshaped) patches and plaques with raised scaly borders that expand peripherally and tend to clear centrally.

2. Characterized by an erythematous, scaly, pruritic rash with central clearing .

3. Tinea corporis is most common in preadolescents.

4. A rare variant for appears as nummular (circle- or round-shaped) scaling patches studded with small papules or pustules that have no central clearing.

5. Common causes are Trichophyton mentagrophytes,T. rubrum, and Microsporum canis.Diagnosis

1. Clinical evaluation

2. Potassium hydroxide wet mount

Treatment:

1. Topical or oral antifungals

2. Treatment of mild-to-moderate lesions is an imidazole, ciclopirox, naftifine, or terbinafine in cream, lotion, or gel.

683. An 8-year-old child presents to the clinic with chief complaints of sneezing, nasal congestion, and nasal discharge. Symptoms are present on most days and seem worse after playing in his bedroom. He is doing well in school and sleeping well at night. On physical exam, he has mild clear rhinorrhea and pale nasal turbinates. Skin-prick testing reveals a large reaction to dust mite. What is the best initial therapeutic intervention for this patient?

A. Avoidance measures: mite-proof coverings, removal of carpet from

bedroom

B. Immunotherapy with allergenic extracts

C. Leukotriene receptor antagonist (LTRA)

D. Oral anti-histamine

E. Oral phenylephrine

Answer: A

The child in the vignette above has perennial allergic rhinitis (AR) secondary to dust-mite allergy. Management of the allergic child requires a multifaceted approach that includes minimizing exposure to the allergic trigger as well as using medications that can control an established allergic reaction (antihistamines, epinephrine) or limit the development of an allergic reaction (corticosteroids, leukotriene inhibitors). The first line of treatment for this patient should be education and allergen avoidance measures such as allergenproof bed and pillow covers, washing bedding weekly, washing stuffed animals, regular vacuuming, and carpet removal.Histamine is a primary amine produced by mast cells and basophils that orchestrates many aspects of the allergic response by binding to specific receptors present on the surface of its target cells. The 4 types of histamine receptors are H1, H2, H3, and H4. Signals induced via the H1 receptor (and to a lesser extent the H2 receptor) mediate many of the acute symptoms and signs of allergic disease. Histamine receptor antagonists are widely used for the treatment of allergic disorders and many antihistamines are acceptable for use in children. Oral phenylephrine is a decongestant. Decongestants work by constricting the blood vessels lining the nose. Their long-term use is discouraged due to the risk of rebound nasal congestion. Oral decongestants are also not recommended in children due to their cardiovascular (high blood pressure) and CNS (nervousness, excitability, difficulty sleeping) side effects. Cysteinyl leukotrienes induce the migration and activation of white blood cells involved in allergic inflammation as well as smooth muscle and asthma. The effectiveness of LTRAs is comparable to that of oral antihistamines. The safety profile makes them a suitable alternative for patients who cannot receive steroids or who are wary of their side effects. Allergen specific subcutaneous immunotherapy (SCIT) is an effective therapy for AR. It is currently the only treatment that modifies the course of AR by redirecting the immune system toward a tolerant state. Its clinical benefits may be sustained for years after discontinuation of treatment. SCIT is a time-consuming therapy that requires long-term commitment (minimum of 2 years). The

subcutaneous administration is an added drawback for children who are fearful of injections. While medications may become necessary, avoidance measures should be the first line of treatment given the patient's mild symptoms.

684. A 15-year-old boy with a history of asthma presents with symptoms of dysphagia, especially with solid foods. He has experienced food impactions that resolved spontaneously on 2 separate occasions. An upper gastrointestinal contrast study is obtained and is normal. He is started on twice daily proton pump inhibitor therapy for 6 weeks. Due to continued symptoms of dysphagia, he then undergoes esophagogastroduodenoscopy that reveals linear furrowing and small, white adherent plaques throughout the entire esophagus. Biopsies from the proximal and distal esophagus show increased eosinophils (15 eosinophils/high-powered field) in superficial clusters near the epithelium. Of the following, which is the best option for treatment of this condition?

A. A 2-week course of oral fluconazole

B. A 2-week course or oral acyclovir

C. Addition of histamine-2-receptor blocker medication to current proton pump inhibitor therapy

D. Pneumatic balloon dilation of the lower esophageal sphincter

E. Referral for allergy testing to identify likely allergic triggers

Answer: E

The clinical presentation of eosinophilic esophagitis (EE) varies depending on the age of the patient. Symptoms include feeding refusal in infants, gagging and solid food aversion in preschool children, and dysphagia and food impaction in adolescents. EE is a clinicopathologic

diagnosis, which requires histologic evaluation of esophageal biopsies. It is characterized by an intense eosinophilic infiltrate of the esophageal wall, with evidence of ≥15 eosinophils/ high-power field (HPF), and involvement of the entire proximal to distal esophagus. This finding is in contrast with gastroesophageal reflux disease (GERD), in which eosinophilic involvement is typically less intense (<7 eosinophils/HPF) and limited to the distal esophagus. Endoscopy usually reveals a combination of characteristic features: edema, linear furrowing, ringed appearance (trachealization), and white adherent plaques. EE patients commonly have a personal and family history of atopy. Food allergies may be triggers of EE. Therefore, allergy testing may identify likely causes of EE and guide management of the condition with an elimination diet. Since the patient in the clinical vignette has already received 6 weeks of high-dose proton pump inhibitor therapy, it is unlikely that the inflammation seen on endoscopy is secondary to GERD. Therefore, further escalation of acid suppression therapy with the addition of a histamine- 2-receptor blocker is not indicated. Pneumatic balloon dilation of the lower esophageal sphincter is an appropriate option for treatment of achalasia, not EE. Infections of the esophagus are rare, except in the immunocompromised host. The typical presenting symptoms of esophageal infection are dysphagia and odynophagia. Candida albicans is the usual cause of Candida esophagitis, and is characterized by evidence of white plaques on endoscopy. Budding yeast and hyphae forms are usually present on histology. Candida esophagitis usually responds to treatment with fluconazole. Herpes simplex virus can cause esophagitis in both the immunocompromised and immunocompetent hosts. Endoscopically, the infection is usually characterized by discrete ulcers with a surrounding raised edge. If herpes simplex virus is suspected, treatment with acyclovir may shorten the disease course.

685. Child with fever and productive cough and diarrhea 5 times a day. Now, tolerating oral rehydration?

A. Augmentin and discharge

B. Discharge

C. Hospitalize

D. Stool analysis and culture

Answer: B

Minimal orno dehydration No immediate treatment is required. If the child is breastfed, the mother should be encouraged to breastfeed more frequently than usual and for longer at each feed. If the child is not exclusively breastfed, then oral maintenance fluids (including clean water, soup, rice water, yogurt drink, or other culturally appropriate fluid) should be given at a rate of approximately 500 mL/day for children younger than 2 years, 1000 mL/day for children aged 2-10 years, and 2000 mL/day for children older than 10 years.

686. A patient presents to you with history of ear discharge and fever. On examination, threre is infection and erythema along with green discharge. Culture shows oxidase +ve organism. Which of the following is likely cause?

A. Klebsiella

B. Pseudomonas

C. Salmonella

D. Vibrio cholera

Answer: B

Pseudomonas cause otitis media with effusion. Greenish discharge and oxidase positive on culture confirms the diagnosis. Klebsiella cause pneumoniae with currant jelly sputum. Vibrio cholera cause watery diarrhea. Salmonella cause typhoid fever and also cause osteomyelitis in sickle cell patients.

687. β-Type natriuretic peptide (BNP) is used in the diagnosis of

A. Acute coronary syndrome

B. Asthma

C. CHF

D. Chronic renal failure

E. PE

Answer: C

There is no agreed-upon first-line test for the diagnosis of heart failure and no simple method of measuring the adequacy of cardiac output in relation to normal levels of activity. Heart failure usually is diagnosed in persons with known heart disease who present with nonspecific symptoms (e.g., breathlessness, ankle swelling) and signs (e.g., basal lung crackles). To confirm clinically suspected heart failure, physicians rely on surrogate measures of cardiac function such as left ventricular ejection fraction. However, it is clear that a large proportion of patients with heart failure, particularly older patients and women, have preserved systolic function (i.e., diastolic heart failure). The best way to diagnose and treat these patients is unclear. BNP increases when cardiac myocytes are strained; therefore, BNP is an effective method for detecting heart failure with or without systolic dysfunctio

688. Which of the following is the diagnostic test of choice for a patient with intussusception?

A. Air contrast enema

B. CT abdomen

C. Endoscopy

D. US

Answer: A

Intussusception is the most common cause of intestinal obstruction in infants between 6 and 36 months of age. Intussusception refers to the invagination (telescoping) of a part of the intestine into itself. The hallmark physical findings in intussusception are a right hypochondrium sausage-shaped mass and emptiness in the right lower quadrant (Dance sign). This mass is hard to detect and is best palpated between spasms of colic, when the infant is quiet. Abdominal distention frequently is found if the obstruction is complete. Sudden abdominal pain that lasts 1 min and is episodic; pallor, sweating, vomiting, bloody mucus in stool (i.e., currant jelly stool); abdominal tenderness; palpable, sausage-like abdominal mass. Air enema, is both diagnostic and curative. Barium enema may reduce defect. Surgery required for refractory cases.

689. Which of the following is associated with blue sclerae, hearing loss, recurrent fractures, and opalescent teeth?

A. Homocystinuria

B. McCune-Albright Syndrome

C. Osteogenesis imperfecta

D. Vitamin D deficiency

Answer: C

1. Osteogenesis imperfecta (OI) is a hereditary collagen disorder causing diffuse abnormal fragility of bone and is sometimes accompanied by sensorineural hearing loss, blue sclerae, dentinogenesis imperfecta, and joint hypermobility.

2. Osteogenesis imperfecta is a connective tissue disorder most commonly inherited from an autosomal dominant mutation of (COL1A1(. The disorder has a varying spectrum of severity, from mild (type 1), moderate (types III-IX), to fatal perinatal (type II) disease. Patients with all types of (OI) have osteopenia, and the diagnosis should be suspected in any patient with blue sclerae. Other manifestations depend on the severity of the disorder and can include recurrent fractures, easy bruisability, hypotonia, and hearing loss.

3. Diagnosis is usually clinical.

4. Treatment includes growth hormone for some types and bisphosphonates.

690. A 3year-old girl presented to Emergency Department with fever, vomiting and abdominal pain which began 10 hours ago. Radiological examination con□rmed a dilated intestinal pouch attached to the anterior abdominal wall. Her diagnosis was the persistence of a Meckels diverticulum. Which of the following sites will the surgeon look for this diverticulum?

A. Cecum

B. Lower Duodenum

C. Lower Ileum

D. Lower Jejunum

Answer: C

1. **Meckel diverticulum** is a congenital sacculation of the distal ileum occurring in 2 to 3% of people.

2. The acid secretion may cause ulceration of the distal ileum with possible subsequent painless frank hematochezia in children or in adults with intestinal obstruction.

3. It is usually located within 100 cm of the ileocecal valve and often contains heterotopic gastric tissue, pancreatic tissue, or both.

4. Symptoms are uncommon but include bleeding, bowel obstruction, and inflammation (diverticulitis).

5. Diagnosis is difficult and often involves radionuclide scanning and barium studies.

6. Technetium pertechnetate scintigraphy is the best diagnostic test for Meckel's diverticulum.

7. Treatment is surgical resection

Meckels rule of 2 s:

1. Most common in children under 2

2. 2 times as common in males

3. Contains 2 types of tissue (pancreatic and gastric)

4. 2 inches long

5. Found within 2 feet of the ileocecal valve

6. Occurs in 2% of the population

691. A 2-year old boy brought to the physician with purulent, malodorous, bloody discharge from the left nostril. Which of the following is the most likely diagnosis?

A. Acute myeloid leukemia

B. Acute sinusitis

C. Cerebrospinal fluid leak

D. Foreign body

Answer: D

1. Nasal foreign body (NFB) : Presents with nasal obstruction and may have a foul odor, halitosis and nasal bleeding.

2. Foreign bodies are common in children.

3. Unilateral foreign bodies affect the right side about twice as often as the left.

4. The most common locations for NFB to lodge are just anterior to the middle turbinate or below the inferior turbinate.

692. Which of the following conditions is associated with high fever, drooling and thumb sign?

A. Diphtheria

B. Epiglottitis

C. Infectious mononucleosis

D. Meningitis

Answer: B

1. Epiglottitis is in□ammation of the epiglottis and adjacent supraglottic structures.2. Without treatment, epiglottitis can progress to life-threatening airway obstruction. 3. Epiglottitis may be caused by a number of bacterial, viral, and fungal pathogens4. In children: Haemophilus in□uenzae type b is the most common infectious cause of epiglottitis.5. Abrupt onset and rapid progression (within hours) o dysphagia, drooling, and distress ("the three D's") are hallmarks of epiglottitis in children.6. Sudden onset of high fever (between 38.8º and 40.0ºC), severe sore throat, odynophagia, and drooling is common. 7. Children with epiglottitis usually appear "toxic".8. Children with epiglottitis may assume a sitting position with the trunk leaning forward, neck hyperextended, and chin thrust forward in an effort to maximize the diameter of the obstructed airway (tripod posture).9. Radiographic features of epiglottitis: An enlarged epiglottis protruding from the anterior wall of the hypopharynx (thumb sign).10. Maintenance of the airway is the focus of treatment.

Signs and symptoms that may indicate epiglottitis:

1. Respiratory distress: stridor, tachypnea, anxiety, refusal to lie down, "snifing" or "tripod" posture

2. Sore throat, dysphagia, drooling, anterior neck pain (at the level of the hyoid)

3. Muffled "hot potato" voice

4. Marked retractions and labored breathing indicate impending respiratory failure.

693. What is the most common immunoglobulin in breast milk ?

A. IgA

B. IgE

C. IgG

D. IgM

Answer: A

Although all immunoglobulin isotypes are found in colostrum and milk, secretory IgA (SIgA) is considered the most important, both in relation to its concentration and biological properties. SIgA antibodies in breast milk are essential in the defense of the mucous membranes. These antibodies effectively prevent the entry of microorganisms in the tissues, they are anti-inflammatory and do not consume energy during the reaction. IgM antibodies are the second most abundant immunoglobulin in human colostrum, at concentrations of up to 2.5 mg/mL. High avidity IgM antibodies reactive with viruses and bacteria may play an important role in protecting the mucosal surfaces of infants. IgG is found at low concentrations in human milk, around 0.1 mg/mL (10% of serum values) and, in addition to neutralizing activity, has opsonizing activity that can activate the complement system and antibody-dependent cytotoxicity, which is not thought to be strongly present on the infants' mucosal surfaces. SIgA is responsible for 80 to 90% of total immunoglobulins in human milk.

694. A 23 year old boy has nasal bleeding for 10 minutes. There is no history of trauma. On examination: there was posterior nasal oozing of blood. What is best treatment?

A. Anterior nasal packing

B. Conservative

C. Constrictive spray

D. Posterior nasal packing

Answer: D

Management: Resuscitate the patient (if necessary) - remember the ABCD(E) of resuscitation. Ask the patient to sit upright, leaning slightly forward, and to squeeze the bottom part of the nose (NOT the bridge of the nose) for 10-20 minutes to try to stop the bleeding. The patient should breathe through the mouth and spit out any blood/saliva into a bowl. An ice pack on the bridge of the nose may help 3. Nasal cautery is a common treatment of epistaxis. A caustic agent such as silver nitrate (chemical cautery) or an electrically charged wire such as platinum. Bleeding that fails to respond to pressure may be managed with epinephrine, or silver nitrate. Severe bleeding that is brisk or does not respond to the previous measures may require packing or emergency referral. The best initial approach in hospital setting is nasal packing. If a comatosed patient suddenly have nosebleed, then it is best to lay him in side ways so that blood comes out instead of going inside his lungs.

695. All of the following statements regarding the epidemiology of childhood

A. Childhood cancer accounts for approximately 15-20% of all cases of cancer

B. Chronic leukemia is more common in adults than children

C. Leukemia and central nervous system tumors predominate in children

D. Malignant neoplasms are the second leading cause of death among children 1-14 year of age in developed world

E. cancer are true Except:

Answer: A

Only about 1% of new cases of cancer in the United States occur in children, yet malignancy remains the second leading among children 1-14 year of age.

696. Which of the following is the first sign of puberty in males?

A. Development of pubic hair

B. Enlargement of the penis

C. Skeletal growth spurt

D. Testicular enlargement

Answer: D

Patterns of sexual development in boys :

1. Testicular enlargement and thinning of scrotal skin

2. Pubic hair

3. axillary and facial hair, voice changes

4. Growth spurt

Patterns of sexual development in girls :

1. Breast buds (Breast development)

2. Pubic hair

3. Growth spurt

4. Menarche

697. A 40 years old man complaining of vertigo and tinnitus associated with nausea and vomiting. The attack of vertigo last 30 to 45 minutes (not sure about headache). Auditory test showed: low frequency sensorineural hearing loss. What is the most likely diagnosis?

A. Meniere's disease

B. Paroxysmal benign vertigo disorder

C. acoustic neuroma

D. vestibular disease

Answer: A

Menier's disease of the inner ear is characterized is diagnosed by following criteria:

1. Two or more spontaneous episodes of vertigo, each lasting 20 minutes to 12 hours

2. Audiometrically documented low- to medium-frequency sensorineural hearing loss in the affected ear on at least 1 occasion before, during, or after one of the episodes of vertigo

3. Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear

4. Not better accounted for by another vestibular diagnosis Acoustic neuromas: Benign tumor of Schwann cells of CN 8 that can lead to hearing loss secondary to nerve compression. Acoustic neuromas are intracranial, extra-axial tumors that arise from the Schwann cell sheath

investing either the vestibular or cochlear nerve. Presents with hearing loss, dizziness, tinnitus; unilateral facial palsy; decreased sensation may be seen on examination.

698. A 3-year-old boy is brought to the emergency room with abdominal pain, vomiting and bloody stool. Ultrasound showed doughnut sign. Which of the following is the most appropriate management for this patient?

A. Air contrast enema

B. Observation

C. Plain film of the abdomen

D. Urgent surgery

Answer: A

1. Intussusception is the most common cause of intestinal obstruction in infants between 6 and 36 months of age.

2. Intussusception refers to the invagination (telescoping) of a part of the intestine into itself. It is the most common abdominal emergency in early childhood, particularly in children younger than two years of age

3. The hallmark physical findings in intussusception are a right hypochondrium sausage-shaped mass and emptiness in the right lower quadrant (Dance sign). This mass is hard to detect and is best palpated between spasms of colic, when the infant is quiet. Abdominal distention frequently is found if the obstruction is complete.

4. Intussusception is unusual in adults, and the diagnosis is commonly overlooked. In the majority of cases in adults, a pathologic cause is identified.

5. Sudden abdominal pain that lasts 1 min and is episodic; pallor, sweating, vomiting, bloody mucus in stool (i.e., currant jelly stool); abdominal tenderness; palpable, sausage-like abdominal mass
6.Ultrasound is the best initial test and will show a doughnut sign or target sign.

Treatment:

1. Air enemas are preferred because they are typically faster and safer than contrast.1. Barium enema may reduce defect

2. If the enema fails, surgery must be performed to reduce the intussusceptions

699. Which of the following interventions has the BEST evidence-base at this time to suggest potential benefit for a 10-year-old boy with severe cerebral palsy from hypoxic brain injury at birth?

A. Anti-reflux medications

B. Gastrostomy tube

C. Nissen fundoplication

D. Salivary gland ligation

E. Tracheostomy

Answer: E

Some of the more common interventions for children with severe developmental disability include gastrostomy feeding tube, anti-reflux surgery, and tracheostomy. However, there is limited evidence available for these interventions. The bene□t of a tracheostomy is unclear. A review of tracheostomy identified 27% mortality in neurologically impaired patients compared with 11% or less mortality

for conditions of airway obstruction. This likely reflects greater benefit for those with airway obstruction than with chronic pulmonary aspiration. Although the improvement in life expectancy for the most medically fragile children with cerebral palsy is felt to be a result of gastrostomy feeding tubes, there are no studies to guide which children benefit. Anti-reflux surgery does not routinely alter respiratory symptoms or frequency of pneumonia, although it is still offered for this purpose. Salivary duct ligation decreases drooling but does not alter the frequency of pneumonia or respiratory symptoms in children with chronic pulmonary aspiration.

700. A 6-wk-old male infant presents with a 3-wk history of intermittent vomiting and a weight loss of 300 g. Serum electrolytes are as follows: PH, 7.67, sodium, 147 mEq/L; potassium, 2.9 mEq/L; HCO3 -, 32 mEq/L; and chloride, 89 mEq/L. The most

A. Acute gastroenteritis

B. Gastric volvulus

C. Hypertrophic pyloric stenosis

D. likely diagnosis is:

Answer: C

This is the classic history of pyloric stenosis in a child. The hypochloremic hypokalemic metabolic alkalosis helps in the diagnosis. Physical examination immediately after feeding may reveal the oliveshaped pyloric obstruction, while ultrasonography or an upper gastrointestinal contrast study will demonstrate the hypertrophied pylorus as the site of obstruction. Adrenogenital syndrome often presents with emesis and diarrhea with acidosis, hyponatremia, and hyperkalemia

701. A mother brings her 1-year-old infant to your office secondary to a protrusion from his anus. This occurred 30 minutes ago after he passed a hard, large stool. On your examination, you see a red-purple, cylindrical mass from his anus. Your next step is which of the following?

A. Apply gentle pressure to the prolapsed mucosa to manually reduce.

B. Ask mom to keep the area moist and proceed to the emergency room for reduction.

C. Inform mom that the prolapse will spontaneously reduce without further intervention.

D. Prescribe a stool softener to allow the prolapse to spontaneously reduce over the next few days.

E. Send the patient for an emergent surgical evaluation for surgical reduction.

Answer: A

This patient has a rectal prolapse, likely from his constipation and straining with stooling. Most cases spontaneously resolve. However, in situations where the mucosa does not spontaneously resolve, gentle pressure may be applied to manually reduce the prolapse. This may be done in the home or office setting. If the mucosa does not reduce with gentle pressure, then surgical reduction may be warranted. A stool softener may be needed to treat the underlying condition; however, this treatment would only prevent future prolapses and would not result in resolution of the current prolapse.

702. An 18-mo-old boy is brought to the pediatrician because of progressively worsening episodes of cyanosis. The child has moments where he turns blue and becomes dyspneic. During these episodes the child becomes irritable and remains in a squatting position. Physical examination reveals a small and thin child with clubbing of the fingers and toes. Lungs are normal. Heart auscultation reveals an RV lift and a grade III/VI harsh systolic ejection murmur at the upper left sternal border. Which of the following is the most likely diagnosis ?

A. Tetralogy of Fallot (TOF)

B. Total anomalous pulmonary venous return

C. Transposition of the great vessels (TOGV)

D. Tricuspid atresia

E. Truncus arteriosus

Answer: A

Patients with TOF have a number of distinguishing signs and symptoms that can be found on physical exam and elucidated with a detailed history. Cardiac exam: Most importantly, the heart murmur heart in TOF is not due to the VSD! It is in fact due to the right ventricular outflow obstruction. The murmur is typically crescendodecrescendo with a harsh systolic ejection quality; it is appreciated best along the left mid to upper sternal border with radiation posteriorly. Cyanosis: If patients are cyanotic, this is most commonly seen on the lips or nail beds. Tet spells: Tet spells are hypercyanotic episodes precipitated by a sudden increase in right-to-left shunting of blood. They can be elicited by activity (e.g. feeding, crying), or they may occur without warning. The classic description is of a patient who becomes cyanotic and then assumes a squatting position to relieve the cyanosis and hypoxia. Squatting serves to increase peripheral vascular resistance, thereby

increasing the pressure in the left heart, and subsequently forcing blood back into the pulmonary circulation.

703. A term female infant is born with Apgar scores of 9 and 9. At 15 hour of age, she is noted to be pale. The vital signs reveal tachycardia; there is no hepatosplenomegaly or jaundice. The family history is not contributory, and the review of the labor and delivery do not reveal any sources of blood loss. Her hematocrit at 16 hour of age is 30%. The reticulocyte count is 15%, whereas the platelet and WBC counts are normal, as is the blood smear. The bilirubin is 2 mg/dL.The next important step in her evaluation is to do:

A. Coombs test

B. Kleihauer-Betke test

C. Red blood cell fragility test

D. Serum ferritin determination

Answer: B

The Kleihauer-Betke test is performed on maternal blood and tests for the presence of fetal hemoglobin containing erythrocytes from a fetalto-maternal transfusion. A low bilirubin suggests that there is no hemolysis, and a normal examination, except for tachycardia, suggests no internal blood loss. Fetal-to-maternal bleeding can be chronic or acute.

704. The most common soft tissue sarcoma in children is:

A. Fibrosarcoma

B. Malignant fibrous histiocytoma

C. Rhabdomyosarcoma

D. Synovial sarcoma

Answer: C

Rhabdomyosarcoma is the most common soft tissue sarcoma in childhood.

705. A child swallowed safety pins. Abdominal x-ray revealed multiple pins in the intestines. What is the appropriate next course of action?

A. Abdominal ultrasound

B. Admit for observation & repeat x-ray

C. Discharge

D. Exploratory laparotomy

Answer: B

Answer: A. Objects with sharp edges or points present a special problem because of the possibility for erosion or perforation. These include pins, needles, tacks, razor blades, pieces of glass, or open safety pins. Children who have swallowed such objects should be vigilantly observed. Esophageal impaction demands surgical removal; however, many of these objects also pass through the GI tract without incident once they are past the gastroesophageal junction. Obtain a daily

radiograph (for radiopaque objects) and monitor closely for signs of peritonitis or GI bleeding. In these cases, stools are examined for the foreign body in question. GI hemorrhage or signs of peritonitis mandate surgical exploration and removal of the object.

706. A 1460-g male infant is delivered by cesarean section after a 30 1/7 weeks' gestation to a 29-year-old woman with acute lymphoblastic leukemia. The infant is placed on the delivery room table. Drying the skin and suctioning the oropharynx is initiated, followed by positive pressure ventilation (PPV). After 20 seconds of PPV, the neonatal nurse notes that the infant has a heart rate of 40 beats/min and no chest wall movement. Which of the following interventions is indicated at this time in the resuscitation?

A. Confirmation of an appropriate seal of the face mask

B. External cardioversion

C. Flexion of the head and neck

D. Intravenous infusion of 0.1 mg/kg of 1:10,000 epinephrine solution

E. Intravenous infusion of 10 ml/kg of normal saline

Answer: A

The infant in this vignette has received inadequate PPV during the initial steps of resuscitation, resulting in bradycardia. Inadequate airway positioning and poor seal with the neonatal face mask are the most common causes of a lack of a response to PPV (which include chest rise and a rise in the neonatal heart rate). The first steps in evaluating a poor response to PPV are repositioning the airway (with mild extension of the head and neck) and ensuring an appropriate seal between the mask and the infant's face. Of note, the mask should rest snugly around the mouth and be supported by the chin and the bridge of the nose.

Volume infusion and epinephrine administration may be necessary (to treat hypovolemia and bradycardia, respectively) but are not indicated at this point in the resuscitation. Cardioversion to correct a neonatal arrhythmia is not performed during the initial neonatal resuscitation.

707. Which of the following is the most accurate diagnostic test for hirschsprung disease?

A. CT abdomen

B. Physical examination

C. Suction rectal biopsy

D. Ultrasound

Answer: C

Hirschsprung disease

1. The most common cause of intestinal obstruction in neo nates.

2. Associated with Down syndrome.

3. Absent ganglion cells in the bowel wall, as a result of the failure of migration in neuroblast from proximal to distal bowel.

4. Delayed passage of meconium after the □rst 48 h of life is a red flag (99% of normal full term infant will pass meconium within 48 h).

5. Rectal suctioning biopsy is the procedure of choice (Biopsy will show

absence of ganglion cells).

6. Barium enema shows narrowed rectum

7. Surgical resection with temporary colostomy and defini tive treatment at 6–12 months of age

708. A 1-year old girl is brought to the clinic with low grade fever and ulcers on the buccal mucosa and the tongue. Physical examinations shows a maculopapular rash on the hand, feet, buttocks and groin. Which of the following is the most likely diagnosis?

A. German measles

B. Hand-foot-and-mouth disease

C. Herpangina

D. Measles

Answer: B

Hand-Foot-Mouth Disease

1. Hand-foot-and-mouth disease (HFMD) is an acute viral illness that presents as a vesicular eruption in the mouth, but it can also involve the hands, feet, buttocks, and/or genitalia.

2. Most common cause is Coxsackievirus A16

3. Treatment is supportive.

Clinical presentation

1. Low grade fever

2. Vesicles in the anterior and posterior oropharynx and may progress to ulceration.

3. Maculopapular, vesicular, or pustular rash on the hand, feet, buttocks and groin.

4. Most cases are mild and resolve in 3–5 days.

709. A mother presented to the clinic with her 5 month old baby worried that he might have developmental delay. Which of the following milestones is appropriate for his age?

A. Pincer grip

B. Reach objects

C. Sit

D. Wave goodbye

Answer: B

What most babies do by this age: Social and Emotional Knows familiar faces and begins to know if someone is a stranger Likes to play with others, especially parents Responds to other people's emotions and often seems happy Likes to look at self in a mirror Language/Communication Responds to sounds by making sounds Strings vowels together when babbling ("ah," "eh," "oh") and likes taking turns with parent while making sounds Responds to own name Makes sounds to show joy and displeasure Begins to say consonant sounds (jabbering with "m," "b") mother enjoying 7 month old infant Cognitive (learning, thinking, problem-solving) Looks around at things nearby Brings things to mouth Shows curiosity about things and tries to get things that are out of reach Begins to pass things from one hand to the other Movement/Physical Development Rolls over in both directions (front to back, back to front) Begins to sit without support When standing, supports weight on legs and might bounce Rocks back and forth, sometimes crawling backward before moving forward

710. Anemia of chronic disease is associated with which of the following?

A. Hemoglobin of 5 to 8 mg per dL

B. High serum iron level

C. Increased TIBC

D. Increased serum ferritin

E. Macrocytic, normochromic anemia

Answer: D

Anemia of chronic disease can be caused by

• Chronic infections, such as osteomyelitis and subacute bacterial endocarditis

• Chronic disorders, including rheumatoid arthritis, lupus, renal failure, sarcoidosis, and polymyalgia rheumatica

• Other disorders, including neoplasm, liver disorders, and hypothyroidism

Symptoms include typical complaints associated with anemia such as generalized fatigue, malaise, decreased mentation, and those symptoms associated with the primary disorder. Laboratory tests show a mild, normocytic normochromic anemia with an Hb at approximately 10 mg per dL. Microcytic indices are also possible. Serum ferritin is also usually increased, with a low TIBC and low serum iron level. The only therapy is treatment of the underlying disorder. The administration of iron, folic acid, or vitamin B12 is ineffective. Transfusion should only be considered in advanced cases in patients with severe symptoms.

711. A 1-day-old infant is noted to be cyanotic. Physical examination reveals a grade 2-3/6 systolic murmur and a single loud second heart sound. The chest radiograph reveals a normal-sized heart and decreased pulmonary vascular markings. The electrocardiogram (ECG) reveals left ventricular dominance. The most likely diagnosis for the patient described is:

A. Persistent pulmonary hypertension

B. Pulmonary atresia

C. Transposition of the great arteries

D. Truncus arteriosus

Answer: B

Pulmonary atresia is manifested by a small right ventricle, decreased pulmonary vascular markings, early and marked cyanosis without heart failure, and ductal dependence to maintain some pulmonary blood flow.

712. A 4-month-old boy presents for evaluation of jaundice that started 1 week prior to the visit. He is exclusively breastfed. He has 8 to 10 loose stools per day. His length is at the 10th percentile for age; weight is at the 5th percentile for age. His physical examination is notable for icteric sclerae, a firm liver edge palpable 2 cm below the right costal margin, and excoriated areas on his face. Laboratory evaluation reveals aspartate aminotransferase of 92 U/L, alanine aminotransferase of 104 U/L, alkaline phosphatase

of 425 U/L, gamma-glutamyl transferase of 12 U/L, and elevated serum bile acid levels. What is the most likely diagnosis?

A. Benign recurrent intrahepatic cholestasis

B. Breast milk jaundice

C. Dubin-Johnson syndrome

D. PFIC type 3

E. Progressive familial intrahepatic cholestasis (PFIC) type 1

Answer: E

The term PFIC denotes a group of inherited disorders of bile formation, often presenting in infancy and associated with progression at a variable rate to end-stage liver disease. Type 1 commonly presents in the first year of life with pruritus and jaundice. Patients with this type may also have extrahepatic manifestations such as malabsorption and pancreatitis. Type 3 may present at any age and generally progresses more slowly. The pruritus is usually less severe in type 3. Types 1 and 2 exhibit low or normal γ-glutamyl transferase, while this is elevated in type 3. Benign recurrent intrahepatic cholestasis is characterized by attacks of jaundice and pruritus separated by symptom-free intervals. Progression to cirrhosis and long-term complications of chronic liver disease do not occur. Dubin-Johnson syndrome is a disorder of conjugated hyperbilirubinemia due to defective transport of organic anions. It may present with jaundice, in the absence of pruritus, and follows a relapsing course. Breast milk jaundice develops rapidly and presents as unconjugated hyperbilirubinemia in the second week of life, usually resolving by 1 to 3 months of life. It does not cause pruritus.

713. Which of the following organisms is the commonest cause of acute epiglottitis?

A. Hemophilus influenza

B. Influenza

C. Neisseria Meningitidis

D. Staph Aureus

Answer: A

Historically, Haemophilus influenzae type b (Hib) was the predominant organism (>90%) in pediatric epiglottitis cases. Since the widespread use of the Hib vaccine, the incidence and causative agents of epiglottitis have changed; however, even vaccinated children can develop epiglottitis due to non – type b H influenzae. [2] Clearly, epiglottitis due to Hib persists in parts of the world where Hib vaccination is not used. The following are other known bacterial causes of pediatric epiglottitis: Streptococcus pneumoniae Group A and group C (ie, beta-hemolytic) streptococci Staphylococcus aureus Moraxella catarrhalis Haemophilus parainfluenzae Neisseria meningitides Pseudomonas species Candida albicans, especially in immunocompromised patients Klebsiella pneumoniae Pasteurella multocida

714. Young patient with conductive hearing loss and dizziness and sometime hear his own voice louder than ever. What is the likely diagnosis?

A. Glue ear

B. Otitis externa

C. Otosclerosis

D. Superior canal dehiscence

Answer: D

Superior canal dehiscnece syndrome is the inner ear pathology. The temporal bone above superior semi circular canal is thin or either absent. Following can be the presentation of this disease: Autophony i.e. hearing one's own sound Dizziness, nausea and vague feeling. Tullio phenomena that is sound induced vertigo, dizziness, headache. Brain fog Low frequency conducting hearing loss Sudden, extremely loud noises can produce hearing loss due to tympanic membrane rupture. Damage to stereociliated cells in organ of Corti results from routine environmental noises. Loss of high-frequency hearing 1st.

715. A 65 year old patient presents to you in the emergency with altered consciousness and high blood sugar. Urinary ketones are positive. On examination, there is marked edema around face and redenning of the surrounding area. There is dark color discharge from the nose. The eye appears to be buldging. What is the diagnosis?

A. Graves disease

B. Invasive aspegillosis

C. Kaposi sarcoma

D. Mucormycosis

Answer: D

Mucormycosis is opportunistic fungal infection in diabetics particularly with ketoacidosis. The fungal hyphae start growing in blood vessels and invade the neighbouring vessels. The initial symptoms are just edema and redenning due to obstruction. Gradually the blockage of vessels lead to ischemia of the supplying part and the area becomes black and necrotic. The diagnosis is made when the disease has progressed to a

later stage. Biopsy reveal fungal hyphae within the blood vessel. Invasive aspergillosis occupy the lung but spares the area around nose.

716. A 14-year-old boy comes to the clinic with unilateral gynecomastia. His past medical history is unremarkable. Examination shows left gynecomastia with very mild tenderness. The right breast and the rest of the examination are unremarkable. What is the most appropriate next step in the management of this patient?

A. Biopsy of left breast

B. Mammography

C. Observation with reassurance

D. Serum prolactin

Answer: C

1. Gynecomastia is a benign enlargement of the male breast (usually bilateral but sometimes unilateral) resulting from a proliferation of the glandular component of the breast.2. It can occur in up to 213 of pubertal boys 3. Patients with physiologic gynecomastia do not require further evaluation. Similarly, asymptomatic and pubertal gynecomastia do not require further tests and should be reevaluated in 6 months.4. Pubertal gynecomastia resolves spontaneously within several weeks to 3 years in most patients; breasts larger than 4 cm in diameter may not regress completely 5. Persistent gynecomastia after that time may require evaluation to exclude other causes

717. A 5 -week old boy is brought by his mother to the physician with projectile nonbilious vomit ing, hypochloremic, hypokalemic metabolic alkalosis, and dehydration. Which of the following is the most likely diagnosis?

A. Duodenal atresia

B. Hirschsprung disease

C. Pyloric stenosis

D. Volvulus

Answer: C

Pyloric stenosis

1. Hypertrophy of pyloric sphincter causing obstruction of gastric outlet.

2. More common after 3 weeks of age

3. Presents with non-bilious vomiting immediately after feeding.

4. Examination may reveal a palpable olive-shaped mobile, nontender epigastric mass and visible gastric peristaltic waves.

5. The infant begins to show signs of dehydration and malnutrition, such as poor weight gain, weight loss, marasmus, decreased urinary output, lethargy, and shock.

6. The infant may develop jaundice, which is corrected upon correction of the disease.

7. Abdominal ultrasound is the test of choice.

8. Lab: Hypochloremic metabolic alkalosis

9. Treated by surgical correction with pyloromyotomy

718. All of the following statements regarding Clostridium difficileassociated

diarrhea are true except:

A. Antibiotic-associated diarrhea is often related to production of a toxin by C. difficile.

B. Most children with antibiotic-associated diarrhea will improve without specific antibiotic treatment.

C. Newborn and young infants are commonly colonized by C. difficile.

D. The antibiotic that most commonly causes C. difficile colitis is gentamicin

Answer: D

C. difficile is a disease-causing bacterium that can infect the large bowel and cause colitis. The intestinal tract of normal people contains "normal flora," that have a role in protecting the body from infection.

Taking antibiotics can kill these "good" bacteria, allowing C. difficile to multiply and release toxins that damage the cells lining the intestinal wall, causing diarrhea, abdominal pain, and fever as well as other symptoms. Virtually all known antibiotics have been implicated; penicillin, broad-spectrum cephalosporin, and clindamycin are the most frequent offenders. Most cases are self-limiting, not requiring any treatment.

719. A 3-year-old boy's parents complain that their child has difficulty walking. The child rolled, sat, and first stood at essentially normal ages and first walked at 13 months of age. Over the past several months, the family has noticed an increased inward

curvature of the lower spine as he walks and that his gait has become more "waddling" in nature. On examination, you confirm these findings and also notice that he has enlargement of his calves. This child most likely has :

A. Botulism

B. Brain tumor

C. Guillain-Barré syndrome

D. Muscular dystrophy

E. Occult spina bifida

Answer: D

DMD usually becomes apparent early during childhood. Affected children develop weakness and wasting (atrophy) of the muscles closest to the trunk (proximal muscles) such as those of the upper legs and pelvic area and upper arms and shoulder area. However, a few other muscles appear disproportionally bulky. As the disease progresses, muscle weakness and atrophy spread to affect the lower legs, forearms, neck and trunk. The rate of progression is quite similar from person to person but individual variation may happen. In children with DMD, initial findings may include delays in reaching developmental milestones such as sitting or standing without assistance; toe walking; an unusual, waddling manner of walking (gait); difficulty climbing stairs or rising from a sitting position (Gower's sign); and repeated falling. Toddlers and young children may seem awkward and clumsy and may exhibit abnormal enlargement of the calves due to scarring of muscles (pseudohypertrophy). Parents may be falsely encouraged by an apparent improvement between the ages of 3 and 5, but this may be due to natural growth and development. As the disease progresses, additional abnormalities may develop such as progressive curvature of the spine (scoliosis or lordosis), wasting of thigh and pectoral muscles, and abnormal fixation of certain joints (contractures). A contracture occurs when thickening and shortening of tissue such as muscle fibers

causes deformity and restricts movement of affected areas, especially the joints.

720. A 6-month-old infant had an enlarged liver. Investigations showed an abnormally increased concentration of hepatic glycogen. There is no detectable increase in serum glucose concentration after oral administration of fructose.Which of the following enzymes is likely to be defective in this patient?

A. Glucokinase

B. Glucose 6-phosphatase

C. Phosphoglucomutase

D. Unable to tell

Answer: B

The clinical scenario suggests a problem with glycogen breakdown.

Glycogen degradation and synthesis are relatively simple biochemical processes. Glycogen degradation consists of three steps: (1) the release of glucose 1-phosphate from glycogen, (2) the remodeling of the glycogen substrate to permit further degradation, and (3) the conversion of glucose 1-phosphate into glucose 6-phosphate for further metabolism. The glucose 6-phosphate derived from the breakdown of glycogen has three fates: (1) It is the initial substrate for glycolysis, (2) it can be processed by the pentose phosphate pathway to yield NADPH and ribose derivatives; and (3) it can be converted into free glucose for release into the bloodstream.Glucose 6-phosphatase is the only enzyme involved in glycogen breakdown. The fact that glycogen is not being metabolized can be due to deficiency in any of the enzymes involved in glycogen metabolism. In order to synthesize glycogen, glucose 6-phosphate undergoes isomerization into glucose 1 phosphate by some

isoenzymes of phosphoglucomutase. Hence phosphoglucomutase is not de□cient as glycogen is being formed.

Although the metabolism of fructose and glucose share many of the same intermediate structures, they have very different metabolic fates in human metabolism. Fructose is metabolized almost completely in the liver in humans, and is directed toward replenishment of liver glycogen and triglyceride synthesis, while much of dietary glucose passes through the liver and goes to skeletal muscle, where it is metabolized to CO2, H2O and ATP, and to fat cells where it is metabolized primarily to glycerol phosphate for triglyceride synthesis as well as energy production. The products of fructose metabolism are liver glycogen and de novo lipogenesis of fatty acids. Fructokinase is used hence may be normal if there is increased liver synthesis of glycogen.

721. A mother brings in her 4-month-old infant for a routine well-child check. She notes that the infant who usually takes her breast milk from a bottle has been having more difficulty feeding the past few days. In addition to fussiness with feedings, the mother has noticed white lesions inside the infant's mouth. Examination of the patient's mouth demonstrates white patches on both the tongue and buccal mucosa,which when scraped with a tongue blade have punctate bleeding and an erythematous base. You diagnose oral candidiasis. You prescribe oral nystatin and do which of the following?

A. Initiate a 14-day course of fluconazole to treat for esophageal candidiasis.

B. Initiate a basic immunode□ciency workup given the child's age at presentation.

C. Recommend cleaning of the infants' bottle nipple and pacifier by boiling after every use.

D. Recommend no further therapeutic interventions.

E. Recommend temporary discontinuation of pumped breast milk.

Answer: C

This child is suffering from oropharyngeal candidiasis (thrush), which is almost always caused by C. albicans . This finding is common in infants less than 5 months of age. Immunodeficiency workups are generally reserved for recurrent or difficult-to-treat cases of thrush in children not receiving antibiotics or inhaled steroids. Treatment with fluconazole is used for cases that fail to respond to topical therapy (generally with nystatin or clotrimazole), in patients who are immunocompromised, or in patients complaining of symptoms (eg, dysphagia, odynophagia, nausea, vomiting) concerning for more diffuse GI tract involvement. Addressing sites colonized with Candida is an important therapeutic component to eliminating the yeast. Rubber nipples and pacifiers should be boiled and skin in contact with the infant's mouth (fingers, the mother's nipple) should have nystatin applied. There is no indication for stopping breast milk.

722. Which of the following is the treatment of choice for Henoch-Schönlein Purpura ?

A. Amitriptyline

B. Cyclophosphamide

C. Intravenous Immunoglobulin

D. Supportive

Answer: D

Henoch-Schönlein purpura (HSP) is an acute immunoglobulin A (IgA)– mediated disorder characterized by a generalized vasculitis

involving he small vessels of the skin, the gastrointestinal (GI) tract, the kidneys, the joints, and, rarely, the lungs and the central nervous system (CNS).

Treatment

1. Treatment of HSP generally is supportive.

2. Emphasizing maintenance of hydration.

3. Nutrition, and electrolyte balance.

4. Pain medications for abdominal and joint discomfort.

5. Antihypertensive therapy for persistent hypertension may be indicated.

6. The role of glucocorticoid treatment is controversial.

723. What is the ratio of exposed to nonexposed?

A. 44:1

B. 55:1

C. 66:1

Answer: C

According to a research specialist, the equation should be: dividing the exposed over the non exposed

724. Which of the following is the most common malignancy in childhood?

A. Acute lymphocytic leukemia

B. Brain Stem Glioma

C. Meningioma

D. Pituitary Tumors

Answer: A

Acute lymphocytic leukemia

1. Proliferation of cells of lymphoid origin (lymphocytes).

2. Presentation: boney pain, frequent infections, fatigue, dyspnea on exertion, easy bruising; fever, pallor, purpura, hepatosplenomegaly, lymphadenopathy

3. ALL is the most common malignancy in children under age 15.

4. It is the leukemia most responsive to therapy

Clinical presentation

1. Anorexia

2. Fatigue

3. Fever

4. Bone and joint pain (especially lower extremities)

5. Pallor

6. Petechiae, ecchymoses, epistaxis

725. BCG vaccination is contraindicated in which of the following conditions:

A. All of the above

B. Generalized malignant disease

C. In pregnancy

D. Known or suspected congenital immunode□ciency

Answer: A

BCG vaccination is contraindicated – for persons with impaired immunity (symptomatic HIV infection, known or suspected congenital immunodeficiency, leukaemia, lymphoma or generalized malignant disease); – for patients under immunosupressive treatment (corticosteroids, alkylating agents, antimetabolites, radiation); – in pregnancy

726. Which of the following conditions is associated with atopic dermatitis?

A. Asthma

B. COPD

C. Cirrhosis

D. GERD

Answer: A

Atopic dermatitis is a chronic, pruritic, inflammatory skin disease that occurs most frequently in children. Pruritus is a hallmark of the condition and is responsible for much of the disease burden for patients and their families. It is commonly associated with elevated levels of immunoglobulin E. The goals of treatment are to reduce symptoms (pruritus and dermatitis), prevent exacerbations, and minimize therapeutic risks.Atopic dermatitis is commonly associated with asthma and allergic rhinitis. Children who have one component of atopy syndrome (allergic rhinitis, asthma, atopic dermatitis) have a three fold greater risk of developing a second component.

727. Which of the following abnormalities may be responsible for this condition "see image"?

A. Vitamin B1 Deficiency

B. Vitamin D Deficiency

C. Vitamin E Deficiency

D. Vitamin K Deficiency

Answer: B

Rickets is a disease of growing bone that is unique to children and adolescents. It is caused by a failure of osteoid to calcify in a growing person. Vitamin D deficiency rickets occurs when the metabolites of vitamin D are deficient. Less commonly, a dietary deficiency of calcium or phosphorus may also produce rickets. Rickets may lead to skeletal deformity and short stature. Risk factors: Exclusive breastfeeding (breast milk alone does not have adequate vitamin D), Inadequate sun exposure, Increased skin pigmentation, Maternal vitamin D deficiency

Clinical features: Craniotabes ("ping-pong ball" skull), Delayed fontanel closure, Enlarged Skull (frontal bossing), costochondral joints and longbone joints (wrist widening), Genu varum Lab: Low to normal calcium. Low phosphorus. High alkaline phosphatase. Low 25 -hydroxyvitamin D. Low to high 1,25 -dihydroxyvitamin D. Normal HCO3 X-Ray: (Anterior view of the knee is the best site to study also the wrist and ankle). Osteopenia. Metaphyseal cupping & fraying. Widening and cupping of the metaphyses

728. A 7-year-old girl with a history of poorly controlled moderatepersistent asthma presents to the Emergency Department. Her mother says she has had a cold for 2 days, which has worsened over the past 24 hours. She has run out of her beta-agonist and lost her controller medicine months ago. She is audibly wheezing and unable to speak in complete sentences. When her shirt is removed, abdominal breathing and subcostal retractions are observed. Her initial vitals are: RR 42, HR 135, O 2 saturation 89% on room air (RA). On exam she is wheezing throughout and is moving air poorly bilaterally. Her expiratory phase is prolonged. A chest radiograph is obtained and shows hyperinflation with a flat diaphragm and hilar peribronchial thickening, suggestive of gas trapping. Why does intrathoracic obstructive lung disease cause the phenomenon of gas trapping?

A. A decrease in transmural pressure on the airways causes collapse and traps air.

B. Alveoli do not empty fully at the end of expiration and their volume therefore increases.

C. Increased deadspace due to slower expiratory times increases lung volume.

D. Tachypnea allows for increased air movement and subsequent

hyperinflation of the lungs.

E. Turbulent airflow in the airways resulting from the obstruction causes more gas to remain in the lungs.

Answer: D

Obstructive lung disease is characterized by impairments in expiration, inspiration, or both. The physical findings of intrathoracic obstruction are more prominent during expiration. The expiratory phase is prolonged while the decrease in pleural pressure during inspiration helps to relieve the obstruction. The preferential impairment of expiratory gas flow may not be compensated entirely by the prolonged expiratory phase. If so, the alveolar spacessubtended by the obstructed airways do not empty entirely before the next inspiration starts, and the volume of the affected alveoli at end-expiration increases—leading to gas trapping, as suggested by hyperinflation and aflat diaphragm on chest radiograph. However, the alveolar volume increase is limited by the effects of distention on lung recoil, which dictate an equilibrium whereby the increased recoil limits tidal volume and accelerates exhalation enough to compensate for the low expiratory flow. The development of lung distention in patients with intrathoracic airway obstruction adds a restrictive component to the manifestations of their lung disease. This effect may be one of the reasons why children with asthma or other forms of bronchial obstruction have tachypnea as a prominent sign.

729. Which of the following scenarios would be most concerning for a diagnosis of infantile hypertophic pyloric stenosis (IHPS)?

A. A 3-day-old baby boy with trisomy 21 and postprandial, bilious emesis

B. A 3-month-old baby girl with 3 days of severe vomiting, now with profuse diarrhea, and found to have hypernatremic, metabolic acidosis

C. A 3-week-old baby girl with recurrent regurgitation, frequent gagging while feeding, and lack of interest in feeding

D. A 4-month-old baby boy with postprandial vomiting and weight maintained at the 50th percentile for age

E. A 6-week-old baby boy with jaundice and hypochloremic, hypokalemic alkalosis, but appears hungry and eager to feed

Answer: E

IHPS is the most common surgical cause of nonbilious vomiting in infants. The pyloric muscle is not usually hypertrophied at birth, but appears to hypertrophy after birth, leading to gastric outlet obstruction.

The typical age of presentation of IHPS is between 3 and 8 weeks old, with the incidence in males being 4 to 6 times higher than in females.

Typical symptoms include postprandial, projectile, nonbilious vomiting.

Despite the persistent vomiting, the infant often remains hungry and appears very eager to feed. In later stages or when the diagnosis is delayed, dehydration, weight loss, and development of a hypochloremic, hypokalemic alkalosis can result. Symptoms of frequent gagging, choking, or coughing with feeds are concerning for possible aspiration.

This is often associated with oral aversion and feeding refusal. A history of trisomy 21 and bilious emesis in early infancy should rais suspicions for duodenal atresia or stenosis. Finally, dehydration can occur in infants with severe vomiting and diarrhea secondary to a viral gastroenteritis. The dehydration usually leads to a metabolic acidosis rather than alkalosis that is seenin IHPS secondary to loss of secreted hydrogen ion from the stomach.

730. A patient underwent thyroid surgery. On ligating the superior thyroid artery, he accidentally cut the nerve lying deep to it. What nerve was severed?

A. Inferior laryngeal

B. Internal laryngeal

C. Recurrent laryngeal

D. Superior laryngeal

Answer: D

Injury to the recurrent laryngeal nerves can result in a weakened voice (hoarseness) or loss of voice (aphonia) and cause problems in the respiratory tract. Injury to the nerve may paralyze the posterior cricoarytenoid muscle on the same side. This is the sole muscle responsible for opening the vocal cords, and paralysis may cause difficulty breathing (dyspnea) during physical activity. Injury to both the right and left nerve may result in more serious damage, such as the inability to speak A superior laryngeal nerve palsy changes the pitch of the voice. Damage to the superior laryngeal nerve leaves the vocal cord abducted and poses an aspiration risk. It can be injured in surgery involving the removal of the thyroid gland (thyroidectomy). It is present deep to superior thyroid artery. It has two branches i.e. external laryngeal nerve (motor) and internal laryngeal nerve (sensory supply).

731. A 10 year old boy was playing football and received and elbow blow on his nose. He started bleeding immediately. What is the first thing to do in the ground?

A. Insert tampon

B. Let him lie on his side lateral

C. Pinch the fleshy part

D. provide pressure

Answer: C

Management: Resuscitate the patient (if necessary) - remember the ABCD(E) of resuscitation. Ask the patient to sit upright, leaning slightly forward, and to squeeze the bottom part of the nose (NOT the bridge of the nose) for 10-20 minutes to try to stop the bleeding. The patient should breathe through the mouth and spit out any blood/saliva into a bowl. An ice pack on the bridge of the nose may help 3. Nasal cautery is a common treatment of epistaxis. A caustic agent such as silver nitrate (chemical cautery) or an electrically charged wire such as platinum. Bleeding that fails to respond to pressure may be managed with epinephrine, or silver nitrate. Severe bleeding that is brisk or does not respond to the previous measures may require packing or emergency referral. The best initial approach in hospital setting is nasal packing. If a comatosed patient suddenly have nosebleed, then it is best to lay him in side ways so that blood comes out instead of going inside his lungs.

732. An 18-year-old male college student is seen in the student health clinic for urinary frequency, dysuria, and urethral discharge. Which of the following is likely to explain his condition ?

A. Chlamydial urethritis

B. Escherichia coli urinary tract infection

C. HIV infection

D. Herpes simplex

E. Syphilis

Answer: A

Symptoms of urethritis in men typically include urethral discharge, penile itching or tingling, and dysuria. A diagnosis can be made if at least one of the following is present: discharge, a positive result on a leukocyte esterase test in first-void urine, or at least 10 white blood cells per high-power field in urine sediment. The primary pathogens associated with urethritis are Chlamydia trachomatis and Neisseria gonorrhoeae.

733. A 7-year-old boy is brought to theÂpediatrician withÂvesicular rash that affects his hands and feet. Which of the following is the most likely diagnosis?

A. Adenovirus

B. CMV

C. Coxsackievirus

D. Parainfluenza virus

Answer: C

1. Hand-foot-and-mouth disease (HFMD) is an acute viral illness that presents as a vesicular eruption in the mouth (see the image below), but it can also involve the hands, feet, buttocks, and/or genitalia.

2. Coxsackievirus A type 16 is the etiologic agent involved in most cases of HFMD.

3. The diagnosis of HFMD is typically based on clinical grounds. Laboratory studies are usually unnecessary.

4. Treatment is supportive.

Signs and symptoms

1. The history in patients with HFMD is as follows:

2. Sore mouth or throat

3. Malaise

4. Rarely, vomiting occurs in HFMD

Physical findings include the following:

1. Initially, macular lesions appear on the buccal mucosa, tongue, and/or hard palate

2. These mucosal lesions rapidly progress to vesicles that erode and become surrounded by an erythematous halo.

3. Lesions may also be found on the hands, feet, buttocks, and genitalia

4. A fever of 38-39 °C may be present for 24-48 hours

734. A previously healthy 8-mo-old infant develops bronchiolitis. On the fourth day of illness she is noted to have bulging, opaque, white eardrums bilaterally. Which of the following treatment regimens is the most appropriate to institute?

A. High-dose oral amoxicillin

B. Intramuscular ceftriaxone

C. No initial antibiotic treatment; watchful waiting

D. Oral cefixime

Answer: A

Although respiratory syncytial virus (RSV) may cause otitis media, it may be a co-pathogen with the typical bacterial causes of otitis media; thus, RSV infection should be treated as for a bacterial otitis media.

735. A 17-year-old girl is brought to the emergency room with fever, dizziness, nausea and severe vomiting. On examination there are diffuse generalized erythematous rash on her trunk and extremities. Her temperature is 38 C, Blood pressure is 90/60 mmHg, pulse 133/min.

Laboratory tests show an increased white blood cell count, increased blood urea nitrogen, and increased serum creatinine. Which of the following is the most likely diagnosis?

A. Amebic Liver Abscess

B. Idiopathic thrombocytopenic purpura

C. Lyme disease

D. Toxic shock syndrome

Answer: D

Toxic Shock Syndrome

1. Production of toxic shock syndrome toxin -1

2. Can be caused by S. aureus or S. pyogenes.

3. Toxic shock syndrome due to Staphylococcus aureus is associated with menstruation (tampons), nasal packing, and post-surgery infections.

4. Presents with vomiting, diarrhea, sore throat, headache; high fever, generalized macular rash; severe cases develop hypotension, shock, respiratory distress, and desquamation of palms and soles.

Risk factors

1. Tampon

2. Nasal packing

3. Surgical implants

Management:

1. IV fluid and routine management of shock.

2. Anytime there is a postsurgical toxic shock, any device implanted during surgery must be removed immediately.

3. Broad-spectrum anti-staphylococcal antibiotics.

736. Which of the following is associated with an increased risk of thrombosis?

A. Factor V deficiency

B. Homocysteine deficiency

C. Nephritic syndrome

D. Prothrombin gene mutation

E. Thrombocytopenia

Answer: D

Prothrombin G20210A mutation occurs in approximately 3% of the general population, and increases the risk for thrombosis mainly by causing excess prothrombin production. Factor V deficiency is associated with increased bleeding, not with increased thrombosis. (Factor V Leiden is the most common inherited thrombophilia and the mutation causes a resistanceof factor V to inactivation by activated proteins C and S.) Patients with nephrotic syndrome, not nephriti syndrome, are at an increased risk of thrombosis due to loss of clotting factors in the urine. Hyperhomocysteinemia is a risk factor of stroke in children. Table 438-3 provides a differential diagnosis for thrombophilia.

737. Which of the following karyotypes is associated with down syndrome?

A. 45, XO

B. Trisomy 13

C. Trisomy 18

D. Trisomy 21

Answer: D

1. Down syndrome (DS) is the most common chromosome abnormality among liveborn infants.

2. It is the most frequent form of intellectual disability (mental retardation) caused by a microscopically demonstrable chromosomal aberration.

3. Trisomy 21 nondisjunction is most common cause (95 % of cases).

4. DS is characterized by a variety of dysmorphic features, congenital malformations, and other health problems and medical conditions.

Most common clinical features

1. Hypotonia

2. Small ears

3. Intellectual disability (ID)

738. A baby who can sit in a tripod position, roll over and reach out for objects. How old is he?

A. 1 month

B. 12 months

C. 18 months

D. 6 months

Answer: D

Physical and motor skill markers: Able to hold almost all weight when supported in a standing position Able to transfer objects from one hand to the other Able to lift chest and head while on stomach, holding the weight on hands (often occurs by 4 months) Able to pick up a dropped object Able to roll from back to stomach (by 7 months) Able to sit in a high chair with a straight back Able to sit on the floor with lower back support Beginning of teething Increased drooling Should be able to sleep 6 to 8 hour stretches at night Should have doubled birth weight (birth weight often doubles by 4 months, and it would be cause for concern if this hasn't happened by 6 months)

739. A 5 year old boy presents with tender, swollen and painful testicle. O/E there was absent cremasteric reflex. Which of the following is the correct diagnosis?

A. Epididymo-orchitis.

B. Testicular torsion.

Answer: B

Torsion has a bimodal incidence – a small peak in the neonatal period, and a large one during puberty, however it can occur at any time. The increased incidence during puberty is thought to be secondary to the increased weight of the testes. Usually there is an acute onset of pain in the scrotum or testis, however the patient may complain of inguinal or lower abdominal pain. Associated nausea and vomiting is very common. The pain will be constant unless there is torsing and detorsing of the testicle. There is usually no history of trauma, but there is often a history of previous testicular pain that resolved by itself. Common physical findings: Edematous scrotum and a tender, swollen, elevated testis. A reactive hydrocele may be present. Absent cremasteric reflex (although this is not specific) Prehn's sign – Elevation of the testicle relieves pain in epididymitis, not in torsion. However, this alone is not sufficient to rule out torsion.

740. A 45 year old patient with history of nosebleed whenever he visits desert safari for last 3 times in one year. What is the best treatment?

A. Nasal decongestents

B. Nasal packing

C. Saline spray or ointment

D. nasal steroid send home

Answer: C

The patients symptom most likely arise from hot and dry environments. The resultant dry mucous is irritable and may cause nosebleed. The effects of such environments can be mitigated by using humidifiers, better thermostatic control, saline spray, and ointment on the Kiesselbach area.

741. You are caring for an exclusively breastfed 2-month old infant. The mother is a strict vegetarian or vegan and does not eat any animal products. What specific dietary supplementation would you recommend for the mother?

A. Vitamin A

B. Vitamin B 12

C. Vitamin D

D. Vitamin E

Answer: B

Vitamin B 12 is found in only animal products. As a result, vegans must obtain vitamin B 12 supplementation through fortified foods or supplements. Vegan mothers may have baseline low levels of B 12 . It is recommended that supplementation should occur throughout pregnancy and lactation. Infants breastfed by mothers who are deficient in B 12 are at high risk for B 12 deficiency, as well. All infants who are

exclusively breastfed will require vitamin D, which is given directly to the infant, not the mother.

742. A 35 year old female has presented with recurrent episodes of vertigo for last 6 months with each episode lasting for half and hour. She feels of ear fullness, nausea and has sensorineural hearing loss on examination. What is the likely diagnosis?

A. Benign Progressive vertigo

B. Cholesteatoma

C. Labyrinthitis

D. Meniere's diseases

Answer: D

Meniere disease is an inner ear disorder that causes vertigo, fluctuating sensorineural hearing loss, and tinnitus. Meniere disease typically causes vertigo with nausea and vomiting, unilateral tinnitus, and chronic, progressive hearing loss. There is no reliable diagnostic test.

Menier’s disease of the inner ear is characterized is diagnosed by following criteria:

1. Two or more spontaneous episodes of vertigo, each lasting 20 minutes to 12 hours

2. Audiometrically documented low- to medium-frequency sensorineural hearing loss in the affected ear on at least 1 occasion before, during, or after one of the episodes of vertigo

3. Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear

4. Not better accounted for by another vestibular diagnosis

743. Which of the following is the most common chromosomal abnormality among liveborn infants?

A. Down syndrome

B. Gastroschisis

C. Omphalocele

D. Trisomy 18

Answer: A

Down syndrome (Trisomy 21) is the most common chromosomal abnormality among liveborn infants.

Clinical Features :

Most common

1. Hypotonia

2. Small ears

3. Intellectual disability

More specific to Down syndrome

1. Brachydactyly (short, broad fingers and toes. Broad space between the first and second toes)

2. Absent to very small nipple buds

Cardiac defects

1. Nearly 50 % are affected

2. Endocardial cushion (atrioventricular septal) defects are most common

3. Ventricular septal defect

GI defect

1. Duodenal atresia

2. Hirschsprung disease

744. A 7-year-old boy is brought to the doctor with severe shortness of breath, fever and chills. Past medical history is significant for recurrent pulmonary infections and chronic diarrhea. A mutation involving which of the following genes is most likely have be present in this patient?

A. Beta-myosin

B. CFTR

C. Fibrillin

D. Spectrin

Answer: B

1. Cystic fibrosis (CF) is a disease of exocrine gland function that involves multiple organ systems but chiefly results in chronic respiratory infections, pancreatic enzyme insufficiency, and associated complications in untreated patients.

2. Autosomal recessive disorder caused by defect in chloride-pumping channel in exocrine glands; ducts of exocrine glands (e.g., lungs, pancreas, reproductive glands) become clogged with thick secretions

3. Cystic fibrosis is caused by one of a large number of mutations of the gene for a protein called the cystic fibrosis transmembrane conductance regulator (CFTR), which regulates chloride and sodium transport across epithelial membranes.

4. Other major consequences include pancreatic malfunction, leading to malabsorption of nutrients and vitamins with consequent impaired growth and development, and, in older patients, diabetes.

5. Clinical features include: recurrent pulmonary infections (e.g., Pseudomonas, Staphylococcus aureus), dyspnea, hemoptysis, chronic sinusitis, cough, meconium ileus at birth, steatorrhea, failure to thrive; cyanosis, digital clubbing, esophageal varices, rectal prolapse

6. Confirmed by a sweat test showing elevated sweat chloride on ≥ 2 occasions

7. Treatment is supportive through aggressive multidisciplinary care along with small-molecule correctors and potentiators targeting the cystic fibrosis transmembrane conductance regulator protein defect

745. Which of the following is the most common cause of epistaxis in children?

A. Diabetes mellitus

B. Polyps

C. Self induced

D. Thrombocytopenia

Answer: C

Epistaxis is defined as the bleeding from inside the nose or nasal cavity. Usually self limiting with application of constant pressure for 5 min by

squeezing sides of the nose shut. The most common cause of epistaxis in children is voluntary nose picking. In adolescent male angiofibroma is more common. Polyps and thrombocytopenia may also cause epistaxis, but are not the commonest causes.

746. Which of the following is the most common abdominal tumor in children?

A. Polycystic Kidney Disease

B. Renal cell carcinoma

C. Rhabdomyosarcoma

D. Wilms' tumor

Answer: D

1. **Wilms tumor**, or nephroblastoma

2. A renal tumor of embryonal origin that is most commonly seen in children 2-5 years of age.

3. **It is the most common childhood abdominal malignancy**.

4. The median age at diagnosis of Wilms tumor is approximately 3.5 years.

5. Approximately 80-90% of children with a diagnosis of Wilms tumor survive.

Clinical presentation:

1. Asymptomatic abdominal mass (in 80% of children at presentation)

2. Abdominal pain or hematuria (25%)

3. Urinary tract infection and varicocele (less common)

4. Hypertension, gross hematuria, and fever (5-30%)

5. Hypotension, anemia, and fever (from hemorrhage into the tumor; uncommon)

6. Respiratory symptoms related to lung metastases (in patients with advanced disease; rare)

747. A 12 -year old boy brought to the clinic with high-grade fever , severe throat pain, and trismus. He also complains of difficulty opening the mouth. On examination, his voice is muffled and the uvula is displaced to the opposite side. Which of the following is the most likely diagnosis?

A. Acute bronchiolitis

B. Epiglottitis

C. Peritonsillar abscess

D. Severe asthma

Answer: C

Peritonsillar abscess “quinsy" is a suppurative complication of acute tonsillitis. Streptococcus pyogenes is the most commonly associated organism with peritonsillar abscess.Presents with fever, unilateral sore throat, neck pain, referred earache, dysphagia, and muffled voice or “hot potato voice”. There is excessive salivation due to inability to swallow leading to drooling. Symptoms are typically present for at least 3 days before abscess is formed. The tonsils are swollen, which pushes the uvula to the contralateral side. Management includes needle drainage (patient should be in the Trendelenburg position), close

monitoring, and intravenous antibiotics.Symptoms of peritonsillar abscess usually begin 3-5 days prior to evaluation

748. Which of the following set of symptoms indicate allergic rhinitis?

A. Conjunctivitis, pneumonia, febrile phayngitis

B. croup or barking cough

C. high fever, sputum with blood.

D. sneezing, nasal obstruction, tearing and itching.

Answer: D

Allergic rhinitis presents with sneezing, nasal obstruction, tearing and itching. Pneumonia presents with high fever, sputum with blood. Adenovirus infection cause Conjunctivitis, pneumonia and febrile phayngitis. Parainfluenza virus cause croup or barking cough.

749. Which of the following is the most common cause of meningitis in infants?

A. Cytomegalovirus

B. Group B Streptococcus

C. Haemophilus in□uenzae

D. Listeria monocytogenes

Answer: B

1.Pediatric bacterial meningitis is a life-threatening illness that results from bacterial infection of the meninges and leaves some survivors with significant sequelae.2.Group B Streptococcusis the most common cause of meningitis in infants. It is usually acquired from the mother during childbirth.

750. A 4-year-old girl is brought by to the doctor with high-grade fever and rash for the last 9 days. A brick-red, maculopapular rash first appeared on his face and subsequently spread to his trunk and extremities. Before the rash appears, she had a non-productive cough, tearing of eyes, runny nose, sneezing, and intermittent nasal obstruction. Which of the following is the most likely diagnosis?

A. Erythema Infectiosum

B. Kawasaki disease

C. Measles

D. Scarlet Fever

Answer: C

Measles

1. Mode of transmission: respiratory droplets (airborne).

2. The virus is infectious for 3–4 days before the onset of morbilliform rash and 4 days after the exanthem.

Diagnosis

1. IgM level serology (most reliable test)

2. Antigen detection in respiratory epithelial cells

3. Tissue by immuno□uorescent method or PCR

Clinical presentation

1. Coryza

2. Cough

3. Conjunctivitis

4. High fever

5. Koplik spots

6. Rash is erythematous maculopapular rash spread from up–down and disappear the same way

Prevention

1. Intramuscular (IM) immunoglobulin prophylaxis should be given to unimmunized child if exposed to measles infection

2. Infants (6–12 months) should be pre -vaccinated before traveling to high risk areas, e.g., India.

Complications

1. Otitis media is the most common

2. Pneumonia (common cause of death)

3. Encephalitis

4. Subacute sclerosing panencephalitis (SSPE) is rare and it may occur after 6–15 years

751. A 4 month old infant who is being exclusively breastfed requires all of the following additional micronutrient supplementation except?

A. Calcium

B. Iron

C. Vitamin D

D. Zinc

Answer: A

Breast milk provides optimal intake of most nutrients including iron and zinc, which, while present in lower amounts than in infant formula, are more bioavailable and sufficient to meet infant needs until 4-6 mo of age. After 4-6 mo of age, iron and zinc are required from complementary foods, fortified foods, or supplements. Breast milk is a poor source of vitamin D.

752. Which of the following is the most common cause of bronchiolitis?

A. Adenoviruses

B. Cytomegalovirus

C. Human parainfluenza viruses

D. Respiratory syncytial virus

Answer: D

1. Bronchiolitis, part of the spectrum of lower respiratory tract infection, is a major cause of illness and hospitalization in infants and children younger than two years.

2. Viral bronchiolitis is the most common lower respiratory tract infection in infants and children who are 2 years of age and younger.

3. Rspiratory syncytial virus (RSV) is the most common cause, followed by rhinovirus

4. Other causes: human metapneumovirus, parainfluenza virus, adenovirus, influenza, rhinovirus, and myco plasma.

5. Presents with low-grade fever, rhinorrhea, cough, and apnea.

6. Examination reveals tachypnea, wheezing, intercostal retractions, crackles, prolonged expiration, and hyperresonance to percussion.

753. You identify a 6-year-old patient with primary dyslipidemia with elevated total cholesterol level. What is the first form of therapy you recommend?

A. A diet containing decreased amounts of fat, cholesterol, and simple sugars but increased amount of complex carbohydrates with no decrease in total protein

B. A diet containing decreased amounts of fat, cholesterol, and total protein but increased amounts of simple sugars to maintain adequate caloric intake

C. Increase amount of physical activity with no dietary modification at present age with consideration of dietary modification by age 10 years if total cholesterol remains elevated

D. Initiation of pharmacologic therapy with use of inhibitors of HMG CoA reductase (the statins)

E. Initiation of pharmacologic therapy with use of bile acid sequestrants (BAS)

Answer: A

The first form of therapy for children with dyslipidemia is a diet containing decreased amounts of fat, cholesterol, and simple sugars but increased amount of complex carbohydrates. No decrease in total protein is recommended. Recent data from randomized trials indicate that a diet low in total fat, cholesterol and saturated fat may be instituted safely under medical supervision at 6 months of age. The statins and BAS are the 2 main classes of pharmacologic agents currently used in children over 10 years of age who have sufficiently elevated LDL-C; however, they are not generally used as first line of therapy.

754. A 7 year old child developed bloody diarrhea, abdominal pain and vomiting after eating from a restaurant. He also had a history of hematuria, and lab results showed anemia and low platelet count. What is the most possible diagnosis?

A. Amoebic dysentry

B. Hemolytic uremic syndrome

C. Henoch Schonlein Purpura

D. Typhoid fever

Answer: B

Hemolytic-uremic syndrome (HUS) is a disease characterized by a triad of hemolytic anemia (anemia caused by destruction of red blood cells), acute kidney failure (uremia), and a low platelet count (thrombocytopenia). It predominantly, but not exclusively, affects children. Most cases are preceded by an episode of infectious,

sometimes bloody, diarrhea acquired as a foodborne illness or from a contaminated water supply caused by E. coli .

755. A 10-year-old girl present to the physician with a history of headaches for the last 3 months. She denies nausea, vomiting, chills or fevers.Her family history is signi□cant for hypertension. Her blood pressure is 156/90 mm Hg, pulse is 80/min, and respirations are 14/min.

Temperature is 36.3 C, blood pressure is 150/86Âmm Hg, and pulse is 100/min. Angiography shows a "string of beads" pattern to the renal artery.

Which of the following is the most likely cause of her hypertension?

A. Conn's syndrome

B. Fibromuscular dysplasia

C. Pheochromocytoma

D. Varicella Zoster

Answer: B

Fibromuscular dysplasia (FMD) is a noninflammatory, nonatherosclerotic disorder that leads to arterial stenosis, occlusion, aneurysm, and dissection. It has been observed in nearly every arterial bed. The most frequently involved arteries are the renal and internal carotid arteries, followed by the vertebral, visceral, and external iliac arteries.

1. Renal artery stenosis is most commonly secondary to fibromuscular dysplasia (FMD).

2. **The most common cause of secondary hypertension in children is fibromuscular dysplasia**. It is responsible for approximately 20% of all cases of renal hypertension.

3. Fibromuscular dysplasia can present as new onset hypertension in children

4. **Angiogram** reveals the **"string of beads" sign.**

5. **Fibromuscular dysplasia is usually seen in young females**

756. A 5 -week old boy is brought by his mother to the physician with projectile nonbilious vomit ing, hypochloremic, hypokalemic metabolic alkalosis, and dehydration. Which of the following is the most likely diagnosis?

A. Duodenal atresia

B. Hirschsprung disease

C. Pyloric stenosis

D. Volvulus

Answer: C

Pyloric stenosis

1. Hypertrophy of pyloric sphincter causing obstruction of gastric outlet.

2. More common after 3 weeks of age

3. Presents with non-bilious vomiting immediately after feeding.

4. Examination may reveal a palpable olive-shaped mobile, nontender epigastric mass and visible gastric peristaltic waves.

5. The infant begins to show signs of dehydration and malnutrition, such as poor weight gain, weight loss, marasmus, decreased urinary output, lethargy, and shock.

6. The infant may develop jaundice, which is corrected upon correction of the disease.

7. Abdominal ultrasound is the test of choice.

8. Lab: Hypochloremic metabolic alkalosis

9. Treated by surgical correction with pyloromyotomy

757. A 10-year-old boy is brought to the physician with petechiae on his buttocks and lower extremities, abdominal pain, arthralgia, and hematuria. He had suffered a mild upper respiratory tract infection one week ago. Lab results shows normal platelet count and coagulation studies. Which of the following is the treatment of choice?

A. Chemotherapy

B. Hydration and pain control with NSAIDs

C. Immunosuppression

D. No specific therapy

Answer: B

1. Henoch-Schönlein purpura (HSP) is an acute immunoglobulin A (IgA)–mediated disorder characterized by a generalized vasculitis involving the small vessels of the skin, the gastrointestinal (GI) tract, the kidneys, the joints, and, rarely, the lungs and the central nervous system (CNS).

2. It is the most common systemic vasculitis of child hood.

3. The average age of occurrence is 6 years

4. Non-thrombocytopenic purpura is the first and most common presentation.

5. Purpura typically on pressure bearing areas.

6. The typical prodrome of HSP includes the following: headache, anorexia and fever.

Treatment

1. Treatment of HSP generally is supportive.

2. Emphasizing maintenance of hydration.

3. Nutrition, and electrolyte balance.

4. Pain medications for abdominal and joint discomfort.

5. Antihypertensive therapy for persistent hypertension may be indicated.

6. The role of glucocorticoid treatment is controversial.

758. A 1900-g male infant is delivered by C-section after a 29 1/7 weeks' gestation secondary to fetal supraventricular tachycardia (SVT) and progressive hydrops fetalis. The infant is placed on the delivery room table, and positive pressure ventilation (PPV) begins after drying the skin and suctioning the oropharynx. Physical examination is notable for diffuse anasarca. After 4 minutes of PPV, the nurse notes the neonate has a heart rate of 190 beats/min, central cyanosis, and intercostal retractions. Which of the following steps is indicated at this point in the resuscitation?

A. Endotracheal intubation and ventilation using a T-piece resuscitator

B. Infusion of 0.1 mg/kg of adenosine via an umbilical venous catheter

C. Infusion of 0.3 mg/kg of 1:10,000 epinephrine solution via an umbilical venous catheter

D. Weaning the infant to blow-by oxygen

E. Weaning the infant to nasal cannula

Answer: A

The infant developed anasarca as a result of an in utero tachyarrhythmia. However, delivery room management of this infant does not differ from the management of other infants with ineffective ventilation. This infant may have respiratory failure due to respiratory distress syndrome and pleural effusions (secondary to arrhythmia induced congestive heart failure). Thus, intubation and mechanical ventilation are the appropriate steps at this point in the resuscitation.

Neither blow-by nor nasal cannula oxygen will su□ciently support the degree of respiratory distress in this neonate. Epinephrine only should be administered after adequate ventilation and chest compressions fail to improve neonatal bradycardia. Infusion of adenosine (to convert SVT into a sinus rhythm) is not indicated in delivery room resuscitation of a neonate, including those with fetal SVT.

759. A 4-year-old girl is brought to the emergency room with fever for the past 9 days. Examinations shows bilateral conjunctivitis, swollen lips and erythematous rash across her trunk, hands and feet. Which of the following is the most likely diagnosis?

A. Acute suppurative pharyngitis

B. Idiopathic thrombocytopenic purpura

C. Post-streptococcal glomerulonephritis

D. kawasaki disease

Answer: D

1. Kawasaki Disease is an acute febrile vasculitic syndrome of early child hood that, although it has a good prognosis with treat ment, can lead to death from coronary artery aneurysm (CAA) in a very small percentage of patients. 2. Most commonly seen in young children3. It is typically a self-limited condition, with fever and manifestations of acute inflammation lasting for an average of 12 days without therapy.4. Presents with fever, lymphadenopathy, conjunctival lesions, maculopapular rash, edema, eventual desquamation of hands and feet.Diagnostic criteria Fever >5 days plus >4 of the following findings: 1. Bilateral non-exudative conjunctivitis2. Mucositis (injected or fissured lips, injected pharynx, or strawberry tongue)3. Cervical lymphadenopathy with at least one lymph node being > 1.5 cm in diameter4. Erythematous polymorphous rash5. Extremity changes (edema & erythema) Treatment : Aspirin plus intravenous immunoglobulin.

760. Which of the following is a cause of hypopituitarism in children

A. All of the above

B. Craniopharyngioma

C. Irradiation

D. Subarachnoid hemorrhage

Answer: A

Any lesion that damages the hypothalamus, pituitary stalk, or anterior pituitary can cause pituitary hormone deficiency. Because such lesions

are not selective, multiple hormonal de□ciencies are usually observed. The most common lesion is the craniopharyngioma Central nervous system germinoma, eosinophilic granuloma (histiocytosis), tuberculosis, sarcoidosis, toxoplasmosis, meningitis, and aneurysms can also cause hypothalamic-hypophyseal destruction. Trauma, including abusive head trauma, motor vehicle accidents, traction at delivery, anoxia, and hemorrhagic infarction, can also damage the pituitary, its stalk, or the hypothalamus. Children who receive radiotherapy for central nervous system tumors or prevention of central nervous system malignancies (e.g., leukemia) are at risk for developing GH deficiency.

761. A 10-year old obese boy brought to the physician by his Parents with hyperphagia, small hands and feet, small penis, cryptorchidism, and cognitive deficiency.

Which of the following is the most likely diagnosis?

A. Albright hereditary osteodystrophy

B. Fragile X Syndrome

C. Hypogonadism

D. Prader Willi syndrome

Answer: D

Prader-Willi syndrome is the **most common syndromic form of obesity**. The syndrome is caused by absence of expression of the paternally active genes on the **long arm of chromosome 15**. The vast majority of cases occur sporadically.

Clinical features:

1. Diminished fetal activity

2. Severe hypotonia at birth

3. Failure to thrive initially

4. Hyperphagia

5. Obesity

6. Short stature

7. Small hands and feet

8. Hypogonadism

9. Intellectual disability

10. Strabismus

762. The percentage of poliovirus infections that are asymptomatic is:

A. 20-25%

B. 5-10%

C. 50%

D. 90-95%

Answer: D

Approximately 90-95% of poliovirus infections are in apparent, causing no paralytic disease and no sequelae.

763. All are complications of Pertussis except :

A. Cerebellar Ataxia

B. Encephalopathy

C. apnoea

D. pneumothorax

Answer: A

The most common complication, and the cause of most pertussisrelated deaths, is secondary bacterial pneumonia. Young infants are at highest risk for acquiring pertussis-associated complications. Data from 1997–2000 indicate that pneumonia occurred in 5.2% of all reported pertussis cases, and among 11.8% of infants younger than 6 months of age. Neurologic complications such as seizures and encephalopathy (a diffuse disorder of the brain) may occur as a result of hypoxia (reduction of oxygen supply) from coughing, or possibly from toxin. Neurologic complications of pertussis are more common among infants. Other less serious complications of pertussis include otitis media, anorexia, and dehydration. Complications resulting from pressure effects of severe paroxysms include pneumothorax, epistaxis, subdural hematomas, hernias, and rectal prolapse.

764. A 5-month old boy brought to the emergency room with constipation, hypo tonia, and poor feeding after reported exposure to honey. Which of the following is the most likely diagnosis?

A. Absence seizure

B. Botulism

C. Duchenne muscular dystrophy

D. Infantile spasms

Answer: B

Spores of Clostridium botulinum bacteria, found in dirt and dust, can contaminate honey. When botulism toxin is absorbed from the intestines, it affects the nervous system. The most common symptoms in infants are muscle weakness – the infant feels "floppy" and the eyelids can droop; constipation, sometimes for several days; poor sucking and feeding; and an unusual cry. Poor feeding can quickly lead to dehydration. Muscle weakness can lead to breathing difficulties.This illness usually affects babies who are between 3 weeks and 6 months old, but all babies are at risk for it until their first birthdays.For this reason, honey shouldn't be given to babies younger than 1 year old.

765. An old man presents to you in outdoor complaining of pain the ear especially during busy hours on the roads. On examination, he has increased sensitivity to high intensity sounds. Which of the following nerve is most likely cause?

A. ,Vagus nerve

B. Accessory nerve

C. Facial nerve

D. Vestibular cochlear nerve

Answer: C

Facial nerve palsy due to loss of protective muscle (stapedius), acoustic reflex is lost. As a result, the dampening of sound is impaired and normal sound are heard with greater intensity than normal. CN VIII injury results in decreased hearing in sound. This patient has increased

hearing. This is particularly important in differentiating two types of lesions.

766. A preterm infant born with gastroschisis undergoes primary fascial and skin closure at approximately 24 hours of life. At 12 hours postoperatively, the neonatal intensive care unit nurse first notes increasing abdominal distension. An hour later, there is loss of urine output and decreased pedal pulses. A capillary blood gas is significant for an elevated carbon dioxide level. Of the following, which is the best option for the management of this patient?

A. Abdominal ultrasound with Doppler for evaluation of a vascular thrombus

B. Increased ventilator respiratory rate settings to maximize ventilation

C. Initiation of intravenous antibiotics for empiric coverage of suspected gram-negative bacterial sepsis

D. Placement of a nasogastric tube to low intermittent wall suction for gastric decompression

E. Prompt evisceration of the bowel and placement of a protective silo

Answer: E

Primary fascial and skin closure of a gastroschisis abdominal wall defect is possible in one half to two thirds of infants.Closure of the abdomen may be complicated by abdominal compartment syndrome. After returning the viscera to the abdominal cavity, patients should be monitored for signs of tightness around the viscera. These include evidence of decreased ventilation, loss of pedal pulses, loss of urine output, and discoloration of the intestine. If abdominal compartment syndrome is suspected, immediate evisceration and placement of a protective silo over the intestine is performed. In infants in whom

primary closure is not possible, a staged approach may be employed. Placement of a nasogastric tube for decompression, intravenous fluid resuscitation, and initiation of antibiotics are all potentially helpful in supporting and stabilizing a patient with abdominal compartment syndrome. However, none of these strategies address the underlying problem. Likewise, both alterations of ventilator settings and ultrasound evaluation are inappropriate options in the management of this emergent complication.

767. A 28 3/7–week male was born by cesarean section due to worsening maternal preeclampsia. Due to respiratory distress in the delivery room, he is intubated and placed on mechanical ventilation. At 6 hours of age, the infant develops mottling of the skin, tachycardia, and desaturations (measured by bedside pulse oximetry). A stat echocardiogram shows a structurally normal heart with a patent ductus arteriosus. Which of the following interventions would improve the infant's blood pressure?

A. Increase in the infant's peak end-expiratory pressure (PEEP) on the ventilator

B. Increase in the infant's peak inspiratory pressure (PIP) on the ventilator

C. Initiation of an intravenous dopamine infusion

D. Initiation of an intravenous immune globulin infusion

E. Initiation of an intravenous prostaglandin E1 (PGE1) infusion

Answer: C

The premature neonate has signs of systemic hypotension. The cardiovascular system of the preterm infant has adapted in utero to the low-resistance state of the placenta. With the clamping of the umbilical

cord, the premature myocardium is exposed to a highresistance ex utero state, and is generally unable to readily adapt to the change. Initiation of an inotrope (in this case, dopamine) will provide cardiac stimulation and vasopressor effects that will improve blood pressure and perfusion. The myocardium of the preterm infant is impacted by positive pressure ventilation; increases in the PIP and PEEP will increase intrathoracic pressure, decreasing cardiac output and perfusion. Sepsis is a common cause of hypotension and hypoperfusion in the neonate, but immune globulin has not been shown to reverse the circulatory collapse associated with early onset or late-onset infections. Maintaining the patency of the ductus arteriosus with a PGE1 infusion will allow left-to-right shunting of blood during the cardiac cycle, lowering systemic blood pressure.

768. Which of the following statements regarding the cardiorespiratory transition from intrauterine to extrauterine life is correct?

A. Clearance of fetal lung fluid occurs primarily through egress via the trachea.

B. Compliance in the neonatal lung decreases due to fluid shifts.

C. Neonatal blood flow pattern is unchanged from the fetal blood flow pattern.

D. Pulmonary vascular resistance increases in response to increased arterial oxygen tension.

E. Surfactant is released into the alveolar space via lung inflation and increased blood catecholamine levels.

Answer: E

Surfactant production increases in the fetal lung during the later stages of intrauterine development. Stimulated by the catecholamine surge that accompanies birth and inflation of the lungs, surfactant is released into the alveolar space, decreasing surface tension and preventing collapse of the distal air spaces with expiration.

Additionally, neonatal lung compliance is increased due to sustained, regular respirations at birth and resorption of fetal lung fluid across the pulmonary epithelium via transcellular sodium movement. Circulatory adaptations at birth include a reduction in pulmonary vascular resistance and a change in neonatal blood flow from a fetal pattern (pulmonary and systemic circulations in parallel) to an adult pattern (pulmonary and systemic circulations in series).

769. A 45 year old woman presented to you with submandibular mass that increase in size with eating. What is the most likely diagnosis?

A. Acute sialadenitis

B. Carcinoma

C. Mumps

D. Sialothiasis

Answer: D

(Sialothiasis) and is painful swelling. Sialolithiasis (80% submandibular gland) presents as posprandial pain and swelling of the submandibular region. Usually has a relapsing and remitting course until managed definitively with gland excision

770. Patients with hyper IgE syndrome, or Job syndrome, can have infections resulting in severe tissue damage without features of fever, localized erythema, or warmth. The immune defect thought to be responsible for this abnormality is which of the following?

A. Abnormal antibody cross-linking

B. Defective neutrophil chemotaxis

C. Elevated IgE levels

D. Eosinophilia

E. Impaired intracellular killing of organisms

Answer: B

Hyper-IgE syndrome has both an autosomal dominant and autosomal recessive form. The autosomal dominant form includes eczema, skeletal and vascular abnormalities, while both forms display the immunologic defects, including elevated levels of IgE, increased risk of viral infections and autoimmunity. Impairment of neutrophil chemotaxis leads to failure to migrate to the site of infection and therefore lack of a local in□ammatory response, such as erythema, warmth, or release of cytokines leading to production of a fever. Impaired intracellular killing of organisms leading to granuloma formation is not a feature of Job syndrome, nor is eosinophilia or antibody cross-linking abnormalities.

771. You are called to attend a delivery, an infant is born at gestation of 43 weeks. The infant appears thin, pale, limp and is breathing with difficulty. You note that the amniotic fluid has a

'pea soup' appearance. what is your first step in resuscitating this infant?

A. Administer IM Adrenaline 0.1mg/kg

B. Administration of 100% oxygen by mask

C. Artificial ventilation with bag and mask

D. Do chest compressions

E. Suction of the trachea under direct vision

Answer: E

A non-vigorous neonate exposed to meconium at birth should receive laryngoscopy and tracheal suction under direct vision shall be carried out immediately.

772. The most common cause of chronic cough is

A. ACE inhibitors

B. Asthma

C. Bronchiectasis

D. Gastroesophageal reflux

E. Postnasal drip

Answer: E

Coughing is part of the body’s infection protective system and helps remove particles and material from the airway. In some cases, the patient may experience a chronic cough that can be attributed to a number of different problems, including postnasal drip (most common

cause), gastroesophageal reflux, and bronchoconstriction as seen in cough- variant asthma patients. Other common associated conditions include the use of ACE inhibitors, chronic bronchitis seen in smokers, and bronchiectasis. Treatment involves eliminating the underlying cause. Treatment of conditions, such as asthma and COPD, may involve the use of bronchodilators (β agonist or theophylline), cromolyn sodium, and inhaled steroids; the treatment of postnasal drip may involve the use of antihistamines and topical nasal steroids. Patients should be informed that it may take 8 to 12 weeks before their cough improves when using inhaled steroids. Treatment of gastroesophageal reflux involves the use of antacids, H2-receptor blockers, and PPIs. Eliminating a cough caused by ACE inhibitors usually takes several days before improvement is seen. Unfortunately, it is more difficult to treat patients with chronic bronchitis. The use of antibiotics with the absence of supporting symptoms suggestive of infection is not useful and should be avoided. Mucolytics have not been shown to be beneficial.

773. Which of the following is true regarding Tetralogy of Fallot:

A. ?

B. MURMUR INTENSIFY DURING SPELLS

C. NO SUPPORTIVE TREATMENT IS REQUIRED

D. SPELLS ASSOCIATED WITH HYPOXIA AND CYANOSIS

E. USUALLY PRESENT AFTER 7 YEARS

Answer: D

Tetralogy of Fallot is the most common cyanotic congenital heart disease. Paroxysmal dyspneic spells or anoxic blue spells are characterized by dyspnea, restlessness, increased cyanosis, gasping

respiration and syncope. During the attack there is disappearance or reduction in intensity of systolic murmur.

774. All of the following statements regarding pyruvate kinase (PK) deficiency are true Except:

A. Folic acid supplementation is advocated

B. PK deficiency is the most common enzyme de□ciency hemolytic anemia

C. Severe jaundice and anemia may occur during the neonatal period

D. Splenectomy for severe PK deficiency is curative

Answer: D

Pyruvate kinase deficiency is the second most common cause of enzyme-deficient hemolytic anemia, following G6PD deficiency. The majority of those suffering from the disease are detected at birth while some only present symptoms during times of great physiological stress such as pregnancy, or with acute illnesses (viral disorders). Symptoms are limited to or most severe during childhood. Although it is not curative, splenectomy may be followed by higher hemoglobin levels and by strikingly high (30-60%) reticulocyte counts. As in all persons with hemolytic anemias and because of the severe demand for folic acid, the potential for developing megaloblastic anemia in patients with pyruvate kinase deficiency can be prevented by administering supplemental folic acid.

775. A four year child is starring in non responding with twitching of eyes for 4 or 5 minutes, after that he frightened and pale.. and goes in sleep :

A. Day mares

B. Occipital epilepsy

C. Partial complex fits

D. Pseudo seizures

Answer: B

Childhood occipital epilepsy (Gastaut-type) is a self-limiting childhood epilepsy with onset in later childhood. Seizures are usually easily controlled and remission of seizures occurs within 2-4 years from onset. The most frequently reported symptoms are elementary "visual hallucinations" characterized by basic irritations to perception of sight. Scotomas and aumarosis also occur and are predictors of poor medication response[2] Hallucinations may be described as flashing small circular patterns or zigzags. Vomiting or temporary blindness may occur and visual seizures may be followed by a headache leading to a frequent misdiagnosis as migraine.

776. A 10-year-old boy is brought to the physician with petechiae on his buttocks and lower extremities, abdominal pain, arthralgia, and hematuria. He had suffered a mild upper respiratory tract infection one week ago. Lab results shows normal platelet count and coagulation studies. Which of the following is the most likely diagnosis?

A. Buerger's disease

B. Henoch-Schonlein purpura

C. Interstitial nephritis

D. Poststreptococcal glomerulonephritis

Answer: B

Henoch-Schönlein purpura (HSP) is an acute immunoglobulin A (IgA)– mediated disorder characterized by a generalized vasculitis involving the small vessels of the skin, the gastrointestinal (GI) tract, the kidneys, the joints, and, rarely, the lungs and the central nervous system (CNS). It is the most common systemic vasculitis of childhood. The average age of occurrence is 6 year. Non-thrombocytopenic purpura is the first and most common presentation. Purpura typically on pressure bearing areas. Treatment of HSP generally is supportive. Buerger's disease (thromboangiitis obliterans) is a rare disease, more in adults and associated with smoking, of the arteries and veins in the arms and legs. In Buerger's disease,blood vessels become inflamed, swell and can become blocked with blood clots (thrombi). This eventually damages or destroys skin tissues and may lead to infection and gangrene.

777. Which of the following antibiotics is used to treat mastoiditis?

A. Amoxicillin

B. Ceftriaxone

C. Ciprofloxacin

D. Doxycycline

Answer: B

Mastoiditis is a bacterial infection of the mastoid air cells, which typically occurs after acute otitis media. Symptoms begin days to weeks after onset of acute otitis media and include fever and persistent, throbbing otalgia. Nearly all patients have signs of otitis media and purulent otorrhea. Redness, swelling, tenderness, and fluctuation may develop over the mastoid process; the pinna is typically displaced laterally and inferiorly. Diagnosis is clinical. Treatment is with antibiotics, such as ceftriaxone and mastoidectomy if drug therapy is not effective.

778. A 6-year-old child is noted to have 7 cafe au lait spots as well as axillary freckling, but is otherwise healthy. There is no other family history of genetic disorders. You send blood for DNA testing to support your clinical diagnosis. What is the other intervention you would recommend?

A. Annual physical exams only

B. Brain MRI

C. Echocardiogram

D. Examination by an opthalmologist

E. Renal function testing

Answer: B

This patient meets clinical criteria for neuro□bromatosis type 1, which is caused by a mutation or deletion of the tumor suppressor gene NF1 . Patients with neurofibromatosis type 1 are at increased risk of developing optic pathway gliomas, and should undergo regular thorough eye exams by an experienced ophthalmologist. MRI is not indicated unless the patient develops symptoms of an intracranial

tumor, vision disturbances, or changes in his ophthalmologic exam. Cardiac and/or renal

779. A 11-year-old boy is brought to the doctor with left knee pain. The pain worsens with activity and improves with rest. He denies any history of trauma. Which of the following is the most likely diagnosis?

A. Duchenne muscular dystrophy

B. Osgood-Schlatter disease

C. Osteoporosis

D. Stress fracture

Answer: B

Osgood-Schlatter disease (OSD)

1. Inflammation of the insertion of the patellar tendon in the tibial tubercle (tibial tubercle apophysitis).

2. It is more common in adolescent boys active in sports.

3. OSD is characterized by pain and swelling at the tibial tubercle, the point of insertion of the patellar tendon.

4. OSD generally occurs in children 9 to 14 years of age who have undergone a rapid growth spurt. It is bilateral in 25 to 50 percent of cases, although the involvement is typically asymmetric.

5. OSD occurs most frequently in participants of sports that involve running, cutting, and jumping (eg, soccer, football, basketball, volleyball, gymnastics, figure skating, ballet).

6. OSD disease is an overuse injury caused by repetitive strain and chronic avulsion of the secondary ossiffication center (apophysis) of the tibial tubercle.

7. The most common presenting complaint is anterior knee pain that increases gradually over time, from a low-grade ache to pain that causes a limp and/or impairs activity

8. Pain is exacerbated by direct trauma, kneeling, running, jumping, squatting, climbing stairs, or walking uphill, and is relieved by rest.

780. New born delivered by forceps and somehow got an injury at foramen rotundum. Which of the following functions will be compromised?

A. Loss of eye closure

B. Loss of secretion of lacrimal gland

C. Loss of sensation at mandibular area

D. Loss of sensation at maxillary area

Answer: D

Loss of maxillary sensation is due to maxillary branch of trigeminal nerve. It exits the skull at foramen rotundum. Facial nerve leave the skull via stylomastoid process. The orbicularis oculi muscle, supplied by facial is likely to be paralysed resulting in failure of closure of the eye. It is usually associated with facial palsy, shifting of face to the opposite side. Nasolacrimal secretion will also be decreased because it is also supplied by facial nerve. Loss of mandibular sensation is due to mandibular branch of trigeminal nerve which exits the brain at foramen ovale. Loss of muscles of mastication is also caused by damage to trigeminal nerve.

781. A mother came with her 4 month old child to vaccinate him but she reported that her child is having moderate diarrhea for 3 days. What are you going to do?

A. Defer all vaccination

B. Give all vaccines as per the schedule

C. Give hepatitis B vaccine only

D. Give vaccination without DTP

Answer: B

There is no evidence that acute illness reduces vaccine efficacy or increases vaccine adverse events.1,2 However, as a precaution with moderate or severe acute illness, all vaccines should be delayed until the illness has improved. Mild illnesses (such as otitis media, upper respiratory infections, and diarrhea) are NOT contraindications to vaccination. Do not withhold vaccination if a person is taking antibiotics.- A "moderate or severe acute illness" is a precaution for administering any vaccine. A mild acute illness (e.g., diarrhea or mild upper-respiratory tract infection) with or without fever is not a precaution, and vaccines may be given. The concern in vaccinating someone with moderate or severe illness is that a fever following the vaccine could complicate management of the concurrent illness – it could be difficult to determine if the fever was from the vaccine or due to the concurrent illness. In deciding whether to vaccinate a patient with moderate or severe illness, the clinician needs to determine if deferring vaccination will increase the patient's risk of vaccinepreventable diseases, as is the case if the patient is unlikely to return for vaccination or to seek vaccination elsewhere.

782. With regard to inheritance of genetic conditions, the concept of expressivity refers to the

A. clinical diagnosis assigned when more than one condition is caused by mutations in the relevant gene (i.e., allelic conditions)

B. degree of variation or severity among people who express the phenotype

C. incidence of familial cases as compared to cases caused by de novo genetic mutation

D. percentage of affected individuals within a given generation of a family

E. proportion of individuals with the genotype who manifest any part of the phenotype

Answer: B

This is the definition of expressivity. Answer e is the definition of penetrance. The other statements are not standard de□nitions of common terms.

783. An infant with chronic lung disease is being discharged from the hospital because his oxygen requirement has now decreased to 35% FiO 2 to maintain oxygen saturations at an appropriate level. At home, 100% oxygen is delivered and the required FiO 2 is achieved by varying the flow rate by nasal cannula. As a general rule, the FiO 2 likely reaches or exceeds 35% when oxygen flow through a nasal cannula exceeds how many liters per minute in infants?

A. 1 L per minute

B. 1.5 L per minute

C. 2 L per minute

D. 2.5 L per minute

E. 3 L per minute

Answer: C

The amount of air entrained within each breath determines the actual FiO 2 received by the infant. As a general rule, the FiO 2 likely exceeds 35% when oxygen flow through a nasal cannula exceeds 2 L per minute in infants or 3–4 L per minute in older children;

784. A 3 year old child is brought to your clinic for evaluation. The parents complain of rapid blinking of the eyes. The child can communicate with his parents during the episode. What is the most likely diagnosis?

A. Petit mal seizure

B. Syncope

C. Tic

D. Tourette syndrome.

Answer: C

785. A 16-year-old unvaccinated homeless youth seeks evaluation approximately 3 weeks after exposure to hepatitis B from needle sharing with a known carrier. In addition to testing for other infectious diseases contracted by needle sharing, the following are the most likely laboratory findings indicating a hepatitis B infection if labs were taken the day of the visit:

A. HBV DNA negative, HBV core protein IgM negative, HBsAg negative

B. HBV DNA positive, HBV core protein IgM negative, HBsAg negative

C. HBV DNA positive, HBV core protein IgM negative, HBsAg positive

D. HBV DNA positive, HBV core protein IgM positive, HBsAg negative

E. HBV DNA positive, HBV core protein IgM positive, HBsAg positive

Answer: B

The early window period is the time during which HBsAg becomes undetectable but HBs antibody is being produced but is still undetectable. In the scenario above, the patient isstill within the “early” window period during which tests for HBsAg are not yet positive, yet viral DNA from hepatitis B is detectable. Generally, before 4 weeks there is no detectable core protein IgM, which is usually the basis for diagnosing acute hepatitis B infection, nor will there be detectable HBsAg or hepatitis B core-related antigen (HBeAg).

786. Which of the following conditions is associated with recurrent vertigo, tinnitus, and hearing loss?

A. Benign positional vertigo

B. Cholesteatoma

C. Meniere's disease

D. Vestibular neuronitis

Answer: C

Meniere disease is an inner ear disorder that causes vertigo, fluctuating sensorineural hearing loss, and tinnitus. Meniere disease typically causes vertigo with nausea and vomiting, unilateral tinnitus, and chronic, progressive hearing loss. There is no reliable diagnostic test.

Menier’s disease of the inner ear is characterized is diagnosed by following criteria:

1. Two or more spontaneous episodes of vertigo, each lasting 20 minutes to 12 hours

2. Audiometrically documented low- to medium-frequency sensorineural hearing loss in the affected ear on at least 1 occasion before, during, or after one of the episodes of vertigo

3. Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear

4. Not better accounted for by another vestibular diagnosis

787. A 1200-g white male infant is born (at 29 1/7 weeks’ gestation) to a 25-year-old, gravida 2, para 1001 woman who presented to the hospital in preterm labor. The infant has an uncomplicated delivery and requires only routine drying, warming, and tactile stimulation. He is admitted to the NICU secondary to prematurity. He requires no respiratory support initially, but at 3 hours of life,

he is started on nasal continuous positive airway pressure (CPAP) due to tachypnea, grunting, nasal □aring, and sternal retractions.

What is the most likely cause of his symptoms?

A. Meconium aspiration syndrome

B. Persistent pulmonary hypertension of the newborn

C. Respiratory distress syndrome (RDS)

D. Transient tachypnea of the newborn

Answer: C

Neonatal RDS or hyaline membrane disease (HMD) is the most common cause of respiratory failure in the first days after birth, occurring in 1% to 2% of newborn infants. Until about 25 years ago, approximately 50% of infants with this condition died. However, improved methods of treatment over the past 3 decades have markedly reduced mortality from this condition. RDS occurs mainly in premature infants and is more common in white infants than in black infants. The characteristic clinical features of infants with RDS are expiratory grunting, tachypnea, retractions (involving the intercostals and sternal muscles), and central cyanosis. Persistent pulmonary hypertension of the newborn and transient tachypnea of the newborn are more common causes of respiratory distress in near-term (born at 34 0/7-36 6/7 weeks' gestation) and term (born at 37 0/7 weeks' gestation or later) infants. Meconium passage in utero before 32 weeks' gestation is rare, making meconium aspiration syndrome less likely in this infant.

788. Which of the following is true regarding osgood schlatter disease?

A. It occurs between ages of 50-60Âyears

B. Surgery is typically required in patients with osgood schlatter disease.

C. The exact cause is unknown, although overuse and trauma play an important role.

D. The pain improves with activity and worsens with rest.

Answer: C

Osgood-Schlatter disease (OSD)

1. Inflammation of the insertion of the patellar tendon in the tibial tubercle (tibial tubercle apophysitis).

2. It is more common in adolescent boys active in sports.

3. OSD is characterized by pain and swelling at the tibial tubercle, the point of insertion of the patellar tendon.

4. OSD generally occurs in children 9 to 14 years of age who have undergone a rapid growth spurt.â€¨It is bilateral in 25 to 50 percent of cases, although the involvement is typically asymmetric.

5. OSD occurs most frequently in participants of sports that involve running, cutting, and jumping (eg, soccer, football, basketball, volleyball, gymnastics, figure skating, ballet).

6. OSD disease is an **overuse** injury caused by repetitive strain and chronic avulsion of the secondary ossi□cation center (apophysis) of the tibial tubercle.

7. The most common presenting complaint is anterior knee pain that increases gradually over time, from a low-grade ache to pain that causes a limp and/or impairs activity

8. Pain is exacerbated by direct trauma, kneeling, running, jumping, squatting, climbing stairs, or walking uphill, and is relieved by rest.

9.The diagnosis of Osgood-Schlatter disease is **made by clinical examination.**

10.While there are no prospective studies evaluating the treatment of OSD, including the recommended conservative treatments

789. A 20 year old boy has been brought to your clinic for snoring. On examination, he has enlarged tonsils that is causing the obstruction during normal airflow. Which of the following treatment of is suitable in this

patient?

A. Antibiotics

B. CPAP

C. Tonsillectomy

D. Weight reduction

Answer: C

Weight reduction & adenotonsillectomy are the first line of management in obstructive sleep apnea patients.. However, this patient's cause of snoring is different and tonsillectomy will be more beneficial.

790. You are called to the radiology department because the radiologist suspects the child to have tetralogy of Fallot. Which of the following features are you most likely to see on the frontal view of a chest x-ray?

A. A "boot-shaped" heart with an upturned cardiac apex

B. A figure od eight (snowman) configuration

C. A leather bottle configuration

D. Straightening of the left cardiac border

Answer: A

Explanation: - ECG: Right axis deviation, Right ventricular hypertrophy. –

Echo : which can usually delineate the location and number of VSDs, the anatomy and severity of RV outflow tract obstruction, the coronary artery and aortic arch anatomy, the presence of any associated anomalies - CXR: boot shaped heart, decreased pulmonary vasculature, right aortic arch (in 20%) .

791. 14-yr-old girl presents with bilateral cervical lymphadenopathy that has progressed over the last 4 wk. It is slowly worsening despite antibiotic therapy with cephalexin, which was prescribed 2 weeks ago. On physical examination, the lymph nodes are enlarged, matted, and non-tender. There is mild splenomegaly. The most likely diagnosis is:

A. Acute lymphocytic leukemia

B. Human immunodeficiency virus infection

C. Infectious mononucleosis (Epstein-Barr virus infection)

D. Tuberculosis

Answer: A

Leukemia and lymphomas are the most common malignant neoplasms among young children. The fact that the nodes are worsening despite

antibiotic treatment excludes an infective cause. TB and HIV cause generalized lymphadenopathy not increasing in size.

792. A 14-year-old soccer player is practicing outside with her team on a hot, sunny day. The outside temperature is 100 degrees Fahrenheit. Of the following, which is the principal method of physiologic heat elimination?

A. Conduction

B. Convection

C. Evaporation

D. Radiation

E. Sublimation

Answer: C

Conduction, convection, radiation, and evaporation are all methods of heat elimination in the body. Sublimation is not a method of heat elimination. Conduction carries heat between a body and a contacting surface along a temperature gradient. Convection transfers heat from the body surface to a gas or fluid circulating around the body. With conduction, heat transfer stops when the contacting surface temperature reaches body temperature, whereas with convection, circulation of fresh gas or fluid around the body preserves the temperature gradient between the body and the circulating gas or fluid. Radiation transfers heat from a warmer to a colder body via electromagnetic waves. Evaporation removes heat by promoting a phase transition from liquid to a gas. When the environmental temperature is higher than body temperature, the only method of heat elimination that can be used is evaporation of sweat. Conduction, convection, and radiation rely on an environmental temperature lower than body temperature.

793. A 6-year-old girl is brought to the emergency room with nosebleeds and bleeding from the gums. The child recently recovered from a respiratory tract infection.

Which of the following is the most likely diagnosis?

A. Hemophilia

B. Hypersplenism

C. Idiopathic thrombocytopenic purpura

D. von Willebrand disease

Answer: C

Idiopathic Thrombocytopenic Purpura (ITP)

1. Immune (idiopathic) thrombocytopenic purpura (ITP) of childhood is characterized by acquired thrombocytopenia and is a generally benign disorder of unknown cause

2. ITP in children is typically acute and self-limited.

3. ITP in adults tend to be of insidious and chronic course, and treated with immunosuppression by steroids.

Etiology

1. Antiplatelet antibody

2. Often a few weeks after infection

Clinical presentation

1. Petechiae, ecchymoses, epistaxis

2. Variable symptoms, but usually healthy appearing child

Laboratory

1. Thrombocytopenia

2. Normal to increased size of platelets

3. Normal RBCs and WBCs

Treatment

1. Observation

2. IVIg

3. Steroids

794. A patient was admitted for surgery and was complicated by infection. He was given a combination of 3 antibiotics. He has now tinnitus. What was the drug used?

A. Ethambutol

B. Ionised

C. Penicllin

D. streptomycin

Answer: D

Aminoglycosides, furosemide and other sulphonyl drugs have potent side effects on ear.

795. A 17 year-old complains of hearing loss in the left ear that has gradually worsened over the past two years. On examination, the tympanic membrane is normal. What is the most likely diagnosis?

A. Left ossicular disruption

B. Left otitis media

C. Left otosclerosis

D. Left presbycusis

Answer: C

Otosclerosis is an autosomal dominant condition characterized by an osseous dyscrasia limited to the temporal bone leads to hypertrophy and fixation of stapes footplate. It presents as conductive hearing loss by the third decade of life. Hearing loss and tinnitus are the usual presenting symptoms. Tuning fork examination reveals bone conduction greater than air conduction (conductive hearing loss). Audiometry, also shows conductive hearing loss and loss the stapedial reflex. Treatment includes oral sodium □uoride, which has a variable response, and is used sporadically for labyrinthine otosclerosis. It has also been used for postoperative medical management of obliterative otosclerosis. Hearing loss can be managed using amplification. Surgical treatment is usually required.

796. Which of the following factors is NOT associated with diabetic ketoacidosis?

A. Acidosis

B. Dehydration (secondary to osmotic diuresis)

C. Hyperglycemia

D. Hyperosmolarity

E. Potassium loss

Answer: D

Diabetic ketoacidosis occurs in diabetics when a severe lack of insulin leads to (1) a breakdown of free fatty acids and (2) the production of acetoacetic acid, β-hydroxybutyric acid, and acetone, resulting in severe and life-threatening acidosis. The condition usually occurs in patients with type I diabetes mellitus and is often seen as the initial presentation. Triggering factors include infection, trauma, poor compliance with insulin administration, MI, cerebrovascular accident, alcohol intoxication, or dehydration. Diabetic ketoacidosis is characterized by the following conditions: Symptoms include mental status changes, tachypnea, fruity breath (secondary to acetones), and nausea and vomiting with abdominal pain. In severe cases, coma may occur. Treatment involves the administration of insulin to lower glucose levels, fluid rehydration (usually >5 L), and replacement of potassium and other electrolyte losses. If the condition is severe, cardiovascular collapse may occur. Close follow-up with frequent monitoring of serum pH, electrolytes, and urine output is necessary during treatment. Further tests should be conducted to rule out infection as a precipitating cause. Unfortunately, the WBC count is not a reliable indicator for the presence of infection in those with diabetic ketoacidosis because the stress of the illness often causes the WBC count to increase to 15,000 to 30,000 cells per μL.

797. A 2-month old girl is brought to the physician with a runny nose, cough and low-grade fever. Examinations shows bilateral wheezes and crackles.

Which of the following is the most likely diagnosis?

A. Aspiration pneumonia

B. Bronchiolitis

C. Epiglottitis

D. Pneumonia

Answer: B

Viral bronchiolitis is the most common lower respiratory tract infection in infants and children who are 2 years of age and younger. Respiratory syncytial virus (RSV) is the most common cause, followed by rhinovirus. Other causes: human metapneumovirus, parainfluenza virus, adenovirus, influenza, rhinovirus, and mycoplasma. Presents with low-grade fever, rhinorrhea, cough, and apnea. Examination reveals tachypnea, wheezing, intercostal retractions, crackles, prolonged expiration, and hyper-resonance to percussion

798. A 55 years old man presented to you in the emergency department complaining of gradual onset of difficulty maintaining balance of the body. He is now having ear problems and have facial nerve involvement as well.

Which of the following is most likely diagnosis?

A. Acoustic neuroma

B. Eustachian tube dysfunction

C. Labyrynthitis

D. Menier's disease

Answer: A

Acoustic neuromas: Benign tumor of Schwann cells of CN 8 that can lead to hearing loss secondary to nerve compression. Acoustic neuromas are intracranial, extra-axial tumors that arise from the Schwann cell sheath investing either the vestibular or cochlear nerve. Presents with hearing loss, dizziness, tinnitus; unilateral facial palsy; decreased sensation may be seen on examination. Acoustic neuroma may produce vertigo and tinnitus. Imaging: MRI can localize tumor. Treat with surgical excision if functional impairment fails to respond medications. Menier's disease of the inner ear is characterized is diagnosed by following criteria:

1. Two or more spontaneous episodes of vertigo, each lasting 20 minutes to 12 hours

2. Audiometrically documented low- to medium-frequency sensorineural hearing loss in the affected ear on at least 1 occasion before, during, or after one of the episodes of vertigo

3. Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear

4. Not better accounted for by another vestibular diagnosis Eustachian tube dysfunction does not produce any of the above neurological sign. Labyrynthitis can present with balance problem or hearing difficulties but it does not involve facial nerve.

799. Which of the following is true regarding in□uenza vaccine in asthmatic patients.

A. All of the above

B. None of the above

C. intramuscular trivalent vaccine is safe and has a beneficial effect on the quality of life of children with asthma

D. vaccination against influenza does not reduce or shorten asthma exacerbations

Answer: A

Infection with influenza viruses can cause substantial respiratory morbidity in children with underlying chronic disease such as asthma. Although vaccination against influenza does not reduce or shorten asthma exacerbations, the intramuscular trivalent vaccine is safe and has a beneficial effect on the quality of life of children with asthma.Currently, evidence does not suggest that influenza vaccination reduces the number or severity of asthma exacerbations. With the other benefits of vaccination against annual influenza, children with and without asthma might benefit from the safe trivalent, inactivated vaccine in reducing common influenza-related complications. Children with asthma might also see some improvement in their quality of life.

800. Which of the following infections causes tabes dorsalis?

A. ALS

B. Bacterial meningitis

C. Gonorrhea

D. Syphilis

E. Tuberculosis

Answer: C

Tabes dorsalis is the result of syphilitic lesions that affect the posterior columns of the spinal cord. Symptoms include the insidious onset of pain, loss of sensation, proprioception and vibratory sense, loss of reflexes, and ataxia. The main symptom is an insidious, sharp, stabbing pain that is periodic and recurrent and affects the lower extremities. Over time, the patient may experience increasing difficulty with gait, particularly in poorly illuminated areas. Paresthesias and loss of sensation are commonly associated with the soles of the feet. Other findings include a thin appearance with sad- or depressedappearing facies, Argyll Robertson pupils (react poorly to light but well to accommodation), positive Romberg's sign, loss of reflexes in the lower extremities, bladder disturbances, and visible ataxia. Acute abdominal pain with vomiting (visceral crisis) can occur in 15% to 30%. In tabes dorsalis, the rapid plasma reagin and VDRL tests may not be positive; however, the fluorescent treponemal antibody–absorption test is usually positive. Treatment involves the administration of a prolonged course of high-dose penicillin to treat syphilis. Pain medications along with chlorpromazine and carbamazepine may be helpful for the control of pain. Unfortunately, tabes dorsalis often progresses despite treatment.

801. Wilm's Tumour is associated with all except ?

A. Aniridia

B. Beckwith syndrome

C. Polycystic kidney

D. denys-drash syndrome

Answer: C

The WT1-related Wilms tumor (WT) syndromes are a group of hereditary disorders caused by alterations in a gene known as WT1.

This group of disorders includes: WAGR (Wilms tumor-Aniridia-Genitourinary malformation-Retardation) syndrome Denys-Drash syndrome (DDS) Frasier syndrome (FS) Genitourinary anomalies (abnormalities of the reproductive and urinary systems) syndrome In addition to the WT1-related Wilms tumor syndromes, there are a number of other genetic conditions associated with the development of WT. Some of these conditions include: Beckwith-Wiedemann syndrome Li-Fraumeni syndrome Neurofibromatosis type 1 Sotos syndrome Fanconi anemia syndrome Bloom's syndrome Simpson-Golabi-Behmel syndrome Perlman syndrome Trisomy 18

802. A patient is brought to you in the emergency with sudden loss of consciousness. On examination, he is tachypneic, has many vesicular rash on the body and oxygen saturation is gradually decreasing. You are administering the standard treatment for this anaphylactic attack. Which of the following antihistamine is also given adjunctively?

A. Cromolyn sodium

B. Fexofenadine

C. Loratidine

D. Pheniramine maleate

Answer: D

Antihistamines of 1st generation include clemastin, diphenhydramine and chlorpheniramine. They have greater side effects including anti muscarinic side effects like dry mouth, constipation, drowsiness, sedation etc. They must be avoided in elderly. The second generation antihistamine are preferred because of their least side effects and good

safety profile. Examples include Loratidine, desloratidine and fexofenadine. The second generation antihistamines are not parenterally available and this limits their use in hospitalized patients. So 1st generation anti histamines are better.

803. In a female, the spine stops growing after the onset of menarche by how many months?

A. 12 months

B. 18 months

C. 30 months

D. 6 months

Answer: B

In 93 % of girls, the first physical sign of puberty occurs about 2 years before menarche, and final height is usually achieved 2.5–3 years after menarche

804. A 16-year-old girl presents for follow-up of autoimmune hepatitis. She states that she was feeling well until a few weeks ago, when she began to experience bloating. Her physical examination reveals a distended abdomen that is dull to percussion. A fluid wave is detected on palpation. Abdominal ultrasound reveals significant ascites. Which of the following is a true statement regarding this patient's condition?

A. The composition of the ascitic □uid in this patient is likely similar to that found in patients with heart failure.

B. The development of ascites is a sign of liver regeneration.

C. This patient is predisposed to infection of the ascetic fluid by anaerobic bacteria from the intestine.

D. This patient should be instructed to limit her sodium intake to 0. g/day.

E. Vitamin K should be administered before this patient undergoes a diagnostic paracentesis.

Answer: D

Development of ascites is a poor prognostic sign in children with chronic liver disease. Because sodium retention is one of the main mechanisms in the formation of ascites, restriction of sodium intake is an essential part of management. A diagnostic paracentesis in which 10 to 20 mL of ascitic fluid is withdrawn can be safely performed even in patients with coagulopathy. Ascitic fluid should be inspected visually, and then sent for cell count, Gram stain and direct inoculation in blood culture media at the bedside, glucose, LDH, triglycerides, albumin, total protein, and amylase. Patients with ascites are predisposed to spontaneous bacterial peritonitis, but the most frequent organisms are gram-negative enteric flora and gram-positive cocci. Anaerobic infections are rare. In liver disease, the ascitic fluid is a transudate that develops as a result of an increased portal venous pressure. The serumto- ascites albumin gradient (SAAG) accurately identifies the presence of portal hypertension and is easily calculated by subtracting the ascitic fluid albumin value from the serum albumin value. A gradient greater than 1.1 g/dL is consistentwith portal hypertension. Patients with heart failure have ascites with a high protein concentration and thus a gradient less than 1.1 g/dL.

805. Which of the following is frequently observed in patients with sickle cell trait ?

A. Hematuria

B. Microcytic anemia

C. Normal hemoglobin electrophoresis

D. Priapism

E. Stroke

Answer: A

Hematuria is often seen in patients with sickle cell trait. Sickle cell trait is the heterozygous state for the β S gene. It is relatively common, affecting 1 in 12 African Americans. Although the red blood cells do not typically sickle, sickling can be observed in the renal medulla, which is a relatively acidic and hypertonic environment. This can lead to renal papillary necrosis and intermittent episodes of gross hematuria. Patients with sickle cell trait typically have about 30% to 40% hemoglobin S, which can be seen in hemoglobin electrophoresis. These patients otherwise have normal red blood cell indices, and do not typically suffer the vaso-occlusive complications of sickle cell disease.

806. An 18 month old baby is brought by the mother to the clinic due to rapid heartbeat, irritability, loss of appetite, brittle nails, and a sore or swollen tongue. She reports that she was absolutely breastfeeding until 9 months when she switched to cow's milk- around one liter daily. The mother noticed bad smelling stool for 3 days with change in consistency. The baby looks pale. Labs were

provided and show low Hb. What is the cause of th child's symptoms?

A. Chronic gastroenteritis

B. Cow milk

C. Irritable bowel disease

D. Worm infestation

Answer: B

The feeding of cow's milk has adverse effects on iron nutrition in infants and young children. Several different mechanisms have been identified that may act synergistically. Probably most important is the low iron content of cow's milk. It makes it difficult for the infant to obtain the amounts of iron needed for growth. A second mechanism is the occult intestinal blood loss, which occurs in about 40% of normal infants during feeding of cow's milk. Loss of iron in the form of blood diminishes with age and ceases after 1 year of age. A third factor is calcium and casein provided by cow's milk in high amounts. Calcium and casein both inhibit the absorption of dietary non-heme iron. Infants fed cow's milk receive much more protein and minerals than they need.

The excess has to be excreted in the urine.

807. Which of the following findings are you LEAST LIKELY to find in a child with chronic anemia

A. Erythrocytes are destroyed extravascularly in the reticuloendothelial (RE) tissues of the spleen, liver, and bone marrow.

B. Hemoglobinuria as indicated by a positive test for occult blood without erythrocytes in the urinary sediment

C. Jaundice with elevated unconjugated bilirubin

D. Presence of calcium bilirubinate gall stones

Answer: B

In most chronic hemolytic states, erythrocytes are destroyed extravascularly in the reticuloendothelial (RE) tissues of the spleen, liver, and bone marrow. Within the RE cell, hemoglobin is catabolized to amino acids, the heme metabolite bilirubin and iron recycled back to the marrow. Most patients with chronic severe hemolysis are jaundiced and have elevated serum levels of unconjugated (indirect) bilirubin. However, hepatic conjugation and biliary excretion of bilirubin may result in normal serum bilirubin levels, and hyperbilirubinemia and clinical jaundice should not be considered essential findings to consider a diagnosis of hemolysis. Chronically increased rates of bilirubin excretion, characteristic of congenital and chronic hemolysis, often result in gallstones, which are composed of calcium bilirubinate and are usually multiple, faceted, and radiopaque. In acute intravascular hemolysis, the binding capacity of haptoglobin for hemoglobin may be exceeded, and free hemoglobin is excreted by the kidney, resulting in hemoglobinuria as indicated by a positive test for occult blood without erythrocytes in the urinary sediment. In chronic hemolytic states, hemosiderin may be present in the urinary sediment.

808. A 9-year-old boy is brought to the doctor because of acute sinusitis. He has a history of chronic diarrhea and recurrent pulmonary infections. The sweat chloride test is positive. Which of the following is the most likely diagnosis?

A. Aspergillosis

B. Bronchiectasis

C. Cystic Fibrosis

D. Wegener's granulomatosis

Answer: C

1. Cystic fibrosis (CF) is a disease of exocrine gland function that involves multiple organ systems but chiefiy results in chronic respiratory infections, pancreatic enzyme insufficiency, and associated complications in untreated patients.

2. Autosomal recessive disorder caused by defect in chloride-pumping channel in exocrine glands; ducts of exocrine glands (e.g., lungs, pancreas, reproductive glands) become clogged with thick secretions

3. Cystic fibrosis is caused by one of a large number of mutations of the gene for a protein called the cystic fibrosis transmembrane conductance regulator (CFTR), which regulates chloride and sodium transport across epithelial membranes.

4. Other major consequences include pancreatic malfunction, leading to malabsorption of nutrients and vitamins with consequent impaired growth and development, and, in older patients, diabetes.

5. Clinical features include: recurrent pulmonary infections (e.g., Pseudomonas, Staphylococcus aureus), dyspnea, hemoptysis, chronic sinusitis, cough, meconium ileus at birth, steatorrhea, failure to thrive; cyanosis, digital clubbing, esophageal varices, rectal prolapse

6. Confirmed by a sweat test showing elevated sweat chloride on ≥ 2 occasions

7. Treatment is supportive through aggressive multidisciplinary care along with small-molecule correctors and potentiators targeting the cystic fibrosis transmembrane conductance regulator protein defect

809. A 54 year old man presents with swelling in the neck. On examination the, he has mononucleosis like symptoms but hetrophile antibody test is negative. What is the most likely diagnosis?

A. HHV4

B. HHV5

C. HHV6

D. HHV8

Answer: B

HHV5 is CMV and cause CMV retinitis in HIV patient. It is most common oppurtunistic pathogen in transplant patients. It also cause mononucleosis like symptoms but heterophile antibody test is negative. HHV4 is EBV and causes infection mononucleosis. It usually causes mild flue like illness. Reactive lymphocytosis is seen on peripheral blood smear. Hetrophile antibody test is positive. It is associated with marked splenomegaly. It is also associated with nasopharyngeal carcinoma. HHV6 is roseola infantum (exanthema subitum). It causes high grade fever for few days followed by febrile seizures in some cases. HHV8 is primary cause of kaposi sarcoma in HIV patients.HHV8 is primary cause of kaposi sarcoma in HIV patients.

810. Which of the following is the mode of inheritance in wilson's disease?

A. Autosomal dominant

B. Autosomal recessive

C. Multifactorial

D. X-linked recessive

Answer: B

1. Wilson disease is a rare autosomal recessive inherited disorder of copper metabolism that is characterized by excessive deposition of copper in the liver, brain, and other tissues.

2. Patients present with hepatitis/cirrhosis, neurologic dysfunction (ataxia, tremor), and psychiatric abnormalities (psychosis, anxiety, mania, depression)

3. Examination may reveal Kayser-Fleischer rings (green-to-brown deposits of copper in Descemet's membrane) as well as jaundice, hepatomegaly, asterixis, choreiform movements, and rigidity.

4. Lab: low serum ceruloplasmin

5. Liver biopsy is the most accurate test.

Treatment:1. Dietary copper restriction 2. Penicillamine or trientine

811. An anxious mother brings her 6 week old baby having history of crying too much for the last 2 w days. He was born on the 36th week, and is being exclusively breast fed. other that that there is no other problem and the child is well during the day. The mother does not always burp the baby after breastfeeding. What is the most likely cause of the abdominal pain?

A. Acute gastroenteritis

B. Hirchsprung's disease

C. Infant colic

D. Inflammatory bowel disease

Answer: C

Colic is commonly described as a behavioral syndrome in neonates and infants that is characterized by excessive, paroxysmal crying. Colic is most likely to occur in the evenings, and it occurs without any identifiable cause.Colic remains a diagnosis of exclusion. Crying by infants with or without colic is mostly observed during evening hours and peaks at the age of 6 weeks. The cause of this diurnal rhythm is not known. The amount of crying is not related to an infant's sex; the mother's parity; or the parents' socioeconomic status, education, or ages. On acoustic analysis, colicky crying differs from regular crying. Compared with regular crying, colicky crying is more variable in pitch, more turbulent or dysphonic, and has a higher pitch. Mothers of infants with colic, unlike mothers of infants without colic, rate the cries as more urgent, discomforting, arousing, aversive, and irritating than usual.

812. A 7 month baby is discovered to have a ventricular septal defect. The baby is otherwise asymptomatic and healthy. What is the next appropriate step?

A. Close observation

B. Oral indomethacin

C. Surgery

D. Surgery

Answer: A

Explanation: No intervention is usually required for patients with small defects. These patients are typically asymptomatic and have a reasonable expectation of spontaneous closure or decrease in the size of the defect 1-2 yrs over time. -Patients who continue to have a murmur, but are otherwise asymptomatic and growing well at the 8- to 10-week visit, are seen again by the pediatric cardiologist at approximately 12 months of age. -If the murmur persists at the 12- month and the patient remains asymptomatic and clinically stable, no further intervention is required. Echo follow-up is typically performed at three years of age for patients with membranous defects. In those with a muscular defect, no echo is required if the patient remains asymptomatic -Asymptomatic patients with residual small defects are usually followed every two to □ve Reference:

813. A child is brought to the emergency department having taken 20 pills of aspirin within the last 1 hour of presentation. Which of the following represents the immediate first line of management?

A. Administer activated charcoal via NG tube

B. Give acetylcystein

C. Induce vomiting to remove as much aspirin as possible

D. Urine alkalization

Answer: A

Optimal management of a salicylate poisoning depends on whether the exposure is acute or chronic. Gastric lavage and activated charcoal are useful for acute ingestions but not for cases of chronic salicylism.

Patients with chronic, rather than acute, ingestions of salicylates are more likely to develop toxicity, especially of the CNS, and require intensive care.Initial treatment of an acute overdose involves

resuscitation followed by gastric decontamination by administering activated charcoal, which adsorbs the aspirin in the gastrointestinal tract. Stomach pumping is no longer routinely used in the treatment of poisonings but is sometimes considered if the patient has ingested a potentially lethal amount less than one hour before presentation. Inducing vomiting with syrup of ipecac is not recommended. Repeated doses of charcoal have been proposed to be beneficial in cases of aspirin overdosing,[16] although one study found that they might not be of significant value.[17] Regardless, most clinical toxicologists will administer additional charcoal if serum salicylate levels are increasing.Intravenous fluidsIntravenous fluids containing dextrose such as D5W are recommended to keep a urinary output between 2 and 3 ml/kg/h.Sodium bicarbonate is given in a signi□cant aspirin overdose (salicylate level greater than 35 mg/dl 6 hours after ingestion) regardless of the serum pH, as it enhances elimination of aspirin in the urine. It is given until a urine pH between 7.5 and 8.0 is achieved.

814. You have diagnosed a 16-year-old girl with cat scratch disease (CSD) after she presented with a right axillary mass. The mass has been present for 2 weeks. Her past medical history is negative. What is the most accurate statement regarding treatment and prognosis?

A. Azithromycin is indicated.

B. Needle aspiration of lesions is curative.

C. She has a 35% chance of relapse of CSD.

D. She should avoid contact with immunocompromised patients.

E. Treatment of CSD is supportive.

Answer: E

Treatment of CSD is supportive, except for patients who are immunocompromised or have systemic disease. If treatment is warranted, macrolides, ciprofloxacin, trimethoprim, and rifampin have been effective. Duration of treatment is not known. Needle aspiration of lesions can help alleviate pain; however, incision and drainage should be avoided. Since humans play no role in transmission of

Bartonella henselae , isolation precautions are not needed.

815. A 7 year old boy with a BMI of 30 eats fast food and high fat diet (French fries). his parents are concerned about his cholesterol, both parents have cholesterol disease, you will do cholesterol test because:

A. ?

B. All of the above

C. BMI of 30

D. Family Hx of cardiovascular disease

E. High cholesterol diet

Answer: B

High cholesterol is a risk factor for coronary heart disease in adults, but some children may be at risk for premature coronary heart disease if they have high cholesterol levels earlier in life. Most parents don't know their children's risks, and health care professionals often don't test children's cholesterol levels. According to the American Heart Association, there is sound research that the process of cholesterol buildup in arteries begins in childhood. Childhood may be the time to intervene with lifestyle changes that include sound diet and plenty of exercise, especially for children determined to be at high risk. Three

factors are linked to cholesterol levels, and all are related to family issues: Heredity: whether the child inherited a tendency to have high blood cholesterol Diet: whether the child is eating a diet high in fat that leads to high blood cholesterol and heart risk Obesity: whether the child is seriously overweight and at risk for coronary heart disease and diabetes

816. Which of the following is associated with Guillain-Barre syndrome ?

A. Bradykinesia

B. Cranial nerve involvement

C. Drooping of one or both eyelids

D. Memory loss

Answer: B

1. Guillain-Barré syndrome is an acute, usually rapidly progressive but self-limited inflammatory polyneuropathy characterized by muscular weakness and mild distal sensory loss.

2. Cause is thought to be autoimmune.

3. Diagnosis is clinical.

4. Treatment includes IV immune globulin, plasma exchange, and, for severe cases, mechanical ventilation.Cranial nerve involvement is observed in 45-75% of patients with GBS. Cranial nerves III-VII and IX-XII may be affected.

Common complaints include the following:

1. Facial droop (may mimic Bell palsy)

2. Diplopias

3. Dysarthria

4. Dysphagia

5. Ophthalmoplegia

6. Pupillary disturbances

817. A 3-year-old boy brought to the doctor with a history of recurrent respiratory tract infections. Physical examination reveals absent tonsils. The absolute level of T lymphocytes is normal but the level of B lymphocytes is very low. What is the most likely diagnosis?

A. Acrodermatitis Enteropathica

B. Ataxia-Telangiectasia

C. Severe Combined Immunodeficiency

D. X-linked agammaglobulinemia

Answer: D

X-linked agammaglobulinemia presents in male children with increased sino-pulmonary infections. B cells and lymphoid tissues are diminished. There is a decrease or absence of the tonsils, adenoids, lymph nodes, and spleen. Findings suggestive of X-linked agammaglobulinemia include a normal number of T lymphocytes (CD3- positive) but a very low number of B lymphocytes (CD19-positive). In Severe Combined Immunodeficiency, there is combined absence of Tlymphocyte and B-lymphocyte function. Acrodermatitis enteropathica (AE) classically refers to the inborn error of zinc metabolism that is inherited as an autosomal recessive disorder. It is

characterized by diarrhea, an inflammatory rash around the mouth and/or anus, and hair loss.

818. Which of the following is associated with barking cough, inspiratory stridor, and normal x- ray of the neck?

A. Epiglottitis

B. Laryngotracheobronchitis

C. Peritonsillar abscess

D. Retropharyngeal abscess

Answer: B

Laryngotracheobronchitis croup)

1. Most common cause is parainfluenza viral infection

2. Causes subglottic narrowing

3. Common between 3 months and 3 years of age

Clinical presentation

1. Upper respiratory tract infection (URI) with or without low -grade fever

2. Croup can be associated with fever 39–40 °C

3. Barking cough

4. Brassy cough

5. Inspiratory stridor

6. Retraction, hypoxia, and respiratory distress in severe cases

7. Child may prefer to sit or be held upright

Diagnosis :

Steeple sign on frontal CXR common though occasionally absent.

819. Which of the following factors indicates an increased risk of relapse for childhood ALL?

A. Age greater than 1 yr

B. Age younger than 10 yr

C. Any chromosomal abnormality

D. Presenting white blood cell count above 100,000/mm3

Answer: C

Age and WBC count at the diagnosis are the most common factors used for risk-stratification in ALL trials. Older age and higher WBC count are associated with a higher risk of relapse. In particular, patients with age less than 1 year have a very poor prognosis due to the association with adverse immuno-phenotypic, cytogenetic and molecular genetic features. Adolescents too have a poorer prognosis[19,20]. This may be due to less favorable immunophenotypic (more T-ALL) and genetic features (much lower frequency of cases with hyperdiploidy and ETV6-RUNX1 positivity and more BCR/ABL1 positive cases) and to lower tolerance of chemotherapy, which in turn leads to worse toxicity, decreased treatment intensity and increased relapse rate. A common strategy for risk-stratification based on age and WBC count is that of National Cancer Institute criteria: patients are stratified in two risk

groups: standard risk (age 1–9 years and WBC count less50 x109/L) and high risk (age <1 year and >10 years and/or WBC count>50X109/L. Chromosomal abnormalities are found in most cases of ALL; some indicate a favorable prognosis, some unfavorable, and some have no apparent influence.

820. Which of the following is associated with delayed passage of meconium after the first 48 hours of life?

A. Cystic Fibrosis

B. Hirschsprung Disease

C. Inflammatory Bowel Disease

D. Rectal Prolapse

Answer: B

Hirschsprung Disease

1. The most common cause of intestinal obstruction in neo nates.

2. Associated with Down syndrome

3. Absent ganglion cells in the bowel wall, as a result of the failure of migration in neuroblast from proximal to distal bowel.

4.Lack of ganglion cells in the myenteric and submucosal plexus

5. Delayed passage of meconium after the □rst 48 h of life is a red flag (99% of normal full term infant will pass meconium within 48 h)

6. Rectal suctioning biopsy is the procedure of choice (Biopsy will show absence of ganglion cells)

7. Treated with surgical resection with temporary colostomy and defini - tive treatment at 6–12 months of age

821. After starting puberty, at which age does a girl stop growth?

A. 14 years

B. 16 years

C. 18 years

D. 20 years

Answer: B

Because of subtle differences between the sexes, separate charts are used for boys and girls. Boys grow slightly more than girls in utero and are born slightly longer than girls (mean 50.4 cm, 19.9", compared to 49.7 cm, 19.6"). The prenatal differential in growth rate is lost soon after birth, and although boys remain on average very slightly taller than girls for most of childhood, the two sexes' growth rates are identical. The growth rate in both sexes is most rapid in the first year (average, 10"), then decelerates over the next few years to an average rate of 2–2.5", which is maintained from about 3–4 years on until the onset of puberty. During this childhood period the two hormones most important for growth are growth hormone and thyroid hormone. At puberty, under the influence of estrogen and testosterone, the growth rate increases once more, although never reaching the rapid rate of infancy. The mean peak growth rate, in mid-puberty, is 8.3 cm/year (3.25") for girls, 9.5 cm (3.75") for boys. The two sexes diverge at puberty: pubertal growth starts earlier in girls, at an average age of 10.5 and continues until the epiphyses of the bones fuse and growth ceases at an average age of 16. Boys start their growth spurt on average 2 years later than girls, at about 12.5, at which point they are about 8 cm taller than girls were when their sexual development started. Boys have a more extended growth spurt, stop growing at an average age of 18, and are about 12.5 cm (5") taller as adults than women are.

822. Which of the following is the most appropriate treatment of choice for a child with scabies?

A. 1% lindane topically

B. 5% permethrin topically

C. Mebendazole orally

D. Mefloquine orally

Answer: B

Scabies is an infestation of the skin with the mite Sarcoptes scabiei. Scabies causes intensely pruritic lesions with erythematous papules and burrows in web spaces, wrists, waistline, and genitals. Scabies is easily transmitted from person to person through physical contact; animal and fomite transmission probably also occurs. The primary risk factor is crowded conditions (as in schools, shelters, barracks, and some households); there is no clear association with poor hygiene. Suggestive findings include burrows in characteristic locations, intense itching (particularly at night), and clustering of cases among household contacts. The primary symptom is intense pruritus, classically worse at night, although that timing is not specific to scabies. Diagnosis is based on examination and scrapings. Treatment is with topical scabicides or, sometimes, oral ivermectin

823. A patient presents with a cough, fever, rhinorrhea, malaise, with conjunctival suffusion. There are small, grayish, irregular lesions surrounded by an erythematous base, on the buccal mucus

membrane near the second molar teeth. What is the most likely diagnosis?

A. Measles

B. Parainfluenza

C. Respiratory syncytial infection

D. Rubella

Answer: A

Measles (rubeola) is an extremely contagious disease that is spread by infected droplets from respiratory secretions. It is characterized by fever, cough, coryza, conjunctivitis, an enanthem (Koplik spots) on the oral mucosa, and a maculopapular rash that spreads cephalocaudally. The first sign of measles is usually a high fever (often >40o C) that typically lasts 4-7 days. This prodromal phase is marked by malaise, fever, anorexia, and the classic triad of conjunctivitis, cough, and coryza (the "3 Cs"). Other possible associated symptoms include photophobia, periorbital edema, and myalgias. The characteristic enanthem generally appears 2-4 days after the onset of the prodrome and lasts 3- 5 days. Small spots (Koplik spots) can be seen inside the cheeks during this early stage. Diagnosis is usually clinical. Treatment is supportive. Vaccination is highly effective (Live attenuated measles vaccine)

824. Which of the following is the most common cause of congenital heart disease?

A. Atrial Septal Defect

B. Patent ductus arteriosus

C. Tetralogy of Fallot

D. Ventricular septal defect

Answer: D

Congenital heart disease1. Disease is classified by the presence or absence of cyanosis.2. Acyanotic ("pink babies"): Have left-to-right shunts e.g VSD, ASD and PDA.3. Cyanotic ("blue babies"): Have right-toleft shunts e.g tetralogy of Fallot (ToF), transposition of the great vessels, tricuspid atresia and pulmonic stenosis.4. VSD is the most common cause of congenital heart disease.

Intrauterine risk factors for congenital heart disease include:

1. Maternal illness (DM, PKU)

2. Maternal drug use (Alcohol, lithium, thalidomide, phenytoin)3. Maternal infections (Rubella)

825. A full-term 2-day-old girl develops a rash on herface, abdomen, chest, and extremities. An examination is otherwise normal, and she does not appear ill. Which of the following is the most likely diagnosis?

A. Erythema toxicum neonatorum

B. Neonatal varicella

C. Staphylococcal scalded skin syndrome

D. Systemic herpes simplex

Answer: A

1. Erythema toxicum neonatorum (ETN) is a benign self-limited eruption occurring primarily in healthy newborns in the early neonatal period.

2. ETN is characterized by macular erythema, papules, vesicles, and

pustules, and it resolves without permanent sequelae.

3. It is common in full-term neonates.

4. It resolves spontaneously within 2 weeks after birth.

826. A 3 year old child presented with difficulty in breathing and mild fever. The parent said that he had 2 similar episodes two weeks ago. Which of the following options presents the first line of management?

A. Fluids and supportive care

B. Inhaled steroids

C. Observe

D. Ventilatory support

Answer: A

Infiuenza symptoms may last longer than 1 week. Caregivers can relieve and soothe children's aches and pains with basic supportive care. Acetaminophen may be administered for fever and relief of other symptomatology. (Caution: In children < 16 y who have symptoms of influenza infection or colds, aspirin is not recommended because of an association with Reye syndrome.)

827. Which of the following indicates a therapeutic effect for β-blockers?

A. Drug level within the acceptable range

B. Generalized fatigue

C. Heart rate between 60 and 70 bpm

D. Pupillary constriction

Answer: C

β-Blockers (e.g., propranolol, metoprolol, labetalol, nadolol) are used in the treatment of hypertension. They are considered a negative inotrope and chronotrope. In most cases, they are best suited for young patients who have a hyperdynamic cardiac status. β-Blockers should be used cautiously in patients with the following:

• Asthma and COPD, because nonselective β-blockers can induce bronchoconstriction

• Diabetes, because β-blockers can blunt the response of hypoglycemia

• History of CHF, because β-blockers can decrease cardiac output (however, recent evidence supports ardioselective β-blocker use in CHF with systolic dysfunction)

• Bradycardia or heart block

Other side effects include fatigue, impotence, impaired glucose tolerance, and rebound tachycardia and hypertension (if the drug is abruptly discontinued). β-Blockers are also used for migraine prophylaxis and to treat performance anxiety and tachycardia. Newer evidence supports that β- blockers are not deleterious for patients with depression as once thought.

Finally, β-blockers are also used after MI to improve survival; they reduce myocardial oxygen demand by decreasing heart rate and contractility. Additionally, they should be given prior to surgery in

those at risk for cardiac events. A therapeutic dose is determined by a recorded heart rate of 60 to 70 bpm.

828. A 2-year-old child requires a blood draw in the Emergency Department. She is very fearful and cries every time anyone other than the mother or father is in the room. Of the following, which is the best course of action?

A. Call the operating room to arrange for anesthesia to sedate the child for the blood draw.

B. Child life resources should be called upon: Music, distraction, toys, and other tools to minimize stress can be helpful.

C. Defer the blood draw despite the clinical necessity.

D. The child should be strapped down while the parents wait in the waiting room, and the blood draw done quickly before she can object any longer.

E. Topical anesthetic creams have no use in alleviating pain.

Answer: B

An important yet frequently neglected issue for any invasive procedure on a child is that of pain management and sedation. In the nonemergency situation, topical or local anesthetics should be used as they can minimize pain. Management of anxiety is also important and the psychological milieu during the procedure should also be optimized. Music, toys, and interaction with family members can be important tools for improving comfort, thereby increasing the likelihood of cooperation and technical success. Separating the child from the family and holding them down would likely be traumatizing. Minimizing discomfort during the procedure generally encourages better cooperation during the next potentially painful procedure for that

child. Child life services should be employed when available. For this type of minor procedure, sedation by an anesthesiologist is unnecessarywith the potential risks of sedation outweighing the benefit of comfort. If the blood draw is clinically necessary it should not be postponed.

829. A 4 month old infant who is being exclusively breastfed requires all of the following additional micronutrient supplementation EXCEPT?

A. Calcium

B. Iron

C. Vitamin D

D. Zinc

Answer: A

Breast milk provides optimal intake of most nutrients including iron and zinc, which, while present in lower amounts than in infant formula, are more bioavailable and sufficient to meet infant needs until 4-6 mo of age. After 4-6 mo of age, iron and zinc are required from complementary foods, fortified foods, or supplements. Breast milk is a poor source of vitamin D

830. A 9-yr-old boy presents with fever >39°C for 4 days, myalgias, watery diarrhea, conjunctival infection, diffuse erythroderma, strawberry tongue, blood pressure of 105/45 mm Hg, and

moderately elevated hepatic transaminases. The most likely diagnosis is :

A. Kawasaki disease

B. Staphylococcal scalded skin syndrome

C. Stevens-Johnson syndrome

D. Toxic epidermal necrolysis

E. Toxic shock syndrome

Answer: E

Symptoms of toxic shock syndrome vary depending on the underlying cause. TSS resulting from infection with the bacterium Staphylococcus aureus typically manifests in otherwise healthy individuals via signs and symptoms including high fever, accompanied by low blood pressure, malaise and confusion, which can rapidly progress to stupor, coma, and multiple organ failure. The characteristic rash, often seen early in the course of illness, resembles a sunburn, and can involve any region of the body including the lips, mouth, eyes, palms and soles. In patients who survive the initial phase of the infection, the rash desquamates, or peels off, after 10–14 days. In contrast, TSS caused by the bacterium Streptococcus pyogenes, or TSLS, typically presents in people with pre-existing skin infections with the bacteria. These individuals often experience severe pain at the site of the skin infection, followed by rapid progression of symptoms as described above for TSS. In contrast to TSS caused by Staphylococcus, streptococcal TSS less often involves a sunburn-like rash.

831. Clear case about crohn’s disease: a child with abdominal cramping, diarrhea...etc. Endoscopy shows skip lesions and transmural inflammation.

What's the diagnosis?

A. Celiac disease

B. Crohn's disease

C. Ulcerative colitis

D. abdominal tuberculosis

Answer: B

The earliest and most characteristic endoscopic finding in CD is the aphthous ulcer. It can be found throughout the GIT. An aphthous ulcer represents a small (≤5 mm) superficial ulcer surrounded by a characteristic tiny rim of erythema. They have clear margins and are often surrounded by normal colonic mucosa with very little reactive change. Aphthous ulcers can be localized or multifocal. They are often seen in groups and lie in longitudinal fashion in the GIT, tend to enlarge concentrically, become nodular, and give rise to larger and deeper ulcerations.The ulcers in CD can be of various sizes and shapes. The mucosa lying between long linear ulcerations can be normal or very edematous, reddish, and hyperplastic, giving an appearance of cobblestone. often the lesions are reffered to as Skip lesions. The involvement of the colon and small intestine in patients with CD is characteristically patchy. The lesions may involve only one side of the colonic mucosa in the same segment. The inflammation an ulcerations in CD are often deep, transmural, and can lead to perforation, inflammatory mass, and/or fistula formation.

832. Which of the following tests is the most sensitive for detecting maxillary sinusitis?

A. CT scan

B. Plainx-ray

C. Tomograms

D. Ultrasound

Answer: A

Acute sinusitis is usually precipitated by an upper respiratory infection. Sinusitis is characterized by inflammation of the lining of the paranasal sinuses. Because the nasal mucosa is simultaneously involved and because sinusitis rarely occurs without concurrent rhinitis, rhinosinusitis is now the preferred term for this condition. Maxillary sinusitis is the most common type usually caused by Streptococcus pneumoniae, Haemophilus, influenzae, Moraxella catarrhalis, or viral infection. Presents with pain over infected sinuses, purulent nasal discharge, maxillary toothache pain, pain on palpation of affected sinuses. CT is the test of choice.

833. What is the mode of inheritance in progressive familial intrahepatic cholestasis?

A. Autosomal-dominant

B. Autosomal-recessive

C. Multifactorial

D. X-linked recessive

Answer: B

Progressive familial intrahepatic cholestasis (PFIC) is a class of chronic cholestasis disorders that begin in infancy and usually progress to cirrhosis within the □rst decade of life. The average age at onset is 3

months. It is an autosomal recessive disorder. The following may be noted in the history of a patient with progressive familial intrahepatic cholestasis (PFIC): Pruritus; Cutaneous mutilation; Irritability in infants; Attention deficit; Jaundice; Dark urine; Growth failure; Malabsorption.

834. A 7-year-old girl is brought to the doctorÂwith sore throat, poor appetite, and malaise forÂthe last 4 days. She also has an intermittent cough, without rhinorrhea or congestion. Temperature is 37.6 C , blood pressure is 110/70 mm Hg, pulse is 104/min, and respirations are 16/min.

Physical examination shows swollenÂtonsils which is covered with thin, white exudates. Anterior cervical lymph nodes are palpated. Whatisthe most appropriate next step in management of this patient?

A. Acetaminophen

B. Antistreptolysin O antibody testing

C. Hospitalization

D. Throat culture

Answer: D

Bacterial pharyngitis

1. Bacterial pharyngitis in children and adolescents is most commonly caused by Group A Streptococcus.

2. Most common in children age 5-15.

3. Presents with abrupt onset of sore throat, fever, poor oral intake, and malaise.

4. Characteristic findings include tonsillar erythema and exudates, tender anterior cervical nodes, and palatal petechiae.

5. Viral manifestations are present (eg, conjunctivitis, rhinorrhea, cough, exanthem, oral ulcers).

6. Sore throat is the chief symptom in patients with viral pharyngitis

7. Note that clinical features in children do not reliably distinguish bacterial from viral pharyngitis.

8. Edema and erythema of the pharynx are typical in viral pharyngitis. The degree of erythema does not correlate with the degree of soreness. Exudate can be present but is generally less effusive than in bacterial pharyngitis.

9. Diagnosis is ideally made by throat culture.

10. The diagnosis in children should be con□rmed prior to treatment to avoid unnecessary antibiotic prescription for viral pharyngitis.

11. Options include throat culture or rapid streptococcal antigen testing (RSAT). Throat culture is the □rst-line test due to high sensitivity (90-95%).

12. Treatment with penicillin or amoxicillin (reduces the risk of rheumatic fever, and prevents transmission to close contacts)

835. Your team is asked to consult on a teenage patient being treated with intensive antileukemic therapy. The patient now reports overnight onset of tachypnea and cough. He has no fever. The patient has also had decreased oxygen saturation since yesterday and is requiring supplemental oxygen.

Review of the patient's chart reveals that he has not been receiving trimethoprim–sulfamethoxazole due to a pharmacy error. Chestradiograph reveals bilateral, diffuse alveolar diseasewith

granular opacities. The preferred method for diagnosis of the patient's condition is:

A. Bronchoalveolar lavage

B. DNA/RNA PCR

C. Gastric lavage

D. Hematoxylin and eosin staining

E. Open lung biopsy

Answer: A

The patient described above is at high risk for pneumocystis pneumonia (PCP) because of his immunocompromised state (which includes low CD4 T lymphocytes) compounded with lack of prophylaxis against Pneumocystis carinii pneumonia. Most recently the term Pneumocystis jirovecii has been used, instead of P. carinii . The patient shows classic symptoms and signs of PCP such as hypoxia and chest radiograph with granular opacities. While lung biopsy remains the gold standard because it provides histology of the disease, bronchoalveolar lavage is the preferred method for diagnosis in children because of the possible complications from general anesthesia, pneumothorax, hemorrhage, and pneumomediastinum with biopsy. Once a sample is obtained, it is stained with Gomori, toluidine blue O, calcofluor white, or Giemsa stains. Hematoxylin and eosin, while showing signs of PCP, does not stain the Pneumocystis itself. PCR can be used to supplement the diagnosis but has not been standardized or studied enough to replace current diagnostic standards of identification of Pneumocystis in fluid/tissue samples. Gastric lavage shows promise as a potential way to retrieve samples containing Pneumocystis but is not the preferred diagnostic method.

836. Which of the following signs is associated with duchenne muscular dystrophy?

A. Babinski sign

B. Gower sign

C. Tinel's sign

D. Trendelenburg's sign

Answer: B

Duchenne Muscular Dystrophy is an X- linked recessive disorder (only affects males) resulting in an absence of dystrophin. Normal newborn, develops waddling, poor head control, difficulty standing or climbing (Gower's Sign), hyper trophic calves (pseudo-hypertrophy), generally unable to walk after 12 years of age, death in 75% by the age of 20 due to dilated cardiomyopathy. Clinical features: Muscle weakness is progressive, symmetric, and starts in childhood. Proximal muscles primarily affected (pelvic girdle). CPK elevated even prior to muscle weakness. Genetic testing for dystrophin gene is important, and muscle biopsy is diagnostic. EMG shows characteristic myopathic features.

837. Absence of moro reflex on one side of the body can be due to one of the following:

A. Erb's palsy.

B. Intracranial hemorrhage.

C. Neonatal hypoglycemia.

D. Neonatal sepsis.

Answer: A

Based on the □ndings in normal infants, the absence or diminution of the Moro re□ex within 2 to 3 months of age and the persistence of the response beyond 6 months of age can be regarded as abnormal. The absence of the response during the neonatal period and early infancy is of especial clinical significance and may indicate a compromised condition or disorder including birth injury, severe birth asphyxia, intracranial hemorrhage, infection, brain malformation, general muscular weakness of any cause, and CP of the spastic type. An absent or inadequate Moro response on one side is found in infants with hemiplegia, brachial plexus palsy, or a fractured clavicle.

838. What is the threshold BMI for obesity?

A. 25

B. 27

C. 30

D. 35

Answer: C

The BMI is an approximate measure of body fat. It is based on height and weight. A BMI between 19 and 25 is considered normal. If a patient’s BMI is 25 to 29.9, that individual is considered to be overweight. A person is categorized as obese if his or her BMI is 30 or higher.

839. A 10-month-old boy is being seen for reported hepatitis A exposure. The exposure is thought to be from contaminated strawberries that his family purchased. He has not received any hepatitis A vaccination. He is currently asymptomatic. All of his vaccinations are up-to-date. Exposure is estimated to have occurred less than 2 weeks ago. Appropriate therapy at this time would include:

A. Alpha interferon

B. Hepatitis A vaccination

C. Hepatitis B vaccination

D. Intramuscular immune globulin

E. Ribavirin

Answer: D

The young patient in this scenario requires postexposure prophylaxis to hepatitis A. The 2 options for exposures less than 2 weeks prior include hepatitis A vaccination and intramuscular immune globulin. This patient is too young to receive hepatitis A vaccine and so should receive the intramuscular immune globulin. Ribavirin and alpha interferon are treatments for hepatitis C and are not used in postexposure prophylaxis for hepatitis A. Hepatitis B vaccination would be appropriate if the patient were behind on his other vaccinations.

840. A 5 year old boy is brought to you by his father due to severe pain in front of his both ears. On physical examination, there is marked erythema and tenderness in front of both ears and testis are also tender. Which of the following is most likely diagnosis?

A. Mumps

B. Parotid duct obstruction

C. Sialadenitits

D. Suppurative parotitis

Answer: A

Mumps is paramyxoviridae and is common infection in children. It is associated with bilateral parotits and testicular inflammation. There is risk for testicular atrophy leading to infertility. Acute sialadenitis is the inflammation of the gland due to virus or bacteria and presents with pain, edema, erythema or swelling. But this is not associated with any relation with eating. Parotid duct calculus is associated with significant swelling of gland during eating. This is because the mandibular gland secretion are maximum during eating. Suppurative parotitis is associated with acute Staph aureus infection usually in old aged people who are admitted for surgery and are intubated.

841. What is the most specific test for congenital heart disease?

A. Chest x-ray

B. ECG

C. Echocardiography

D. MRI

Answer: C

Congenital heart disease

1. Disease is classified by the presence or absence of cyanosis.

2. Acyanotic (“pink babies”): Have left-to-right shunts, e.g VSD, ASD and PDA.

3. Cyanotic (“blue babies”): Have rightto- left shunts, e.g tetralogy of Fallot (ToF), transposition of the great vessels, tricuspid atresia and pulmonic stenosis.

4. VSD is the most common cause of congenital heart disease.

Intrauterine risk factors for congenital heart disease include:

1. Maternal illness (DM, PKU)

2. Maternal drug use (Alcohol, lithium, thalidomide, phenytoin)

3. Maternal infections (Rubella)

Diagnosis

1. Chest x-ray and EKG are the best initial tests.

2. Echocardiography is the most specific test.

842. All of the following are clinical manifestations of kwashiorkor EXCEPT:

A. Achromotrichia

B. Muscle weakness

C. Rash in sun-exposed areas

D. The presence of edema

Answer: C

Edematous malnutrition (kwashiorkor) can occur initially as vague manifestations that include lethargy, apathy, and/or irritability. When kwashiorkor is advanced, there is lack of growth, lack of stamina, loss of muscle tissue, increased susceptibility to infections, vomiting, diarrhea, anorexia, flabby subcutaneous tissues, and edema. The edema usually develops early and can mask the failure to gain weight. It often is present in internal organs before it is recognized in the face and limbs. Liver enlargement can occur early or late in the course of disease. Dermatitis is common, with darkening of the skin in irritated areas but, in contrast to pellagra, not in areas exposed to sunlight. Depigmentation can occur after desquamation in these areas, or it may be generalized. The hair is sparse and thin, and in dark-haired children it can become streaky red or gray. Eventually, there is stupor, coma, and death.

843. In a well-baby clinic, the mother put her child on bed and he was laughing loudly, when the doctor came to examine him, he pulled away and wanted to reach his mother. How old is he?

A. 4 months

B. 6 months

C. 9 months

Answer: B

The advent of object permanence corresponds with qualitative changes in social and communicative development. Infants look back and forth between an approaching stranger and a parent, and may cling or cry anxiously, demonstrating stranger anxiety . Separations often become more difficult. Infants who have been sleeping through the night for mo begin to awaken regularly and cry, as though remembering that the parents are in the next room.

844. Which of the following aptly defines a premature baby?

A. Baby born before 28 completed weeks

B. Baby born before 37 completed weeks

C. Baby born before 38 weeks

D. Baby born before 40 weeks

Answer: B

A premature infant is a baby born before 37 completed weeks of gestation (more than 3 weeks before the due date).

845. A newborn boy has not voided for 40 hours since birth. Examination reveals an alert infant with normal external genitalia, testes descended bilaterally, Tanner I. There is a firm abdominal mass. Ultrasound of the abdomen reveals a distended bladder with a "keyhole" appearance formed by a large bladder and a distended posterior urethra. Which of the following statements is true about this case?

A. Due to the insidious nature of the disease, prenatal ultrasound is an ineffective screening tool

B. Immediate stabilization of the infant with bladder drainage is necessary

C. Prognosis is worse if the child also has unilateral vesicoureteral r eflux

D. The condition is caused by external compression of the urethra by aberrant vasculature

E. The ratio of males to females affected is 5 to 1

Answer: B

The child has posterior urethral valve (PUV) syndrome, which is the most common cause of lower urinary tract obstruction in males. The disease only affects male infants with an incidence of 1 in 5000–8000 male births. The obstruction is due to a congenital pair of obstructing leaflets within the prostatic urethra. Bladder distention results from the blockage. The presence of unilateral vesicoureteral reflux damages the ipsilateral kidney, but "protects" the contralateral kidney. As a result, these children have a better long-term prognosis. With improvements in prenatal ultrasonography, most cases are now detected prenatally. If missed prenatally, the infant may present with delayed voiding, a distended bladder, poor urinary stream, or urosepsis and vomiting.

846. Which of the following defines Pentalogy of Fallot?

A. TOF with Atrial Septal Defect

B. TOF with Coarctation of Aorta

C. TOF with Patent Ductus Arteriosus

D. TOF with Polysplenia

Answer: B

Ans. B TOF with ASD I. TETRALOGY OF FALLOT consists of: VSD, Pulmonary stenosis, Right Ventricular Hypertrophy, and Over riding of Aorta PENTALOGY OF FALLOT consists of: TOF + ASD

TRIOLOGY OF FALLOT consists of: TOF without overriding of Aorta.

847. All of the following statements about leukemia in children with Down syndrome are true Except:

A. Acute lymphoblastic leukemia is the most common type of leukemia that occurs in these children

B. Acute myeloid leukemia has a better outcome in children with Down syndrome than in children without Down syndrome

C. Almost all neonates with Down syndrome and transient myeloproliferative syndrome eventually develop leukemia

D. Leukemia occurs more frequently among children with Down syndrome

Answer: C

About 20-30% of neonates with Down syndrome who develop a transient leukemia or myeloproliferative syndrome will develop typical leukemia within the first few years of life

848. A 19-yr-old female patient tells you she had unprotected sex yesterday with her steady partner. She does not want to become pregnant. Your emergency treatment should be to give:

A. Intravenous FSH and hCG

B. Ovral (0.5 mg of levonorgestrel and 100 μg of ethinyl estradiol) 2 tablets once

C. Ovral 2 tablets now and in 12 hr

D. Spermicide now and in 12 hr

Answer: C

The goal is at least 200 g of ethinyl estradiol and 2 mg of norgestrel given twice 12 hours apart. It is also important to provide advice about proper nonemergency contraception.

849. Theo is a 7-year-old boy with autism. He has been followed in your clinic for the last 2 years. He has been receiving educational and behavioral interventions; however, mom feels like his behavior has not improved. He is having increasing difficulty falling asleep and staying asleep, which seems to make him more prone to act out during the day. He is increasingly aggressive and irritable, often injuring himself. The school is concerned he may injure another student. Theo's mom is interested in pharmacologic therapy. Which of following would you recommend?

A. Lamotrigine

B. Midazolam

C. Phenobarbital

D. Propanolol

E. Risperidone

Answer: E

There are many adjunctive pharmacologic therapies used in the treatment of autistic spectrum disorders. Importantly, risperidone, an atypical antipsychotic, has been improved by the FDA to treat

irritability, aggressive behavior, self-injury, and temper tantrums in children and adolescents with autism. Additionally, risperidone can be used as a sleep aid. Many children with autism have sleep disturbances that can impact their daytime functioning as well. Propanolol and other β- blockers can be used to treat aggression and irritability but not typically first line and do not have the additional sleep benefits. Lamotrigine and phenobarbital are antiepileptics. These specific antiepileptic medications are not often used to treat autism; in contrast, valproate has been shown to be effective in the treatment of repetitive and compulsive behavior. Midazolam is an anxiolytic. It is sedating and has not been shown to be effective in the management of autism.

850. You are called by the newborn nursery nurse secondary to see a 1- day-old infant vomiting with every feed. The patient takes the formula well, but vomits large amounts soon after his feed. The emesis is non-bilious. The only significant history is polyhydramnios during his mother's pregnancy. You obtain an abdominal radiograph and find a large, dilated stomach. What is the most likely diagnosis?

A. Duodenal atresia

B. Duodenal web

C. Jejunoileal atresia

D. Pyloric atresia

E. Pyloric stenosis

Answer: D

Neonates with pyloric atresia will present with early onset of vomiting that is nonbilious, as well as a dilated stomach at birth. The mother may also have polyhydramnios during her pregnancy. Pyloric stenosis is an

acquired condition and would not present on the □rst day of life, nor would it be associated with a large stomach at birth and polyhydramnios. Duodenal webs and atresias would likely present with bilious vomiting. Jejunoileal atresias would also likely present with bilious vomiting and abdominal distension.

851. A 5 years old child presented to you with fever and cough for the last 3 days. He has drooling and inability to intake food. You suspect croup. What is the best initial investigation?

A. Biopsy

B. CT scan

C. Pharyngeal swab

D. x-ray

Answer: D

Croup is clinically diagnosed (barking cough and stridor). CXR can be used to confirm and exclude atypical presentation “steeple sign “ from subglottic narrowing).

852. Which of the following karyotypes is associated with turner syndrome?

A. 45, XO

B. 45,XXY

C. 47,XYY

D. Trisomy 18

Answer: A

1. Turner syndrome is one of the most common chromosomal abnormalities, occurring in approximately 1 in 2000 live-born female infants.

2. Short female is considered Turner syndrome until other wise is proved.

3. Turner syndrome is caused by the absence of one set of genes from the short arm of one X chromosome.

4. 45,X karyotype (about two thirds are missing the paternal X chromosome)

853. An old man complains of facial deviation to left side and inability to close the right eye along with drooling from the sideways and increased hearing in the right ear. You suspect Bell's palsy. Which of the following nerve Innervation of stapedius is causing increased hearing?

A. ,Trigeminal

B. Accessory

C. Facial

D. Glossopharyngeal

Answer: C

The stapedius emerges from a pinpoint foramen in the apex of the pyramidal eminence (a hol-low, cone-shaped prominence in the posterior wall of the tympanic cavity), and inserts into the neck of the

stapes. Innervation: The stapedius is innervated by the nerve to stapedius, a branch of the facial nerve.

854. Which of the following drug administration is the treatment of choice for anaphylaxis?

A. Aqueous epinephrine (1:1,000) by intramuscular injection

B. Aqueous epinephrine (1:1,000) by subcutaneous injection

C. Diphenhydramine by intravenous infusion

D. Diphenhydramine orally

Answer: A

The main treatment of choice for anaphylaxis is aqueous epinephrine, 1:1,000, 0.01 mL/kg (maximum 0.3 mL for a child or 0.5 mL for an adult) by intramuscular injection, which can achieve more rapid effective concentrations than obtainable with subcutaneous injection. Intravenous epinephrine may be added as a continuous drip for persistent shock. Intramuscular or intravenous H1 and H2 antagonist antihistamines, oxygen, intravenous fluids, inhaled -agonists, and corticosteroids may also be required.

855. What is the most likely causative organism in an 8 month old infant with meningitis?

A. E.Coli

B. Hemophilus in□uenzae

C. Listeria Monocytogenes

D. Strep pneumoniae

Answer: D

In children older than 4 weeks, S pneumoniae and N meningitidis are the most common etiologic agents. Hib has essentially disappeared in countries where the conjugate vaccine is routinely used. S pneumonia is a gram-positive, lancet-shaped diplococcus that is the leading cause of meningitis. Of the 84 serotypes, numbers 1, 3, 6, 7, 14, 19, and 23 are the ones most often associated with bacteremia and meningitis. Children of any age may be affected, but the incidence and severity are highest in very young and elderly persons.

856. You are concerned about the possibility of Listeria monocytogenes infection in a 1-day-old infant who born prematurely. The mother reported a history of nonspecific flu-like illness around the time of delivery. Of the following, which is the best treatment for L. monocytogenes?

A. Ampicillin

B. Cefazolin

C. Gentamicin

D. Trimethoprim–sulfamethoxazole

E. Vancomycin

Answer: A

First-line therapy is ampicillin. Although the combination of ampicillin and an aminoglycoside, such as gentamicin, is more effective,

ampicillin alone is suitable for treatment. For penicillin-allergic patients, trimethoprim–sulfamethoxazole or vancomycin can be used. Cephalosporins are not effective for L. monocytogenes .

857. Child presented with petechiae and his platelets is 15 , otherwise healthy. What will you do for him?

A. IVIG

B. Observations

C. Splenectomy

D. steroid

Answer: B

Idiopathic thrombocytopenic purpura (ITP) is the condition of having a low platelet count (thrombocytopenia) of no known cause (idiopathic). As most causes appear to be related to antibodies against platelets, it is also known as immune thrombocytopenic purpura. Although most cases are asymptomatic, very low platelet counts can lead to a bleeding diathesis and purpura. ITP is a disorder that affects the overall number of blood platelets rather than their function. In acute ITP cases patients usually suffer from bruising; petechiae, nosebleeds and bleeding gums may occur if the platelet count is below 20,000, compared with a normal range of 150,000-400,000/mm3.[2] In extreme cases, patients with ITP may bleed into the lungs, brain, or other vital organs, leading to subarachnoid, intracerebral hemorrhage or other internal bleeding are very serious possible complications of this disease but these complications are unlikely in patients with the platelets count above 20,000 There is no accepted platelet count that defines an indication for initial treatment. Patients with initial platelet counts above 30,000-50,000/UL, require careful follow-up but no specific initial therapy.

The decision to treat ITP is based on the platelet count, degree of bleeding, and patient's lifestyle. There is no specific treatment for ITP. General care includes explaining ITP to the patient and advising him or her to watch for bruising, petechiae, or other signs of recurrence. Children should be discouraged from rough contact sports or other activities that increase the risk of trauma. Patients are also advised to avoid using aspirin or ibuprofen as pain relievers because these drugs lengthen the clotting time of blood. All medications for ITP are given either orally or IV; intramuscular injection is avoided due to the possibility of causing bleeding into the skin.

Corticosteroids, typically prednisone, are the backbone of the initial treatment. The treatment begins with IV steroids (methylprednisolone or prednisone), IVIg or their combination and sometimes platelet infusions in order to raise the count quickly. After the platelet count stabilized and in the less severe cases oral prednisone (1-2 mg/kg) is used. Most cases respond during the 1st week of treatment.

858. A 4-week-old boy is brought to the doctor for vomiting. The emesis occurs with every feed, is non-bilious, and is projectile in nature. On examination, peristaltic waves are seen over the upper abdomen, and an olive-shaped mass is palpated in the right upper quadrant. Which one of the following findings is a characteristic sign of this disease?

A. Currant jelly stool

B. Hypochloremic alkalosis

C. Metabolic acidosis

D. Obstructive uropathy

Answer: B

Pyloric stenosis

1. Hypertrophy of pyloric sphincter causing obstruction of gastric outlet.

2. Male four times than females especially the first newborn

3. Symptoms begin a few weeks after birth; nonbilious emesis, projectile emesis; palpable epigastric olive-sized mass.

Clinical presentation

1. Nonbilious vomiting immediately after feeding may be intermittent

2. May or may not be projectile initially but usually progres - sive

3. After vomiting, infant is hungry and wants to eat again

4. More common after 3 weeks of age

5. Can be as early as one week or as late as 5 months Lab: Hypochloremic, hypokalemic metabolic alkalosis.

Dx:

1-Barium swallow shows thin pyloric channel (i.e., string sign); US shows increased pyloric muscle thickness

2-Abdominal x-ray is less useful in identifying pyloric stenosis

3-The best initial test is ultrasound of the abdomen

Management

1. The infant should remain nothing by mouth (NPO)

2. Immediate treatment requires correction of fluid loss, electrolytes, and acid- base imbalance 3. Pyloromyotomy is the procedure of choice.

859. Which of the following organisms is responsible for the development of pseudomembranous colitis?

A. Clostridium difficile

B. Escherichia coli

C. Methicillin-resistant Staphylococcus aureus

D. Pseudomonas aeruginosa

Answer: A

Pseudomembranous colitis is characterized by profuse, watery diarrhea; abdominal cramps; low-grade fevers; and, occasionally, hematochezia. The etiologic agent is C. difficile, which produces a toxin that causes the lesions affecting the colon. The condition is thought to be associated with antibiotic use in the preceding 2 to 3 weeks (in some cases up to 6 weeks); however, antibiotic use is not necessary for the condition to occur. The diagnosis may be achieved by a laboratory stool test, which isolates the C. difficile toxin. Sigmoidoscopy or colonoscopy usually shows characteristic yellowish-white plaques. Treatment includes the use of metronidazole or vancomycin (which is more expensive). Complications include dehydration, electrolyte imbalances, intestinal perforation, toxic megacolon, and, in severe cases, death. Relapse may occur in up to one-third of patients after treatment.

860. A 5 years old child has an URTI followed by ear pain, Rinne test is negative but weber test show the sound is louder in the affected ear. What is the diagnosis?

A. Mastoditis

B. Otitis externa

C. Otitis media

D. cholesteatoma

Answer: C

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. When the secretions of middle ear accumulate, they exert the pressure on tympanic membrane which is dangerous sign. If nothing done in time, the tympanic membrane may rupture, leading to hearing loss. Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

Treatment: High-dose amoxicillin (10 days for empiric therapy). Resistant cases may require amoxicillin/clavulanic acid.

861. An 18-month-old toddler presents with a 1-day history of fever, severe fussiness, drooling, and poor oral intake. Her parents are extremely worried about her and report they cannot convince her to drink more than a teaspoon at a time. Her last wet diaper was over 10 hours ago. On examination she has a temperature of 101.0 degrees F; HR is 160 to 168 bpm. She appears miserable, and cries with attempted examination. While she is crying, you are able to get a good look in her oropharynx and note several vesicular and

ulcerative lesions on her upper and lower gum lines, buccal mucosa, tongue, and upper palate. Along with adequate pain medication and hydration, which of the following is the most appropriate antiviral treatment?

A. Acyclovir IV

B. Acyclovir po

C. Foscarnet IV

D. Ganciclovir IV

E. Valacyclovir po

Answer: A

This patient is dehydrated based on history and tachycardia and clearly is not tolerating adequate oral □uid intake. Since her onset of symptoms is within the last 48 hours, anti-HSV therapy may shorten the duration of symptoms. Since she will need IV hydration, and she is not tolerating anything by mouth, she can also be treated with IV anti-HSV medication. Valacyclovir is much more bioavailable orally than acyclovir; however, she is not tolerating oral feedings. Also, valacyclovir isnot currently available in suspension preparation for pediatrics (although extemporaneous suspensions have been prepared with valacyclovir caplets). Foscarnet is typically reserved for acyclovirresistant infections and has more significant side effects. Ganciclovir is antiviral therapy primarily for CMV infection, not first-line HSV treatment.

862. A 28 months old child is brought to the the clinic with history of otitis media without recovery and now with red ear and swelling behind the ear. The diagnosis of acute mastoiditis was made. Which of the following is best treatment option?

A. Amoxicillin

B. Amoxicillin with clavulanic acid

C. Ceftriaxone

D. Metronidazole

Answer: A

Mastoiditis is a bacterial infection of the mastoid air cells, which typically occurs after acute otitis media. Symptoms begin days to weeks after onset of acute otitis media and include fever and persistent, throbbing otalgia. Nearly all patients have signs of otitis media and purulent otorrhea. Redness, swelling, tenderness, and fluctuation may develop over the mastoid process; the pinna is typically displaced laterally and inferiorly. Diagnosis is clinical. Treatment is with antibiotics, such as ceftriaxone and mastoidectomy if drug therapy is not effective. Treatment: High-dose amoxicillin (10 days for empiric therapy). Resistant cases may require amoxicillin/clavulanic acid.

863. Which of the following statements is true of Lyme disease?

A. The disease is transmitted by the bite of a common wood tick.

B. The first stage may involve carditis with atrioventricular (AV) block or pericarditis, peripheral neuropathies, and meningitis.

C. The second stage may be characterized by fever, malaise, a stiff neck, back pain, and erythema chronicum migrans.

D. Treatment may be accomplished with doxycycline or amoxicillin.

Answer: D

Caused by the spirochete Borrelia burgdorferi , Lyme disease is transmitted by the bite of the deer tick (Ixodes dammini). Although reported in most states, it appears to be predominant in the Great Lakes area and the Western and Northeastern United States.

The symptoms occur in three stages:

First stage. This stage usually begins with malaise, fever, headache, stiff neck, and back pain. Generalized lymphadenopathy with splenomegaly occurs, and a large annular erythematous lesion forms at the bite site and shows central clearing (erythema chronicum migrans). Multiple lesions may occur and affect other areas of the body. The lesions are warm but not often painful. As many as 25% may not exhibit skin manifestations. These symptoms usually appear within a few days to up to 1 month after the tick bite.

Second stage. This is the disseminated stage. Complications include carditis with AV block, palpitations, dyspnea, chest pain, and syncope. Pericarditis may also occur. Neurologic manifestations, including peripheral neuropathies and meningitis, are sometimes present. Largejoint arthritis is also common. Chronic phase. After the second stage, a chronic phase may result. This phase is predominantly characterized with intermittent attacks of oligoarthritis lasting weeks to months. Other symptoms include subtle neurologic abnormalities (e.g., memory problems, mood or sleep disorders). Diagnosis is usually made by the clinical presentation; however, an ELISA followed by Western blot for positive results can help in the diagnosis but is somewhat unreliable.

Treatments for early disease include doxycycline, amoxicillin, and cefuroxime axetil. A single dose of doxycycline has been shown to reduce the likelihood of Lyme disease after a deer tick bite. A moderately effective recombinant vaccine for the prevention of Lyme disease has been removed from the market.

864. Infantile myocarditis and pericarditis is not caused by:

A. Coxsackie A

B. Coxsackie B

C. Echovirus

D. Rotavirus

Answer: D

Causes of Viral Myocarditis in Children

a. Coxsackievirus A

b. Rubella -

c. Coxsackievirus B

d. Varicella

e. Echovirus

f. Influenza

865. What is the mode of inheritance in neurofibromatosis?

A. Autosomal dominant

B. Autosomal recessive

C. Multifactorial

D. X-linked recessive

Answer: A

1. Neurofibromatosis type 1 (NF1) is a multisystem genetic disorder that is characterized by cutaneous □ndings, most notably café-au-lait spots and axillary freckling.

2. It is an autosomal dominant genetic disorder.

Diagnosis: At least two of the following clinical features must be present to make the diagnosis of Neurofibromatosis:

1. Six or more café-au-lait macules >5 mm in diameter in prepubertal and >15 mm in diameter in postpubertal individuals; for each lesion, the longest diameter is measured.

2. Two or more neurofibromas of any type or one plexiform neurofibroma.

3. Freckling in the axillary or inguinal regions.

4. Optic glioma.

5. Two or more Lisch nodules (iris hamartomas).

6. A distinctive bony lesion such as sphenoid dysplasia or thinning of the long bone cortex with or without pseudoarthrosis.

7. A first-degree relative (parent, sibling, or offspring) with NF1 based upon the above criteria.

866. What is the most common cause of Hand-foot-mouth Disease ?

A. CMV

B. Coxsackievirus

C. EBV

D. HSV -1

Answer: B

Hand-foot-and-mouth disease (HFMD) is an acute viral illness that presents as a vesicular eruption in the mouth, but it can also involve the hands, feet, buttocks, and/or genitalia. Most common cause is Coxsackie virus. Treatment is supportive. Clinical presentation: Low grade fever, vesicles in the anterior and posterior oropharynx and may progress to ulceration, Maculopapular, vesicular, or pustular rash on the hand, feet, buttocks and groin. Most cases are mild and resolve in 3–5 days.

867. Which of the following structural anomaly is not present in Tetralogy of Fallot

A. Mitral stenosis

B. Overriding aorta

C. Right ventricular outflow obstruction

D. Ventricular septal defect

Answer: A

Tetralogy of Fallot, which is one of the most common congenital heart disorders, comprises right ventricular (RV) out□ow tract obstruction (RVOTO) (infundibular stenosis), ventricular septal defect (VSD), aorta dextroposition, and RV hypertrophy

868. Which of the following would be best in the short- and long-term treatment of back pain?

A. Back education school

B. Back supports

C. To stay active with regular physical activity

D. Work site modification

Answer: C

Patient education to stay active, avoid aggravating movements, and return to normal activity as soon as possible and a discussion of the often benign nature of acute low back pain is effective in patients with nonspecific acute back pain. Bed rest is not helpful for nonspecific acute low back pain and although regular exercises may not be beneficial in the treatment of nonspecific acute low back pain, physical therapy (McKenzie method and spine stabilization) may lessen the risk of recurrence and need for health care services. Neither lumbar supports nor back belts appear to be effective in reducing the incidence of low back pain. Work site modifications, including educational interventions, have some short-term benefit in reducing the incidence of low back pain. However, their applicability to the primary care setting is unknown. Back (educational) schools may prevent further back injury for persons with recurrent or chronic low back pain, but their long-term effectiveness has not been well studied.Patient education to stay active, avoid aggravating movements, and return to normal activity as soon as possible and a discussion of the often benign nature of acute low back pain is effective in patients with nonspecific acute back pain. Bed rest is not helpful for nonspecific acute low back pain and although regular exercises may not be beneficial in the treatment of nonspecific acute low back pain, physical therapy (McKenzie method and spine stabilization) may lessen the risk of recurrence and need for health care services. Neither lumbar supports nor back belts appear to be effective in reducing the incidence of low back pain. Work site modifications, including educational interventions, have some shortterm benefit in reducing the incidence of low back pain. However, their applicability to

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869. A 12-month-old boy is brought to the physician with a rash on his face and chest. He is constantly scratching himself. He has a family history of asthma. Which of the following is the most likely diagnosis?

A. Atopic dermatitis

B. Contact dermatitis

C. Erythrasma

D. Scabies

Answer: A

Atopic dermatitis (eczema)

1. Atopic dermatitis is a chronic, pruritic, infllammatory skin disease that occurs most frequently in children, but also affects many adults.

2. Clinical features of atopic dermatitis include skin dryness, erythema, oozing and crusting, and lichenification.

3. Pruritus is a hallmark of the condition and is responsible for much of the disease burden for patients and their families.

4. It is commonly associated with elevated levels of immunoglobulin E (IgE).

5. The goals of treatment are to reduce symptoms (pruritus and dermatitis), prevent exacerbations, and minimize therapeutic risks.

870. A 4-month-old breastfed infant is seen in clinic for a well-child examination. His mother describes him as a generally happy baby, but expresses concern that he is constipated because he only passes stool every 3 to 5 days. She explains that when he does have a bowel movement, he will briefly become red in the face and fuss, and then pass a large, soft, yellow stool that sometimes spills out of his diaper. His physical examination is unremarkable and his weight gain and growth have been excellent. The most appropriate response to this mother's concern about the infant's stooling pattern is:

A. The infant is constipated and she should give lactulose 1 mL/kg/day divided BID.

B. The infant is constipated and she should offer 2 oz of diluted apple juice daily.

C. The infant is constipated and should undergo barium enema to evaluate for possible Hirschsprung disease.

D. The infant is not constipated and is displaying behavior consistent with colic

E. The infant is not constipated and this may be a normal stooling pattern for a healthy breastfed baby.

Answer: E

Breastfed infants often pass stools infrequently, up to every 5 days, which may be completely normal if the stool is soft and passage is not painful. It is not unusual for an infant to strain briefly with stooling but this does not necessarily reflect pain. This child is not constipated and no specific intervention is required; reassurance should be offered to the mother. An infant younger than 6 months who is having hard, infrequent stools may be constipated and can be offered 2 to 4 oz diluted fruit juice initially as treatment. In infants over 6 months of age, lactulose or polyethylene glycol 400 can also be used to treat constipation. There is no reason to believe this otherwise healthy child with no constipation has Hirschsprung disease, so imaging with barium enema is not warranted. Colic is a behavioral diagnosis characterized by frequent inconsolable crying in infants that has not been correlated with a specific gastrointestinal etiology.

871. A 3-week-old baby is found in a car on a hot summer day. An ambulance brings the infant into the Emergency Department. Her temperature is 41 degrees, HR 170, and RR 8. She is minimally responsive and has hot dry skin. Which of the following statements is TRUE?

A. Acetaminophen and/or ibuprofen should be administered immediately to start reducing the temperature.

B. Evaporative cooling by spraying the body with lukewarm atomized water and fanning is much less effective than cold water immersion.

C. First-line measures should be invasive cooling with cardiopulmonary bypass and gastric, peritoneal, or pleural lavage should be implemented immediately.

D. Ice water immersion may not be the ideal form of cooling because shivering and peripheral vasoconstriction may increase heat production.

E. The infant is suffering from heat exhaustion.

Answer: D

The infant in this scenario is suffering from heat stroke. This is the most severe form of heat-related illness and carries a high morbidity and mortality unless cooling measures are instituted quickly. Water immersion is a quick and effective method of reducing body temperature, however, ice water immersion may be counterproductive because shivering and peripheral vasoconstriction may work towards increasing heat production. Evaporative cooling with atomized lukewarm water and fanning is another effective way of cooling a patient. These and other noninvasive cooling measures should be instituted immediately and are first-line therapies. Antipyretic medications should not be given in heat stroke. These medications may potentiate organ damage and are not effective in heat stroke.

872. Of the following options, the best initial test for a workup for immunodeficiency is:

A. A complete blood count with differential

B. Erythrocyte sedimentation rate

C. Peripheral T-cell phenotyping

D. Postimmunization immunoglobulin levels

E. Serum levels of IgG, IgM, IgA, IgE

Answer: A

The initial step in the workup of a child with a suspected immunodeficiency should always include a complete blood count and differential, as this test will reveal disorders involving lymphopenia (particularly T-cell lymphopenias) and neutropenia. Other hints can be found by the CBC, including small platelets associated with the Wiskott–Aldrich syndrome, anemias, and evidence of eosinophilia. An erythrocyte sedimentation rate is a nonspecific marker of inflammation and would not point to a specific immunodeficiency. While quantitative immunoglobulins, peripheral T-cell phenotyping, and lack of antibody response to standard immunizations would all be part of an immunodeficiency investigation, these would not be considered first steps in the evaluation.

873. During delivery of a baby, there was stylomastoid foramen trauma. Which of the following features will be evident when you examine this baby

A. Loss of eye close

B. Loss of eye movement

C. Loss of facial sensation

D. Loss of mastication function

Answer: A

Facial Palsy (Bell's palsy):

It is usually due to pressure by the forceps blade on the facial nerve at its exit from the stylomastoid foramen or in its course over the

mandibular ramus. It appears within 1-2 days after delivery due to resultant edema and hemorrhage around the nerve.-

Manifestations: There is paresis of the facial muscles on the affected side with partially opened eye and flattening of the nasolabial fold. The mouth angle is deviated towards the healthy side. Eye movement is undertaken by the extraocular muscles innervated by cranial nerves IV, VI.

874. A pregnant female has clotting diathesis. She was previously been treated successfully. But this time the clot is formed and has affected the cavernous sinus. Which of the following nerve is most likely to be paralyzed first?

A. Abducent

B. Facial

C. Glossopharyngeal

D. Optic

Answer: A

Cavernous sinus contain CN VI within its center and is likely to involved first than any other nerve. This is because other nerves are located outside the sinus, so their involvement will occur at later stages.

875. The most important extramedullary site of relapse in childhood ALL is:

A. Adrenal glands

B. Central nervous system

C. Kidney

D. Lung

Answer: B

The most important extramedullary sites of relapse of ALL are the central nervous system and the testes. Intrathecal therapy is key to prevention of later central nervous system relapse. Testicular relapse occurs in 1-2% of boys with ALL, usually after completion of therapy.

876. A 14-year-old boy presented with several soft tissue fleshy cutaneous nodules on the trunk and multiple cafe-au-lait mac ules in the armpits and groin. There are no other anomalies. His sister has the same problem.Which of the following is the likely mode of inheritance of his disease?

A. Autosomal dominant

B. Autosomal recessive

C. Don't know

D. X-linked dominant

E. X-linked recessive

Answer: C

Café-au-lait spots are smooth, often irregular, brown spots on the skin. Even though the spots are harmless themselves, they are usually the earliest sign for neurofibromatosis. Isolated Café-au-lait maculesmay

be found in 10% of healthy people. Several members of a family may also have a spot, without this being a sign of any disorder.

Neurofibromatosis usually has other symptoms: The 7 clinical criteria used to diagnose NF1 are as follows: Six or more café-au-lait spots or hyperpigmented macules greater than or equal to 5 mm in diameter in prepubertal children and 15 mm postpubertal Axillary or inguinal freckles (>2) Two or more typical neuro□bromas or one plexiform neurofibroma Optic nerve glioma Two or more iris hamartomas (Lisch nodules), often identi□ed only through slit-lamp examination by an ophthalmologist Sphenoid dysplasia or typical long-bone abnormalities such as pseudarthrosis First-degree relative (eg, mother, father, sister, brother) with NF1

877. A 22 years old female presented to you with decrease in hearing in both ears. She had cataract surgery for months ago. Her mother also had the same problem and involvement of facial nerve also. Which of the following is most likely diagnosis?

A. Acoustic neuroma

B. Neurofibromatosis I

C. Neurofibromatosis II

D. Tuberous sclerosis

Answer: C

Neurofibromatosis II is autosomal dominant disease. There are bilateral acoustic schwannomas, juvenile cataracts, meningiomas, and ependymomas. Acoustic neuroma presents unilaterally and associated with tinnitus, vertigo or involvement of facial nerve. Neurofibromatosis I is associated with neurogliomas, cafe au lait spots, lisch nodules and

pheochromocytomas. Tuberous sclerosis is multisystem disease with various hamartomas.

878. The World Health Organization recommends zinc supplements for which groups of people?

A. All children in low income areas with high prevalence of stunting

B. Children with severe malnutrition or diarrhea

C. Elderly people with low incomes

D. Pregnant and lactating women

Answer: B

Zinc supplementation has been shown to reduce the duration and severity of diarrhoea, and to prevent subsequent episodes.

879. Rickets in infancy is characterized by the following except :

A. Bow legs

B. Craniotabes

C. Rachitic rosary

D. Wide open fontanelles

Answer: A

Bow legs appear only after the child starts walking – due to weight bearing effect.

880. Which of the following is not a true statement regarding cystic fibrosis–associated liver disease?

A. In many cases the course is benign and does not contribute significantly to morbidity or mortality.

B. Patients with cystic □brosis have an increased risk of gallstones.

C. The genetic defect in cystic □brosis results in the production of thick, viscous secretions in the hepatobiliary system.

D. Therapy with ursodeoxycholic acid has been associated with improvement in clinical liver disease as well as biochemical parameters.

E. This condition is more commonly seen in females.

Answer: E

Cystic fibrosis is a multisystem disease that results from a genetic defect in the cystic fibrosis transmembrane conductance regulator, a chloride channel found in the respiratory, intestinal, and biliary epithelium. This defect leads to the accumulation of thick mucus in these organs. Liver disease in cystic fibrosis occurs in several different forms and affects up to 50% of patients. In most cases, the course is benign and does not progress to end-stage liver disease. However, a minority of patients may develop biliary cirrhosis and associated complications. They may also develop complications of the biliary system such as gallstones and sludge in the gallbladder. This condition is seen more commonly in males by a ratio of 3:1. Ursodeoxycholic acid decreases the viscosity of bile and displaces hepatotoxic bile acids,

and has been shown to be beneficial in cystic fibrosis–associated liver disease.

881. Which of the following is the drug of choice for a child with absence seizures?

A. Carbamazepine

B. Ethosuximide

C. Lamotrigine

D. Phenytoin

Answer: B

Absence seizures (AS) constitute about 10% of seizures in children with epilepsy. The Commission on Classification and Terminology of the International League Against Epilepsy recognizes four epileptic syndromes with typical AS: childhood absence epilepsy; juvenile absence epilepsy; juvenile myoclonic epilepsy and myoclonic absence epilepsy. Valproate and ethosuximide are the most commonly used drugs for AS. Non-systematic reviews have suggested that ethosuximide and sodium valproate are equally effective. Lamotrigine used to be considered a second line drug, reserved for intractable AS, but its use has increased with time. It is especially valued in situations where sodium valproate leads to weight gain and also for women of childbearing age. The latter is due to concern about a higher rate of fetal abnormalities in pregnancies exposed to valproate. Preliminary studies suggested that lamotrigine may become a first line drug in AS.

882. Which of the following is a right to left shunt?

A. ASD

B. PDA

C. Tetralogy of Fallot

D. VSD

Answer: C

Congenital heart disease is classified by the presence or absence of cyanosis.Acyanotic "Left to right shunt":

1-VSD

2-ASD

3-PDACyanotic

"Right to left shunt":

1-Tetralogy of Fallot

2-Tricuspid atresia

3- Transposition of the great vessels

4-Truncus arteriosus

5-Total anomalous pulmonary venous drainage

883. Which of the following is the most common cause of cyanotic congenital heart disease?

A. Coarctation of the aorta

B. Hypoplastic left heart syndrome

C. Pulmonary atresia

D. Tetralogy of Fallot

Answer: D

Tetralogy of Fallot "TOF" is the most common cause of cyanotic congenital heart disease.TOF Characterized by 4 anomalies that result from deviation of the infundibular septum in utero:

1. Right ventricular outflow tract obstruction (pulmonary stenosis or atresia)

2. Right ventricular hypertrophy

3. Overriding aorta

4. Ventricular septal defect (VSD)

Clinical Presentation

1. Cyanosis at birth (severe RVOT obstruction)

2. Murmur

3. Paroxysmal hypercyanotic attack (Blue or Tet spell) Chest radiography Boot shaped heart (Coeur en sabot)

Treatment

1. Cyanosis in newborn: Prostaglandin E in neonates with severe obstruction

2. Surgical correction electively within first year of life

884. A patient presented to you complaining of aphonia. He has history of depression for which he was taking fluoxetine. On laryngoscopy, the bowed vocal folds failed to adduct to the midline during phonation. But they were adducted during coughing. What is the most likely diagnosis?

A. Bilateral recurrent laryngeal nerve injury

B. Carcinoma involving vocal cords

C. Functional aphonia

D. Vocal nodules

Answer: C

Psychogenic aphonia is often seen in patients with underlying psychological problems. Laryngeal examination will usually show bowed vocal folds that fail to adduct to the midline during phonation. However, the vocal folds will adduct when the patient is asked to cough. HPV nodules on vocal cord cause gradual decrease in the voice. Patient can speak in low voice. In carcinoma of the larynx, there is gradual loss of voice due to peripheral invasion NOT a sudden loss of voice. Bilateral recurrent laryngeal nerve injury results from accidental damage during thyroid surgery.

885. Secondary hypertension in children is most commonly caused by:

A. Adrenal tumors

B. Renal artery stenosis

C. Renal disease

D. Systemic vasculitis

Answer: C

In children 75-90% cases of hypertension' are due to underlying renal parenchymal disease primarily acute glomerulonephritis.

886. Child with epiglottitis, x-ray shows a swollen epiglottis. What is the first thing you're going to do?

A. C-Spine X-ray

B. Cricothyroidotomy

C. Endotracheal intubation

D. Nasopharyngeal tube

Answer: C

If epiglottitis is suspected, an otolaryngologist or general surgeon, as well as an anesthesiologist, should be consulted immediately. While in the emergency department (ED), the child should be kept as calm as possible. Laryngoscopy in the ED is discouraged. Ideally, the child should be taken to the operating room to secure the airway; no diagnostic tests are required before proceeding to the operating room. In addition, because the child should be admitted to an intensive care unit, the intensivist must be consulted.

887. A 14-year-old female adolescent who has severe juvenile rheumatoid arthritis presents to your office with epigastric abdominal pain. Six weeks earlier she began taking a nonsteroidal anti-inflammatory drug (NSAID) because of worsening joint

complaints. The most appropriate initial management of her symptoms would be which of the following?

A. Administration of a proton pump inhibitor

B. Administration of an antibiotic effective against Helicobacter pylori

C. Dietary modification

D. Substitution of salicylate for NSAID

E. Upper endoscopy and gastric biopsy for gastric adenocarcinoma

Answer: A

Acute and chronic ingestion of NSAIDs has been associated with gastritis and mucosal ulceration that can result in upper gastrointestinal blood loss. The toxic consequences of NSAID use are the result of both direct topical injury and systemic effects, resulting in an imbalance of the gastric mucosal aggressive and protective mechanisms. As potent inhibitors of prostaglandin synthesis, NSAIDs decrease mucosal bicarbonate and mucus production, reduce mucosal blood flow, interfere with neutrophil adherence, and inhibit gastric acid production. Enterohepatic recirculation of NSAIDs also may be important in the development of mucosal injury. The effects of NSAIDs on platelet aggregation further potentiate bleeding and may interfere with the normal healing process of the upper gastrointestinal tract.

888. Which of the following is the causative organism of pertussis ?

A. Bordetella Pertussis

B. Parainfluenza virus

C. Staphylococcus aureus

D. Streptococcus pneumoniae

Answer: A

1. Pertussis, also known as “whooping cough,” is a highly contagious, acute respiratory illness caused by Bordetella pertussis.

2. Pertussis is a small gram negative coccobacillus that infects only humans.

3. Pertussis is spread by aerosol droplets expelled while coughing or sneezing in proximity to others.

4. Incubation period of 7–14 days.

Infection with B. pertussis in individuals without immunity is characterized by three phases: the catarrhal phase, the paroxysmal phase and the convalescent phase.

1. Catarrhal phase: The catarrhal phase is the earliest phase of illness; it lasts one to two weeks and is characterized by non-specific symptoms including generalized malaise, rhinorrhea, and mild cough; mild temperature elevations may be present, but high fever is uncommon

2. Paroxysmal phase: The paroxysmal stage begins during the second week of illness. The hallmark symptom, paroxysmal cough, is a series of severe, vigorous coughs that occur during a single expiration

3. Convalescent phase: The convalescent phase is characterized by a gradual reduction in the frequency and severity of cough. It usually lasts one to two weeks, but may be prolonged.

Diagnosis:

1. Labs show an elevated WBC count with lymphocytosis

2. Culture is the gold standard.

3. PCR is beginning to replace culture as the diagnostic test of choice for B. pertussis in many clinical settings.

Complications of pertussis

1. Pertussis is most severe in infants < age 6 months

2. Apnea

3. Pneumonia

4. Seizures

5. Encephalopathy

6. Death

889. You are referred a 3-month-old child from a day care center staff who noticed bruising on the infant's buttocks during a diaper change. The parents and other caretakers deny any history of trauma. The child appears well on examination, and is interactive and playful. Although you are concerned about abusive injuries given the location of the bruising, you create a differential diagnosis. Your differential diagnosis would most likely not include which of the following?

A. Acute lymphocytic leukemia

B. Dermal melanocytosis

C. Henoch-Schonlein purpura

D. Idiopathic thrombocytopenic purpura

E. Vitamin A de□ciency

Answer: E

Buttock bruises are concerning for child abuse in many cases. The differential diagnosis for bruises can include a number of acute or chronic medical conditions. Henoch-Schonlein purpura is a disease that can cause abdominal and joint pain, as well as purpura, often on the buttocks, which may be mistaken for bruising. Abnormalities affecting the coagulation process such as idiopathic thrombocytopenic purpura, an autoimmune disorder leading to platelet destruction resulting in decreased platelet counts, can increase the propensity to bruise easily. Similarly, a bone marrow infiltrative process such as acute lymphocytic leukemia can present with easy bruising. Birthmarks such as dermal melanocytosis (previously called Mongolian spots) are often located in the buttocks area, and can easily be mistaken for bruises. Bruising may be associated with malnutrition, such as de□ciencies of vitamins B 12 , C, K, or folic acid. However, vitamin A is not likely to be a cause of easy bruising by itself.

890. Which of the following is a cause of painless lower gastrointestinal bleeding in an infant?

A. Anal fissure

B. Infectious colitis

C. Intestinal duplication

D. Intussusception

E. Malrotation with volvulus

Answer: C

Painless lower gastrointestinal bleeding in an infant may be caused by Meckel diverticulum, intestinal duplication, or lymphonodular hyperplasia. Other causes of lower gastrointestinal bleeding in infants

who typically present with apparent abdominal pain include infectious colitis, malrotation with volvulus, anal □ssure, and intussusception.

891. You are standing in the market when you saw a person having sudden nosebleed? What will be the first step in controlling his epistaxis?

A. Lying side ways

B. Nasal packing

C. Pinching fleshy part together

D. Vasoconstrictor

Answer: C

Epistaxis, is usually caused by minimal trauma to the Kieselback's plexus or hypertension. The best initial step in non-hospital setting is to pinch the fleshy parts of nose altogether for few minutes till bleeding stops. The best initial approach in hospital setting is nasal packing. If a comatosed patient suddenly have nosebleed, then it is best to lay him in side ways so that blood comes out instead of going inside his lungs. Vasoconstrictors have minimum role in controlling nosebleeds.

892. For autosomal dominant disorders, recurrence risk decreases by onehalf for each successive degree of a relationship. Comparably, recurrence risk for multi factorial disorders:

A. Falls off more rapidly as genetic distance increases

B. Increases with descendant generations

C. Is inherited only through the maternal line

D. Is not affected by degree of relationship

E. Remains above background for all relatives of the more commonly affected sex

Answer: A

In contrast to most single-gene diseases, recurrence risks for multifactorial diseases can change significantly from one population to another because gene frequencies, as well as environmental factors, can differ among populations.

893. A 9-year-old boy is brought to the doctor because of acute sinusitis.He has a history of chronic diarrhea and recurrent pulmonary infections. The sweat chloride test is positive. Which of the following is the most likely diagnosis?

A. Aspergillosis

B. Bronchiectasis

C. Cystic Fibrosis

D. Wegener's granulomatosis

Answer: C

1. Cystic fibrosis (CF) is a disease of exocrine gland function that involves multiple organ systems but chiefly results in chronic respiratory infections, pancreatic enzyme insuficiency, and associated complications in untreated patients.

2. Autosomal recessive disorder caused by defect in chloride-pumping channel in exocrine glands; ducts of exocrine glands (e.g., lungs, pancreas, reproductive glands) become clogged with thick secretions

3. Cystic fibrosis is caused by one of a large number of mutations of the gene for a protein called the cystic fibrosis transmembrane conductance regulator (CFTR), which regulates chloride and sodium transport across epithelial membranes.

4. Other major consequences include pancreatic malfunction, leading to malabsorption of nutrients and vitamins with consequent impaired growth and development, and, in older patients, diabetes.

5. Clinical features include: recurrent pulmonary infections (e.g., Pseudomonas, Staphylococcus aureus), dyspnea, hemoptysis, chronic sinusitis, cough, meconium ileus at birth, steatorrhea, failure to thrive; cyanosis, digital clubbing, esophageal varices, rectal prolapse

6. Confirmed by a sweat test showing elevated sweat chloride on ≥ 2 occasions

7. Treatment is supportive through aggressive multidisciplinary care along with small-molecule correctors and potentiators targeting the cystic fibrosis transmembrane conductance regulator protein defect

894. All of the following are true about necrotizing enterocolitis except:

A. Human milk reduces the incidence

B. Pneumatosis intestinalis is an important diagnostic radiologic sign

C. Prematurity is the greatest risk factor

D. Surgeons need not be involved until there is evidence of intestinal perforation

Answer: D

Surgeons should be involved early to help in the management and to discuss indications for surgery, including evidence of perforation and failure to respond to medical management. Placement of an abdominal drain with peritoneal lavage may also help in the management of a sick VLBW infant.

895. Which of the following statements regarding congenital imperforate anus is correct?

A. All patients with anorectal malformations require a staged repair, including placement of a temporary diverting colostomy.

B. Children with “high” anorectal defects are more likely to successfully achieve continence than those with “low” lesions.

C. Congenital anorectal anomalies usually occur in isolation and are not associated with increased incidence of other lesions.

D. Long-term problems with fecal incontinence or constipation are rare.

E. The most common congenital anomaly of the anorectum in males is an imperforate anus with a fistula between the distal anorectum and the urethra.

Answer: E

The spectrum of anorectal malformations ranges from lesions such as anal stenosis to persistent cloaca. Many of these conditions share a common □nding of imperforate anus, orlack of a visible normal anal opening onto the perineum. The most common defect is an imperforate anus with a fistula between the distal anorectum and urethra in boys, or the vestibule in girls. The terms “high” and “low” are used to describe the location of the distal rectum and anal canal, respectively, relative to

the perineum. In high lesions, the rectum ends above the levator muscle. In low lesions, the rectal pouch completely crosses the levator musculature and a fistula is usually evident on the skin. Congenital anorectal anomalies often coexist with other lesions.

Newborns should undergo evaluation for other congenital lesions such as vertebral and sacral anomalies and genitourinary abnormalities. In terms of repair, the newborn infant with anal stenosis, perineal fistula, or an anteriorly displaced anus can usually undergo a primary, singlestage procedure without a colostomy. Patients with more complex anorectal malformations, meconium-stained urine, or other lifethreatening anomalies require an initial colostomy, as the first part of a 3-stage reconstruction. The most common postoperative complications seen in children with anorectal malformations include constipation, soiling, and incontinence. Patients with “low” lesions and a normal sacrum usually have the best prognosis with regards to continence.

896. Which of the following children is most likely to have intussusceptions as a cause of intestinal obstruction?

A. A 1 year old toddler

B. A 14 year old adolescent

C. A 5 year old child

D. A 7 day old neonate

Answer: A

Intussusception is the most common cause of intestinal obstruction in infants between 6 and 36 months of age. Approximately 60 percent of children are younger than one year old, and 80 to 90 percent are younger than two years [3]. Intussusception is less common before

three months and after six years of age. When it does occur in these younger or older age groups it is more likely to be associated with a lead point.

897. You are rounding on a 14-year-old boy admitted to the pediatric ward yesterday for periorbital cellulitis of the right eye. On history his family reports that he frequently has sinus problems and seasonal allergies.

A. Begin topical ophthalmic steroid therapy.

B. Change his antibiotic to IV cefotaxime.

C. Change his antibiotic to IV vancomycin.

D. Obtain an aspirate at the point of maximal periorbital skin inflammation.

E. Obtain an imaging of the orbit.

F. The patient was started on oral clindamycin yesterday morning, but today shows signs of mild proptosis and chemosis that were not present at admission. The next best step is to:

Answer: E

The boy in the clinical scenario likely has periorbital cellulitis secondary to contiguous structures, namely, his sinuses. Worsening while on antibiotic therapy and proptosis, in addition to ophthalmoplegia, decreased visual acuity, bilateral periorbital edema, and inability to evaluate the eye secondary to edema, are indications to image the orbit to evaluate for subperiosteal involvement, such as an abscess, which may not be responding to antibiotic therapy. If orbital involvement is discovered, emergent ophthalmologic consultation for drainage is necessary. It may become necessary to change his

antibiotics to more broadly cover pathogens such as MRSA and gramnegative species; however, changing to vancomycin or cefotaxime alone may not offer sufficiently broad coverage. Topical ophthalmic steroid drops are not indicated at this time as the chemosis is likely secondary to the patient's infection. Aspirates of skin at the point of maximal inflammation are sometimes recommended for patients with cellulitis, but are rarely performed even in those cases.

898. A 4-year-old boy is brought to the emergency room by his parents with 2-day history of diarrhea followed by progressing ascending weakness and loss of deep tendon reflexes with CSF showing elevated protein.Which of the following is the most likely diagnosis?

A. Duchenne's muscular dystrophy

B. Guillain Barre syndrome

C. Sturge Weber syndrome

D. Transverse myelitis

Answer: B

Guillain-Barré syndrome: autoimmune demyelinating disorder of peripheral nerves associated with recent viral infection, surgery, or vaccination (rare)

Clinical features:

1. Rapidly progressive bilateral weakness initially in distal extremities in "stocking-glove" distribution and extending proximally with decreased sensation and possible absent DTRs; possible severe neuropathic pain

2. Recent history of viral infection, vaccination, or surgery

3. Blood pressure, heart rate, or core temperature may be labile.

4. Severe cases may include respiratory muscle weakness.

Diagnosis: LP shows increased protein with normal pressure and glucose.

Treatment: self-resolving within 1 month; plasmapheresis or IV immunoglobulin may accelerate resolution; patients must be watched for signs of respiratory failure; adequate analgesia for neuropathic pain.

899. A 5-year-old child presents with watery diarrhea with streaks of blood. Associated symptoms include cramping abdominal pain,loss of appetite,and fever. All the symptoms were present for 7days. Microscopic examination of fresh stool showed intracytoplasmic RBCs in trophozoites. These findings are consistent with infection by which of the following parasites?

A. Cryptosporidium parvum

B. Don't know

C. Entamoeba histolytica

D. Giardia lamblia

E. Isospora bell

Answer: C

Amebic colitis is gradual in onset, with symptoms presenting over 1-2 weeks; this pattern distinguishes this condition from bacterial

dysentery. Diarrhea is the most common symptom. Patients with amebic colitis typically present with cramping abdominal pain, watery or bloody diarrhea, and weight loss or anorexia. Fever is noted in 10-30% of patients. Microscopic examination of fresh stool smears for trophozoites that contain ingested red blood cells (RBCs) is commonly done (see the image below). The presence of intracytoplasmic RBCs in trophozoites is diagnostic of E histolytica infection.

900. Scenario: A 13 year old develops bloody diarrhea, abdominal pain and vomiting after eating from a restaurant. History of hematuria. Lab results shows anemia. What is the most likely diagnosis?

A. Amoebic dysentry

B. E.coli

C. Food poisoning

D. Hemolytic uremic syndrome

Answer: D

HUS is characterized by progressive renal failure, microangiopathic hemolytic anemia (MAHA), and thrombocytopenia. In typical HUS, diarrhea usually occurs.

901. Which of the following is the mode of inheritance in adult polycystic kidney disease?

A. Autosomal dominant

B. Autosomal recessive

C. Multifactorial

D. X-linked recessive

Answer: A

Polycystic Kidney Disease

Hereditary syndrome characterized by the formation of cysts in one or both kidneys leading to eventual kidney functional impairment and failure

Types

1. Autosomal dominant: most common form; affects adults; large multicystic kidneys that function poorly

2. Autosomal recessive: rare form; presents in children; fatal in initial years of life (without transplant)

Signs and symptoms

Pain in the abdomen, flank, or back—is the most common initial complaint, and it is almost universally present in patients with ADPKD.

Dull aching and an uncomfortable sensation of heaviness may result from a large polycystic liver.

The pain can be caused by any of the following:

1. Enlargement of one or more cysts

2. Bleeding: May be con□ned inside the cyst or lead to gross hematuria with passage of clots or a perinephric hematoma

3. UTI (eg, acute pyelonephritis, infected cysts, perinephric abscess)

4. Nephrolithiasis and renal colic

5. Rarely, a coincidental hypernephroma

Examination in patients with ADPKD may demonstrate the following:

1. Hypertension: One of the most common early manifestations of ADPKD,

2. Palpable, bilateral flank masses: In advanced ADPKD

3. Nodular hepatomegaly: In severe polycystic liver disease

Treatment: No specific medication is available for ADPKD.

902. A 10-year-old boy has 3 years history of recurrent sudden brief episodes of blank staring and loss of awareness to surroundings. The attacks occur many times a day and can be induced by hyperventilation. The EEG showed 3 HZ spikes and waves generalized discharges.Which of the following is the most likely diagnosis?

A. Absence seizures

B. Atypical absence seizures

C. Complex partial seizures

D. Generalized tonic clonic seizures

Answer: A

What is an absence seizure? An absence seizure causes a short period of “blanking out” or staring into space. Like other kinds of seizures, they are caused by brief abnormal electrical activity in a person’s brain. An absence seizure is a generalized onset seizure, which means it

begins in both sides of the brain at the same time.Absence epilepsy is an idiopathic epilepsy characterized by dialeptic seizures associated with bilateral synchronous and symmetric spike-and-wave discharges at 3 Hz as defined by the International League Against Epilepsy

903. A 7-day old child presents with redness, warmth, swelling, and pain around the umbilical stump. Clinically, the infant has fever, tachycardia, and hypotension. What is the most likely diagnosis?

A. Omphalitis

B. Omphalomesenteric cyst

C. Umbilical granuloma

D. Urachal cyst

Answer: A

Omphalitis of newborn is the medical term for inflammation of the umbilical cord stump in the neonatal newborn period, most commonly attributed to a bacterial infection.[1] Typically immediately after an infant is born, the umbilical cord is cut with a small remnant (often referred to as the stump) left behind. Normally the stump separates from the skin within 3–45 days after birth.[2] A small amount of puslike material is commonly seen at the base of the stump and can be controlled by keeping the stump open to air to dry.[3] Certain bacteria can grow and infect the stump during this process and as a result significant redness and swelling may develop, and in some cases the infection can then spread through the umbilical vessels to the rest of the body.

904. Which of the following conditions will worsen with prolonged infusion of prostaglandin E?

A. Hypoplastic left heart syndrome

B. Interrupted aortic arch syndrome

C. Obstructed TAPVC

D. Pulmonary atresia without VSD

Answer: C

Ans. B Obstructed TAPVC Ductal Dependent Cardiac Lesions I. Left sided heart lesions – Systemic blood flow is dependent upon ductal patency a. coarctation of the aorta b. interrupted aortic arch c. hypoplastic left heart syndrome II. Right sided heart lesions – pulmonary blood flow is dependent on ductal patency a. tetralogy of Fallot b. transposition of great vessels c. tricuspid atresia d. pulmonary stenosis/atresia Prolonged infusion of prostaglandin E will keep ductus patent, thereby beneficial in patients with ductal dependent cardiac lesions (options A, C, D) but not in patients with Obstructed TAPVC. In TAPVC patent ductus will further increase pulmonary blood flow, which is already increased in TAPVC, thereby worsening the clinical status of patient.

905. A 2-week-old term breastfed infant presents to the emergency department with a 6-hour history of bilious emesis. His father states he had been feeding well and passing soft, yellow bowel movements several times a day up until the onset of emesis. Examination reveals a non-distended abdomen; however, the infant cries when you attempt to palpate the abdomen and is somewhat

difficult to console afterwards. Vital signs are within age-appropriate norms and the infant has brisk distal capillary refill.

The radiologic study with the highest diagnostic yield for this patient is:

A. Abdominal ultrasound

B. CT scan

C. Contrast enema

D. Plain abdominal film

E. Upper GI contrast study

Answer: E

This infant most likely has volvulus with intestinal malrotation, which most commonly presents in the first week of life but can occur at any age. An infant with volvulus typically has progressive bilious emesis and pain out of proportion to the examination without initial abdominal distension; if the volvulus is not detected and addressed, the patient may later develop abdominal distension and hemodynamic instability.

In this hemodynamically stable infant with suspected volvulus, an emergent upper GI contrast study should be obtained and is diagnostic if malrotation with volvulus is present. Abdominal ultrasound is diagnostic for hypertrophic pyloric stenosis. Plain abdominal film can help diagnose various causes of neonatal intestinal obstruction, including necrotizing enterocolitis, meconium ileus, congenital duodenal obstruction, or distal intestinal obstruction. Contrast enema can help diagnose intussusception, Hirschsprung disease, or intestinal stricture. CT scan is rarely useful in initial diagnosis of causes of neonatal intestinal obstruction and will expose the infant to harmful ionizing radiation.

906. A 12-year-old female presents with a rash bilaterally on her trunk and proximal extremities. The lesions are 1 or 2 cm in size, oval in shape, and have a ring of fine scale along the edges. One of the lesions is 4 cm in size and similar in appearance. The patient has had no prior skin problems and is asymptomatic with this rash. Which of the following is the most likely diagnosis?

A. Herpes zoster

B. Lichen planus

C. Pityriasis rosea

D. Warts

Answer: C

1. Pityriasis rosea is a self-limited, inflammatory disease characterized by diffuse, scaling papules or plaques.

2. Pityriasis rosea (PR) most commonly occurs between ages 10 and 35. It affects women more often. The cause may be viral infection (some research has implicated human herpesviruses 6, 7, and 8).

3. The condition classically begins with a single, primary, 2- to 10-cm herald patch that appears on the trunk or proximal limbs. A general centripetal eruption of 0.5- to 2-cm rose- or fawn-colored oval papules and plaques follows within 7 to 14 days.

4. The lesions have a scaly, slightly raised border (collarette) and resemble ringworm (tinea corporis).

5. Treatment is usually unnecessary.

907. What is the causative organism of croup or typical symptoms of croup (laryngotracheobronchitis)?

A. Measles virus

B. Noravirus

C. Parainfluenza virus

D. Respiratory Syncytial virus (RSV)

Answer: C

Explanation: Croup is usually caused by viruses. Bacterial infection may occur secondarily. Parainfluenza virus type 1 is the most common cause of croup; other causes include respiratory syncytial virus and influenza virus.

●Croup most commonly occurs in children 6 to 36 months of age. Most cases occur in the fall or early winter.

Treatment:

Orally administered corticosteroids are the mainstay for all levels of severity, combined with nebulised epinephrine (adrenaline) in moderate to severe croup to provide temporary relief of the symptoms of upper-airway obstruction.

908. 4 weeks old male child with acute onset forceful non-billious vomiting after feeding. He is the first child in the family. He is gaining normal weight and looks hungry. What's your diagnosis :

A. Intussusseption

B. biliary atresia

C. gastroenteritis

D. pyloric stenosis

Answer: D

Hypertrophic pyloric stenosis (HPS) causes a functional gastric outlet obstruction as a result of hypertrophy and hyperplasia of the muscular layers of the pylorus. In infants, hypertrophic pyloric stenosis is the most common cause of gastric outlet obstruction and the most common surgical cause of vomiting. Features of the history in infants with hypertrophic pyloric stenosis are as follows: Typical presentation is onset of initially nonbloody, usually nonbilious vomiting at 4-8 weeks of age [1] Although vomiting may initially be infrequent, over several days it becomes more predictable, occurring at nearly every feeding Vomiting intensity also increases until pathognomonic projectile vomiting ensues Slight hematemesis of either bright-red flecks or a coffee-ground appearance is sometimes observed Patients are usually not ill-looking or febrile; the baby in the early stage of the disease remains hungry and sucks vigorously after episodes of vomiting

Prolonged delay in diagnosis can lead to dehydration, poor weight gain, malnutrition, metabolic alterations, and lethargy Parents often report trying several different baby formulas because they (or their physicians) assume vomiting is due to intolerance

909. An 18-month-old male is brought to the ED for evaluation of a brief episode of tonic–clonic extremity movements immediately after a spanking in the grocery store. The child reportedly screamed, became limp and pale, fell to the ground, and exhibited the unusual movements. The episode lasted about 1 min and occurred about 30 min before. The toddler is now interactive, appears healthy, and has normal vital signs. What is the MOST likely diagnosis ?

A. Breath-holding spell

B. Head trauma

C. Idiopathic (afebrile) seizure of childhood

D. Prolonged QT syndrome

E. Toxic ingestion

Answer: A

Breath-holding spells occur in 5% of otherwise healthy children. They usually begin in the first year of life and peak at age 2. They disappear by age 4 in 50% of children and by age 8 in about 83% of children. The remainder may continue to have spells into adulthood. Breath-holding spells do not appear to be risk factors for true epilepsy but may be associated with an increased risk of fainting spells in adulthood. There are 2 forms of breath-holding spells: Cyanotic form: This form is the most common and often occurs as part of a temper tantrum or in response to a scolding or other upsetting event. Pallid form: This form typically follows a painful experience, such as falling and banging the head, but can follow frightening or startling events. During a pallid breath-holding spell, vagal stimulation severely slows the heart rate. The child stops breathing, rapidly loses consciousness, and becomes pale and limp. If the spell lasts more than a few seconds, muscle tone increases, and a seizure and incontinence may occur. After the spell, the heart speeds up again, breathing restarts, and consciousness returns without any treatment. Because this form is rare, further diagnostic evaluation and treatment may be needed if the spells occur often. Simultaneous ECG and EEG can help to differentiate cardiac and neurologic causes.

910. A child prefers to use his right hand to pick up objects, runs and is beginning to climb steps, says about 15 words, and can feed himself with a spoon. The developmental age of this child is most consistent with:

A. 10 months

B. 15 months

C. 18 months

D. 24 months

E. 30 months

Answer: C

Infants are ambidextrous until about 18 months when handedness becomes apparent. Running occurs between 15 and 20 months.

Expressive language is highly variable in the first 2 years of a child's life. At 18 months, a child can say 5 to 30 words. Self-feeding is a sign of emerging independence. A spoon is usually used effectively between 15 and 20 months.

911. Which of the following vaccines is contraindicated in a child with progressive neurological problems?

A. Dtap

B. Hib vaccine

C. Pneumococcal conjugate vaccine

D. Varicella

Answer: A

Contraindications:

1) Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine Component

2) Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP or DTaP

Precautions:

1) Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clari□ed and stabilized2)

Temperature of ≥105°F (≥40.5°C) within 48 hours after vaccination with a previous dose of DTP or DTaP3) Collapse or shock-like state (i.e., hypotonic hyporesponsive episode) within 48 hours after receiving a previous dose of DTP/DTaP4) Seizure ≤3 days after receiving a previous dose of DTP/DTaP5) Persistent, inconsolable crying lasting ≥3 hours within 48 hours after receiving a previous dose of DTP/DTaP6) GBS <6 weeks after previous dose of tetanus-toxoid–containing vaccine7) History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine8) Moderate or severe acute illness with or without fever

912. A 4-year-old male presents with a crusting golden-colored lesion associated with erythema around his nares. The onset of this occurred in association with an upper respiratory infection, which is now resolving. The lesion is slightly tender to touch. Which of the following is the likely diagnosis for this lesion?

A. Atopic dermatitis

B. Contact Dermatitis

C. Impetigo

D. Varicella-Zoster Virus

Answer: C

Impetigo: Contagious skin infection most commonly found in children; caused by S. aureus or group A streptococci

H/P: facial pruritus; yellow crusted lesions around mucocutaneous surfaces; erythematous vesicles (blisters) seen in staphylococcal infection; erythematous pustules on face and extremities with streptococcal infections.

Treatment: wash all affected areas; erythromycin, cephalosporins, or topical antibiotics; unaffected family members should not share towels or clothing to prevent spread until cure achieved

913. A 3-mo-old female infant has a history of poor feeding, shortness of breath during feedings, failure to thrive, and chronic cough. Physical examination reveals tachycardia and a gallop rhythm but no murmur. There is hepatomegaly but no cyanosis. A chest radiograph reveals cardiomegaly.

The most appropriate diagnostic test is:

A. Blood culture

B. Echocardiogram

C. Electrocardiogram

D. Serum amino acids

Answer: B

The differential diagnosis includes myocarditis, cardiomyopathies, anomalous coronary arteries, and arteriovenous malformations in the

liver or brain. The echocardiogram reveals poor contractibility and a dilated cardiomyopathy

914. A 7-month-old girl is brought to the doctor with an erythematous rash that spares the skin folds of the groin area. Which of the following is the most likely diagnosis?

A. Atopic dermatitis

B. Contact Dermatitis

C. Diaper dermatitis

D. Seborrheic dermatitis

Answer: C

Candidal Diaper Dermatitis

Clinical presentation

1. Lesions consist of beefyÂ red plaques, often with scalloped borders.

2. Satellite papules and pustules may be observed surround ing the plaques.

3. Maceration is often present, especially in intertriginous areas.

Treatment

1. Once daily oral fluconazole is superior to oral nystatin for resistant thrush and effective candidal diaper dermatitis.

2. Topical clotrimazole if resistant to topical nystatin.

915. A 6 year old child presents to the ER with a history of fall without losing consciousness. He vomited twice and is crying and complaining of a headache. What should you do?

A. CT Head

B. Close observe

C. Skull xray

D. give analgesia and send home

Answer: A

Indications for CT scanning in a patient with a head injury include anisocoria, GCS score less than 12 (some studies suggest CT scanning in any pediatric patient with a GCS score of < 15), posttraumatic seizures, amnesia, progressive headache, an unreliable history or examination because of possible alcohol or drug ingestion, loss of consciousness for longer than 5 minutes, physical signs of basilar skull fracture, repeated vomiting or vomiting for more than 8 hours after injury, and instability after. multiple trauma

916. Which of the following bone neoplasms is associated with a characteristic chromosomal translocation?

A. Eosinophilic granuloma

B. Ewing sarcoma

C. Fibrous dysplasia

D. Osteosarcoma

Answer: B

A specific chromosomal translocation, t(11;22), or a variant thereof, is present in most cases of the Ewing family of tumors.

917. A 5-year-old child is brought to the clinic after his mother noticed blue discoloration of his fingernails. Physical examination shows perioral cyanosis and a systolic murmur along the left sternal border. When the child squats, the loudness of the murmur increases and the cyanosis improves.

Which of the following suggests a diagnosis of tetralogy of fallot?

A. A mediastinal mass on chest x-ray

B. ECG will show left axis deviation and left ventricle hypertrophy.

C. ECG will show right axis deviation and right ventricle hypertrophy.

D. The ECG will show a superior axis deviation.

Answer: C

1. Tetralogy of Fallot consists of 4 features: a large ventricular septal defect, right ventricular outflow tract and pulmonary valve obstruction, right ventricular hypertrophy, and over-riding of the aorta.

2. Manifestations depend on the degree of right ventricle outflow obstruction; severely affected neonates have marked cyanosis, dyspnea with feeding, poor weight gain, and a harsh grade 3 to 5/6 systolic ejection murmur.

3. Symptoms include cyanosis, dyspnea with feeding, poor growth, and hypercyanotic "tet" spells (sudden, potentially lethal episodes of severe cyanosis).

4. Squatting improves cyanosis and increases the intensity of systolic murmur.

5. A harsh systolic murmur at the left upper sternal border with a single 2nd heart sound (S2) is common.

6. Diagnosis of tetralogy of Fallot is suggested by history and clinical examination.

7.The ECG will show right axis deviation and right ventricle hypertrophy. A boot-shaped heart with normal heart size and decreased pulmonary venous markings will appear on the chest x-ray.

7. Give neonates with severe cyanosis an infusion of prostaglandin E1 to open the ductus arteriosus.

8. Definitive treatment is surgical repair.

9. Repair surgically at 3 to 6 mo or earlier if symptoms are severe.

918. A 3-year-old boy is brought to the emergency room with abdominal pain, vomiting and bloody stool. Ultrasound showed doughnut sign. Which of the following is the most appropriate management for this patient?

A. Air contrast enema

B. Observation

C. Plain film of the abdomen

D. Urgent surgery

Answer: A

1. Intussusception is the most common cause of intestinal obstruction in infants between 6 and 36 months of age.

2. Intussusception refers to the invagination (telescoping) of a part of the intestine into itself. It is the most common abdominal emergency in early childhood, particularly in children younger than two years of age

3. The hallmark physical findings in intussusception are a right hypochondrium sausage-shaped mass and emptiness in the right lower quadrant (Dance sign). This mass is hard to detect and is best palpated between spasms of colic, when the infant is quiet. Abdominal distention frequently is found if the obstruction is complete.

4. Intussusception is unusual in adults, and the diagnosis is commonly overlooked. In the majority of cases in adults, a pathologic cause is identified.

5. Sudden abdominal pain that lasts 1 min and is episodic; pallor, sweating, vomiting, bloody mucus in stool (i.e., currant jelly stool); abdominal tenderness; palpable, sausage-like abdominal mass

6.Ultrasound is the best initial test and will show a doughnut sign or target sign.

Treatment:

 1. Air enemas are preferred because they are typically faster and safer than contrast.

1. Barium enema may reduce defect

2. If the enema fails, surgery must be performed to reduce the intussusceptions

919. Which of the following statements is False regarding systemic-onset juvenile idiopathic arthritis?

A. All of the above

B. Extra-articular manifestations like fever and rash

C. Is also known as Juvenile onset-Still disease

D. Males ans females are equally affected

Answer: A

Systemic-onset juvenile idiopathic arthritis (also known as systemic juvenile idiopathic arthritis (sJIA) or the juvenile onset form of Still's disease[1]) is a type of juvenile idiopathic arthritis (JIA) with extraarticular manifestations like fever and rash apart from arthritis.

Systemic JIA is characterized by arthritis, fever, which typically is higher than the low-grade fever associated with polyarticular and a salmon pink rash. It accounts for 10-20% of JIA and affects males and females equally, unlike the other two subtypes of JIA, and affects adolescents. It generally involves both large and small joints.

920. An infant is born to an HIV-positive mother with low viral counts who is on antiretroviral therapy during the pregnancy, and who is delivered via caesarean section. The patient is initially started on zidovudine monotherapy. The optimal schedule for HIV testing in this newborn would be:

A. HIV DNA/RNA assays 4 times during the first 4 to 6 months.

B. HIV DNA/RNA assays at □1 month of age and □4 months of age.

C. HIV antibody testing at birth, 14 to 21 days, 4 to 6 weeks, and 4 to 6 months of age.

D. HIV antibody testing at □1 month of age and □6 months of age.

E. No testing can be completed until zidovudine is stopped.

Answer: A

The infant in the above clinical scenario, despite prophylaxis measures, is still at risk of developing HIV. As such, testing per recommendations from the American Academy of Pediatrics (AAP) Red Book states that children, because of transplacentally acquired antibody to HIV-1, should be tested using HIV DNA or RNA PCR at birth, 14 to 21 days, 4 to 6 weeks, and 4 to 6 months. HIV antibody testing can be used after 6 months to help exclude HIV, but it is not part of the optimal testing schedule (although many still recommend an HIV-1 antibody test at 18 months), which is aimed at as early a diagnosis as possible. PCR testing should be done at least once before 1 month of age, and preferably before 14 days of life. A negative PCR test at >1 and >4 months, while not the preferred schedule for testing, would provide definitive exclusion of an HIV infection. Testing can be performed while zidovudine is being given.

921. A 6 year old girl is being evaluated for short stature. She is at the 12th percentile for height and the 34th percentile for weight. Vital signs are within normal limits. And physical exam shows widely spaced nipples and a high arched palate. Karyotyping shows 45XO. Which is she most at risk of developing ?

A. Bipolar disorder

B. Breast cancer

C. Mental retardation

D. Mitral valve prolapse

E. Osteoporosis

Answer: E

Low BMD and osteoporosis are clinical features in women with ovarian failure caused by TS, affecting these subjects often two to three decades earlier than that noted in postmenopausal osteoporosis. According to a large epidemiological study, the risk of fractures for TS women seems to be about two times higher than general population, especially at metacarpal bones, femoral neck, lower spine, and forearm

922. A 4-week-old male infant presents with a mass in the right inguinal region, just superior to the scrotum. His past medical history is significant for premature delivery at 31 weeks' gestation. His mother reports that the mass appears most visible when the patient is crying, while at other times, it is not very noticeable. The patient does not have any symptoms of irritability or pain, and has been tolerating feeds well. On examination, a smooth, firm mass is palpable in the right inguinal area. The mass reduces spontaneously when the infant stops crying. Both testes are descended and the overlying skin appears normal. Of the following, which is the best next step in the evaluation and management of this condition?

A. Admission to the hospital for urgent repair of an incarcerated inguinal hernia

B. Referral to a pediatric surgeon for elective inguinal hernia repair within the next month

C. Referral to a pediatric surgeon for elective inguinal hernia repair, only if the hernia persists beyond 1 year of age

D. Referral to interventional radiology for diagnostic aspiration of the groin mass

E. Referral to the emergency department for an urgent ultrasound for suspected testicular torsion

Answer: D

The hallmark sign of a nonincarcerated, inguinal hernia on physical examination is a smooth, firm mass in the inguinal region or scrotum that enlarges with increased intra-abdominal pressure (Figure 405-1). The hernia typically reduces spontaneously or can be reduced by gentle, manual pressure along the inguinal canal. In contrast, an incarcerated hernia generally presents with symptoms of irritability, pain in the groin and abdomen, abdominal distension, and vomiting. The mass associated with an incarcerated hernia is usually well defined, tender, and does not reduce. Suppurative lymphadenopathy in the inguinal region can present as a persistent inguinal mass, but skin examination typically reveals a super□cial infected lesion with swelling of other affected nodes in the area. Testicular torsion usually presents as a tender, erythematous mass in the groin, with absence of a gonad in the scrotum of the same side.Inguinal hernias in infants less than 1 year of age are unlikely to resolve spontaneously. Due to the high risk of incarceration in the first 6 to 12 months of life, referral to a pediatric surgeon and repair should proceed promptly. In children older than 1 year, the risk of incarceration is less and repair is less urgent. In the case of an incarcerated hernia, failure to treat can lead to strangulation and infarction of the hernia contents. In a patient with prolonged history of incarceration (>12 hours), signs of peritonitis, or small bowel obstruction, the mass should not be manually reduced and surgical consultation should be obtained emergently. Aspiration of a groin mass is discouraged because of the risk of injury to the hernia sac. Ultrasonography can differentiate hernia, hydrocele, and lymphadenitis, as well as identify the presence of testicular torsion. However, as in the case above, physical examination generally suggests a diagnosis of inguinal hernia and additional diagnostic studies are not typically required.

923. Which of the following is the most common cause of nephritic syndrome in children?

A. Focal segmental glomerulosclerosis

B. IgA nephropathy

C. Minimal change disease

D. Systemic lupus erythematosis

Answer: C

1. Nephrotic syndrome is urinary excretion of > 3 g of protein/day due to a glomerular disorder plus edema and hypoalbuminemia.

2. Minimal change disease (MCD) is the most common cause of nephrotic syndrome in children

3. Focal segmental glomerulosclerosis (FSGS) is the most common cause of nephrotic syndrome in adults.

4. It is more common among children and has both primary and secondary causes.

5. Diagnosis is by determination of urine protein/creatinine ratio in a random urine sample or measurement of urinary protein in a 24-h urine collection; cause is diagnosed based on history, physical examination, serologic testing, and renal biopsy.

6. Prognosis and treatment vary by cause.

924. A 3 week old male child presented with the complaint of neck stiffness and restricted head movement. On examination head tilt to the right with chin deviation to the left was noted. There was a

significant restriction of neck movement, especially on lateral rotation. There was no obvious facial asymmetry. On palpation right sternocleidomastoid muscle was non-tender, taut and cord like. No lump or mass could be palpated along the entire muscle length. Systemic evaluation revealed no abnormality. Radiographs of the cervical spine, hips and lower extremities were normal. No neurological or ophthalmologic de□cit could be elicited. Based on the above findings, what is the most likely diagnosis

A. Brachial cyst

B. Congenital torticollis

C. Erb's palsy

D. Meningitis

Answer: B

Congenital muscular torticollis (CMT) is a rare congenital musculoskeletal disorder characterized by unilateral shortening of the sternocleidomastoid muscle (SCM). It presents in newborn infants or young children with reported incidence ranging from 0.3% to 2%. Owing to effective shortening of SCM on the involved side there is ipsilateral head tilt and contralateral rotation of the face and chin.

925. Which of the following statements is TRUE regarding alterations in the level of consciousness?

A. Alterations in mental status are often secondary to a benign condition and rarely indicate a serious medical problem.

B. Careful history may help guide the choice of diagnostic testing in patients presenting with altered mental status.

C. Normal consciousness is maintained exclusively by the reticular activating system within the brain.

D. Only primary processes originating from the central nervous system should be considered in the differential of patients with altered mental status.

E. Patients presenting with altered mental status may be classified as altered or normal.

Answer:

A complex network of interactions within the brain mediates arousal. This includes, but is not limited to, the reticular activating system, cerebral cortex, thalamus, hypothalamus, and all major sensory systems. Alteration of the mental status is a continuum from lethargy, to obtundation, to stupor, to coma. Because terminology is inconsistently used among observers, the Glasgow Coma Scale (GCS) may be used to score patients in 3 categories: eye opening, verbal response, motor response. GCS is useful in documenting changes in mental status over time. Both primary processes originating within the central nervous system as well as secondary processes should be considered in the differential of patients presenting with altered mental status as respiratory failure, cardiac rhythm disturbances, sepsis/shock, and metabolicdisorders may all be potential etiologies. Given the broad differential, a careful history and physical exam may help guide the practitioner’s choice of testing. Alterations in mental status should always be assumed to indicate a serious medical problem and should receive prompt and comprehensive evaluation.

926. Which of the following cancers occurs primarily during childhood?

A. Breast cancer

B. Prostate cancer

C. Renal cell cancer

D. Wilms tumor

Answer: D

Wilms tumor occurs most commonly among infants and young children. The other tumours are more common in adulthood.

927. Parents brought their son with cystic □brosis, asking about the chance of his sister of becoming a carrier:

A. 1:2

B. 1:25

C. 2:4

D. None of the above

Answer: C

When two carriers of an autosomal recessive condition have children, each child has a:- 25% (1 in 4) chance to have CF- 50% (1 in 2) chance to be a carrier of CF like each parent- 25% chance to not have CF and not be a carrier CFWhen a carrier of CF has a child with a person with CF, each child has a:- 50% (1 in 2) chance to have CF- 50% (1 in 2) chance to be a carrier of CF

928. A child presented with fever and coryza, then watery diarrhea. What is the most likely cause?

A. Adenovirus

B. Measles

C. Rotavirus

D. Shiegella

Answer: A

Explanation: if its only GI symptoms then rotaviruss is correct, but there is coryza(URTI symptoms) .

929. A 18-year-old surfer presents to your o□ce complaining of an intensely pruritic, serpinginous-type rash that has formed on the sole of his foot. The rash appears to be spreading and is forming bullae at the affected site. The most likely diagnosis is

A. Ascariasis

B. Bathing suit dermatitis

C. Cutaneous larva migrans

D. Leishmaniasis

E. Tinea pedis

Answer: C

Cutaneous larva migrans, also known as the creeping eruption, is a common, self-limited, parasitic infection seen in patients who live in warm climates or have recently traveled to tropical regions, particularly

if they have been to beaches and shady areas. The most common infective agent is a dog and cat hookworm, Ancylostoma caninum and Ancylostoma braziliense, respectively. Familial outbreaks of cutaneous larva migrans have been noted where the infection began with the household pet. When the animal defecates, the hookworms are shed and the larvae are picked up by humans through breaks in the skin, hair follicles, and even through intact skin. The areas most often affected include the feet, hands, buttocks, thighs, and chest. The eruption begins as a pruritic lesion at the site of entry and progresses within a few hours into an inflamed papular or papulovesicular eruption. Serpinginous tracks left by the larvae's migration may also be seen. The eruption may spread up to 1 to 2 cm per day. Severe pruritus, vesicular and bullous lesions, local swelling, erosions, and folliculitis may be seen. Biopsy is generally not useful, and blood tests rarely show eosinophilia or elevated immunoglobulin E levels. Destructive therapies, such as cryotherapy, are often ineffective. Isolated cutaneous cases are treated with topical thiabendazole, especially when applied ahead of the advancing lesions. Because of the risk of systemic infection and the ease of oral treatment, some recommend routine systemic treatment with oral thiabendazole, albendazole, or ivermectin. Although thiabendazole has significant side effects that include nausea, vomiting, diarrhea, and dizziness, albendazole and ivermectin are reliable and have fewer adverse effects. Ivermectin may be given as a single dose with no known toxic side effects.

930. A 10-year-old boy develops an itchy, vesicular rash, which is maximal on his face and trunk. Physical examinationdemonstrates a mixture of lesions, with macules, papules, vesicles, and crusted lesions. The mother reports thatthe lesions seem to be occurring in crops. Which of the following is the most likely diagnosis?

A. Herpes simplex I

B. Measles

C. Shingles

D. Varicella

Answer: D

This is varicella (chicken pox), which is the primary form of infection by the herpes zoster (varicella-zoster) virus. Recurrence due to virus harboured in neurons tends to be dermatomal in distribution and is called shingles. Fever, malaise, headache, and myalgia may also be present, particularly in the prodromal phase. Tzanck smear of the base of a vesicle may demonstrate multinucleated giant cells Chicken pox may be complicated by secondary bacterial infection, pneumonia, systemic spread (immunosuppressed patients), and neurologic involvement (rare), Reyes syndrome (rare), and hemolytic anemia (rare). Herpes simplex I causes oral vesicles and ulcers. Measles causes a blotchy, non-vesicular rash

931. Which of the following statements regarding therapeutic hypothermia in a newborn with Neonatal Encephalopathy is correct?

A. Based on clinical trial data, whole body hypothermia would reduce the risk of death or moderate to severe disability in this infant at 12 to 18 months of age

B. If the infant had severe abnormalities on amplitude integrated electroencephalography (aEEG) on NICU admission, selective head cooling would provide the most neuroprotection.

C. The minimum length of therapeutic hypothermia for prevention of HIE in this infant is 12 hours

D. Therapeutic hypothermia would accelerate free radical production

Answer: A

Hypothermia (defined as a reduction in core temperature by 1°C-6°C) has been demonstrated to reduce the deleterious cellular effects of brain ischemia in experimental animal models, including excitatory neurotransmitter release, microglial activation, and free radical production. Data from 2 large randomized control trials and 1 large pilot trial of therapeutic hypothermia in neonates were published in 2005. In all of these studies, hypothermia was initiated within 6 hours of birth and maintained for 48 to 72 hours. Both the NICHD randomized trial and the pilot trial by Eicher et al used whole-body hypothermia; newborns with HIE receiving this therapy had decreased death or moderate-to-severe disability at 12 months (Eicher) or 18 months (NICHD) relative to HIE infants who were kept normothermic. The CoolCap Trial, which provided selective head cooling to infants with moderate-to-severe encephalopathy, demonstrated protective effects (decreased death or disability in survivors at 18 months) in infants with HIE who demonstrated less severe aEEG abnormalities at admission to the study. Recent data from subsequent studies (the European Network study, the UK Total Body Hypothermia [TOBY] trial, and the Australasian Infant Cooling Evaluation [ICE] study) have further advanced the understanding of the bene□ts of hypothermia. However, data on neurodevelopmental outcomes in adolescents treated with hypothermia as neonates have not been ascertained.

932. A 5 year old child came with knee swelling or bleeding after mild trauma. Bleeding time was abnormal and it was NOT corrected after being given fresh frozen plasma. The bleeding time got back to normal after giving platelet transfusion (his platelet level was 50). What does the patient have (PT and PTT were not included in the question)?

A. Bernard Soulier Syndrome

B. HSP

C. Thrombotic thrombocytopenic purpura (Not ITP)

D. VWF deficiency

Answer: A

Bernard–Soulier syndrome (BSS), also called hemorrhagiparous thrombocytic dystrophy,[3] is a rare autosomal recessive bleeding disorder that causes a deficiency of glycoprotein Ib (GpIb), the receptor for von Willebrand factor. In terms of diagnosis Bernard–Soulier syndrome is characterized by prolonged bleeding time, thrombocytopenia, increased megakaryocytes, and enlarged platelets, Bernard–Soulier syndrome is associated with quantitative or qualitative defects of the platelet glycoprotein complex GPIb/V/IX. The differential diagnosis for Bernard–Soulier syndrome includes both Glanzmann thrombasthenia and pediatric Von Willebrand disease.[5] BSS platelets do not aggregate to ristocetin, and this defect is not corrected by the addition of normal plasma, distinguishing it from von Willebrand disease.

933. An 8-year old child is presented with intensely pruritic rash on both legs.The rashes are worse at night. On examination, the child is afebrile and looks well. There are patches of erythematous papules with several streaks of erythematous vesicles on legs only.Which of the following is the most likely diagnosis?

A. Chicken pox

B. Contact dermatitis

C. Eczema

D. Scabies

Answer: D

Scabies, also known as the seven-year itch, is a contagious skin infestation by the mite Sarcoptes scabiei. The most common symptoms are severe itchiness and a pimple-like rash. Occasionally, tiny burrows may be seen in the skin.

934. A 6-week old boy is brought to the doctor for persistent, progressive jaundice. The bilirubin is markedly elevated. Serology is negative for hepatitis.Which of the following is the most likely diagnosis?

A. Biliary atresia

B. Hirschsprung disease

C. Intussusception

D. Pyloric stenosis

Answer: A

1. Biliary atresia is characterized by obliteration or discontinuity of the extrahepatic biliary system, resulting in obstruction to bile flow.

2. Extrahepatic biliary atresia is more common in females than in males.

3. Regardless of etiology, the clinical presentation of neonatal cholestasis is remarkably similar in most infants.

4. Typical symptoms include variable degrees of jaundice, dark urine, and light stools.

5. In the case of biliary atresia, most infants are full-term, although a higher incidence of low birthweight may be observed.

6. In most cases, acholic stools are not noted at birth but develop over the first few weeks of life.

7. Serum bilirubin (total and direct): Conjugated hyperbilirubinemia, defined as any level exceeding either 2 mg/dL or 20% of total bilirubin, is always abnormal.

935. Which of the following is the most common congenital anomaly of the genitourinary tract?

A. Cryptorchidism

B. Hypospadias

C. Imperforate hymen

D. Mellerian agenesis

Answer: A

1. Cryptorchidism is the most common congenital anomaly of the genitourinary tract due to failure of testicular descent from the abdomen into the scrotum.

2. Cryptorchidism means hidden or obscure testis and generally refers to an undescended or maldescended testis.

3. The etiology of cryptorchidism is multifactorial.

Clinical presentation

1. Undescended testis can be intra-abdominal or in the inguiÂ nal canal

2. Retractile testis can be pulled down to the bottom of the scrotum

3. All retractile testis eventually will end up in the scrotum â€¨

Treatment

1. Can be fixed between 1 and 2 years of age

2. Most urologist prefer orchiopexy

3. Human chorionic gonadotropin (HCG) in series injection will result in 30-40 % success

936. Pulmonary stenosis is associated with all of the following Except:

A. Alagille syndrome

B. Noonan syndrome

C. Rheumatic fever

D. Tetralogy of Fallot

Answer: C

Pulmonary valve lesions in rheumatic fever are very unusual. This lesion is common as a dysplastic valve in Noonan syndrome and in Alagille syndrome. Pulmonary stenosis is part of constellation of features in tetralogy of fallot.

937. Which of the following conditions may manifest clinically as respiratory distress?

A. All of the above

B. Congestive heart failure

C. Diabetic ketoacidosis

D. Septic shock

Answer: A

Respiratory distress may be caused by non-respiratory conditions, such as response to metabolic acidosis (diabetic ketoacidosis, renal tubular acidosis) or stimulation of the respiratory center (encephalitis, ingestion of central nervous system [CNS] stimulants). A child with cardiovascular pathology may present with respiratory distress caused by 2 mechanisms: decreased lung compliance and cardiogenic shock. Sepsis and septic shock may manifest as respiratory distress by causing acute respiratory distress syndrome [ARDS], hypovolemic stimulation of baroreceptors, stimulation of respiratory centers by cytokines, and lactic acidosis.

938. A 56 year old male with ear pain has come to you. Tugging the ear elicits severe pain. What is the likely diagnosis?

A. Cholesteatoma

B. Meniere's disease

C. Otitis externa

D. Otitis media

Answer: C

Otitis externa, also called swimmer’s ear, is common cause of external ear pain due to inflammation of ear canal. The diabetics and immunocompromised patients are at risk for malignant otitis externa

caused by pseudomonas infection. Ear examination shows red and swollen ear canal. The ear canal may also appear eczema-like, with scaly shedding of skin. Another con□rmatory test is touching or moving the tragus increases the pain.

939. A 17 years old male from Pakistan comes to you with complains of loss of hearing in both ears. He was alright 1 month ago when he heard a bomb blast in the shopping mall very near to him. Fortunately he was spared but his ear problem persists. What is the most likely problem?

A. Damaged stereociliated cells in organ of corti

B. Otitis externa

C. Ruptured tympanic membrane

D. Superior canal dehiscence

Answer: C

Sudden, extremely loud noises can produce hearing loss due to tympanic membrane rupture. Damage to stereociliated cells in organ of Corti results from routine environmental noises. Loss of highfrequency hearing 1st.

940. Which of the following conditions is associated with short stature, webbed neck and wide-spaced nipples?

A. Down syndrome

B. Kallmann's syndrome

C. Klinefelter syndrome

D. Turner syndrome

Answer: D

1. Turner syndrome is one of the most common chromosomal abnormalities.

2. Turner syndrome is caused by the absence of one set of genes from the short arm of one X chromosome.

3. 45,X karyotype (about two thirds are missing the paternal X chromosome) Clinical Presentation 1. Short stature 2. Shield chest: The chest appears to be broad with widely spaced nipples. 3. Lymphedema may be present at any age and is one finding that can suggest Turner syndrome on fetal ultrasonography.

4. Webbed neck and low posterior hairline due to lymph edema.

5. Pubic hair development is normal

6. Coarctation of the aorta is the most common cardiac defect associated with Turner syndrome.

7. Eye: Ptosis, strabismus, amblyopia, and cataracts are more common in girls with Turner syndrome.

941. A previously healthy 5-year-old girl is brought to urgent care with bloody diarrhea, pallor, and fatigue. Her vital signs are notable for a HR of 130 with a blood pressure of 145/101. On physical exam, she is irritable with dry mucous membranes. Laboratory data is significant for a WBC of 17,000, hemoglobin of

8, platelet count of 65, BUN of 70, and creatinine of 3.2. Which of the following is the next best diagnostic step?

A. Calculating the fractional excretion of sodium (FeNa)

B. Obtaining a peripheral blood smear, LDH, and reticulocyte count

C. Renal biopsy

D. Renal ultrasound

E. Sending the stool for ova and parasites examination

Answer: B

HUS, caused by Shiga toxin producing E. coli O157:H7 is the most common cause of severe acute renal failure in young children. It is acquired usually through the consumption of undercooked beef or unpasteurized milk products. The bacteria produces Shiga toxin, which causes endothelial damage, resultant thrombotic microangiopathy, and the classic triad of renal failure, hemolytic anemia, and thrombocytopenia. In order to aid the diagnosis of HUS, hemolytic anemia should be confirmed. A peripheral blood smear would demonstrate schistocytes and helmet cells. An elevated LDH and reticulocyte count also con□rms a hemolytic process. Fractional excretion of sodium (also known as a FeNa) helps distinguish pre-renal acute renal failure from intrinsic renal failure causes; however, it does not help diagnose HUS. An ova and parasite examination would not aid in the diagnosis of diarrhea associated HUS, which is caused by toxinproducing bacteria. A renal ultrasound would be helpful if obstruction or a structural anomaly is suspected but would not be helpful in diagnosing HUS. A renal biopsy is not necessary to diagnose HUS.

942. On examination of a 4-day-old infant male in the newborn nursery, you palpate a non-mobile abdominal mass in the right flank; the examination is otherwise unremarkable. What is the most likely cause of the mass?

A. Constipation

B. Hepatomegaly

C. Hydronephrosis

D. Neuroblastoma

E. Sacrococcygeal teratoma

Answer: C

Over 50% of abdominal masses detected by physical examination of infants or children are actually cases of organomegaly. Among neonates, the most common cause of □ank mass is an enlarged kidney due to hydronephrosis or multicystic dysplastic kidney. Among neonates, hydronephrosis and multicystic dysplastic kidney occur in equal frequency and comprise 75% of abdominal masses. Constipation would be unusual in a neonate but is a common cause of palpable abdominal mass in children. Neuroblastoma and hepatomegaly are other possible causes of palpable neonatal abdominal mass that are less common. Sacrococcygeal teratoma is the most common abdominal neoplasm in neonates, but is not the most common cause of abdominal mass in neonates.

943. A 3-yr-old boy is missing from his mother's house approximately 1 mo after a divorce. The most likely explanation is:

A. Anxiety reaction

B. Running away from the mother

C. Searching for his father

D. Sleep walking

Answer: C

It is not unusual for the young child to keep asking for the missing parent, to wait at the door or window, or to go outside to look for the parent.

944. What's the most common side effect of DTP vaccine?

A. Rash at injection site

B. Seizure

C. Vomiting and diarrhea

D. low grade fever

Answer: D

Possible Risks of DTaP Immunization. The vaccine frequently causes mild side effects: fever; mild crankiness; tiredness; loss of appetite; and tenderness, redness, or swelling in the area where the shot was given. Rarely, a child may have a seizure or cry uncontrollably after getting the vaccine.

945. Mrs Jones, a 52-year-old teacher, presents with a sudden onset of dyspnea. Which one of the following makes a pulmonary embolus more likely?

A. Chest pain

B. Fever >38.0°C (100.4°F)

C. Orthopnea

D. Wheezes

Answer: A

Chest pain is common in patients with pulmonary embolism (PE). When evaluating a patient for possible PE, the presence of orthopnea suggests heart failure, fever suggests an infectious process, wheezing suggests asthma or chronic obstructive pulmonary disease (COPD), and rhonchi suggest heart failure, interstitial lung disease, or infection. These generalizations are supported by a 2008 study designed to improve the diagnosis of PE on the basis of the history, physical examination, EKG, and chest radiograph.

946. Mother brought her 2 years old child to the ER with history of upper respiratory tract infection for the last 3 days with mild respiratory distress. This evening the child started to have hard barking cough with respiratory distress. On examination: RR 40/min, associ- ated with nasal flaring, suprasternal & intercostal recessions. What is the most likely diagnosis?

A. Acute epiglottitis

B. Bacterial Pneumonia

C. Bronchiolitis

D. Laryngo-tracheo-bronchitis (croup)

E. Viral Pneumonia

Answer: D

Viral croup symptoms usually start like an upper respiratory tract infection, with low-grade fever and coryza followed by a barking cough and various degrees of respiratory distress (e.g., nasal flaring, respiratory retractions, stridor).7,11 The symptoms subside quickly with resolution of the cough usually within two days, although the cough may persist for up to one week.9 Symptoms can increase and decrease in the same child, becoming worse at night and when the child is agitated.9 Symptoms also vary from child to child based on host factors, such as immunity and the anatomy of the subglottic space.

947. A 6-week old boy is brought to the doctor for persistent, progressive jaundice. The bilirubin is markedly elevated. Serology is negative for hepatitis.Which of the following is the most likely diagnosis?

A. Biliary atresia

B. Hirschsprung disease

C. Intussusception

D. Pyloric stenosis

Answer: A

1. Biliary atresia is characterized by obliteration or discontinuity of the extrahepatic biliary system, resulting in obstruction to bile flow.

2. Extrahepatic biliary atresia is more common in females than in males.

3. Regardless of etiology, the clinical presentation of neonatal cholestasis is remarkably similar in most infants.

4. Typical symptoms include variable degrees of jaundice, dark urine, and light stools.

5. In the case of biliary atresia, most infants are full-term, although a higher incidence of low birthweight may be observed.

6. In most cases, acholic stools are not noted at birth but develop over the first few weeks of life.

7. Serum bilirubin (total and direct): Conjugated hyperbilirubinemia, defined as any level exceeding either 2 mg/dL or 20% of total bilirubin, is always abnormal.

948. A 4500-g female infant was born at 37 6/7 weeks' gestation to a 30- year-old woman with poorly controlled gestational diabetes. The delivery occurred vaginally (with forceps assistance) and was complicated by shoulder dystocia. Three hours after birth, the infant develops respiratory distress and needs supplemental oxygen (FiO 2 0.35) to keep her saturation greater than 95%. Physical examination of the infant is notable for shallow respiration but clear bilateral breath sounds. The baby has limited movement of the left arm on elicitation of the Moro reflex. Which of the following findings is most likely to be seen on the chest radiograph?

A. A decrease in pulmonary vascular markings bilaterally

B. A left pleural fluid density compressing the lung

C. Elevation of the left hemidiaphragm by 3 intercostal spaces (relative to the right hemidiaphragm)

D. Herniation of the stomach and small bowel into the left hemithorax

E. Multiple cystic lesions in the upper lobe of the left lung

Answer: C

This infant with a history of shoulder dystocia and a left-sided Erb's palsy likely has a brachial plexus injury. In addition to left arm weakness, the injury in this infant will result in limited left diaphragm movement (due to phrenic nerve injury). A chest radiograph would demonstrate the left hemidiaphragm higher than the right hemidiaphragm. Based on the physical examination findings, this infant is less likely to have a congenital diaphragmatic hernia (indicated radiographically by peritoneal contents in the left hemithorax), rightsided heart congenital disease or pulmonary hypertension (evidenced by decreased pulmonary vascular markings), a cystic congenital adenomatoid malformation (CCAM, with cystic lesions in the lung), or a pleural effusion (fluid in the pleural space creating mass effect).

949. A 32-year-old sportsman who recently attended a wild-game feed banquet consumed summer sausage made from bear meat. He complains of abdominal discomfort, diarrhea, and muscle tenderness. The most likely diagnosis is

A. Ascariasis

B. Giardiasis

C. Salmonellosis

D. Trichinosis

Answer: D

Trichinosis is a parasitic infection caused by the roundworm Trichinella spiralis. The condition results from eating inadequately prepared or raw pork, bear, or walrus meat that contains the encysted larva. Many cases are linked to the consumption of contaminated summer sausage. Many patients are asymptomatic; however, some may exhibit diarrhea, abdominal discomfort, and a low-grade fever. Ocular symptoms may also occur with edema of the eyelids, photophobia, and retinal or

subconjunctival hemorrhages. Muscle soreness and urticaria may also be associated with the parasitic infection. Laboratory studies show an increasing eosinophilia with a leukocytosis. Diagnosis can be made by muscle biopsy showing the larva or cysts, serologic tests, or ELISA tests. Treatment is accomplished with thiabendazole with variable response. For severe cases, corticosteroids may be indicated.

Complications include myocarditis, meningitis, and pneumonitis. The prognosis is usually good. Most cases can be avoided by thoroughly cooking pork before consumption.

950. Which of the following is routinely given at birth to prevent hemorrhage in newborn?

A. Factor X

B. Vitamin C

C. Vitamin D

D. Vitamin K

Answer: D

Following birth, there is a modest decrease in the vitamin K (phytonadione) ”dependent factors II, VII, IX, and X ” that gradually return to normal in 7 to 10 days. The cause of this decrease is inadequate free vitamin K available from the mother and the newborn's inability to synthesize vitamin K because of a lack of intestinal flora. Therefore, 1 mg of vitamin K is administered intramuscularly at birth to prevent hemorrhagic disease of the newborn in term infants. Larger doses predispose to the development of hyperbilirubinemia and kernicterus. Breast milk is a poor source of vitamin K. As a result, hemorrhagic complications occur more frequently in breast-fed infants. Mothers taking medications that interfere with vitamin K function (i.e.,

phenobarbital and phenytoin) may have infants at increased risk for early onset bleeding.

951. Which of the following statements about necrotizing enterocolitis (NEC) in near-term and term infants is true?

A. NEC in near-term and term infants is usually preceded by a perinatal infectious risk factor such as maternal chorioamnionitis or prolonged rupture of membranes.

B. NEC in near-term and term infants typically involves the proximal small bowel, rather than the colon.

C. NEC typically occurs sooner after birth in near-term and term infants when compared with premature infants.

D. Near-term and term infants rarely develop a spontaneous intestinal perforation (SIP) if there are no risk factors for intestinal hypoperfusion, such as indomethacin exposure.

E. Near-term and term infants with NEC are more likely to require surgical intervention than premature infants

Answer: C

Characteristics of NEC are different in near-term and term neonates than in premature neonates. An episode of NEC in a term or near-term newborn commonly involves the presence of a risk factor such as congenital heart disease, gastroschisis, intrauterine growth restriction, perinatal depression, or polycythemia. Additionally, NEC typically presents earlier in these babies (first week of life) than in more premature infants (second or third week of life). In addition, the area of intestine affected is different in more mature infants when compared with premature infants. NEC is more likely to affect the colon in nearterm and term neonates. In premature infants, NEC occurs

primarily in the jejunum and ileum; the most common site is the distal ileum. Finally, near-term and term infants with NEC have a lower risk of requiring surgery than premature infants. SIPs are more likely to occur in premature neonates. However, when present in a more mature neonate, a SIP occurs earlier (typically 0-3 days of age), and is not usually accompanied by 1 of the typical risk factors (ie, indomethacin therapy) associated with a SIP in a more premature neonate.

952. Which of the following statements is true about the regulation of respiration in healthy children?

A. Adaptations (such as nasal flaring, increased diaphragmatic contraction, and intercostal and subcostal retractions) are all voluntary changes.

B. Central chemoreceptors sense changes in P O 2 , while peripheral chemoreceptors sense changes in P CO 2 .

C. Changes in P CO 2 are interpreted by chemoreceptor cells in the carotid bodies that can cause downstream changes in work and the pace of breathing.

D. Changes in P CO 2 have more in□uence than changes in P O 2 in causing compensatory changes during respiratory distress.

E. Tachypnea and retractions are not common physiologic adaptations to respiratory distress in children.

Answer: D

Children, especially, infants are at increased risk for issues associated with respiratory distress and respiratory failure due to immaturity of neural control of breathing, small airway caliber, and limited respiratory reserve. In healthy individuals, respiratory and circulatory functions are linked to tissue metabolic activity by a regulatory system

that translates neural and biochemical signals in order to make adjustments to cardiac output, vascular tone, and minute ventilation.

These adjustments ensure that the body receives sufficient O 2 without accumulating excessive CO 2 . The system works by way of central and peripheral circulatory re□exes that are sensitive to alterations in P O 2 , P CO 2 , and pH. Answers a and d are not correct, as the carotid bodies are peripheral chemoreceptors that have cells that sense P O 2 , while the reticular nuclei of the medulla oblongata are the central chemoreceptors that sense P CO 2 and pH. Answer b is not correct, as increases in PCO 2 (and only if sufficiently large, decreases in PO 2) are sensed by the chemoreceptors and can result in the recruitment of respiratory muscles. Nasal flaring, increased vocal cord abduction, and dilation of the pharyngeal passages during inspiration are all adaptations that occur but may be less noticeable to the observer. Finally, Answer e is not correct as alterations in breathing frequency and retractions, however, are prominent in almost every child with acute respiratory distress.

953. A 17-year old tall male presents with high arched palate, pectus carinatum and aortic dilatation. Which of the following is the most likely diagnosis?

A. Achondroplasia

B. Gigantism

C. Marfan syndrome

D. Prader Willi syndrome

Answer: C

Marfan Syndrome

1. Mode of transmission : Autosomal dominant

2. Defect in FBN1 gene on chromosome 15; which codes for fibrillin.

3. Most common cause of death due to aortic dissection and rupture of aorta.

Major criteria:

Skeletal system

1. Pectus carinatum (pigeon breast)

2. Pectus excavatum (funnel chest)

3. Wrist sign (overlapping of the thumb and 5th □nger when encircling the wrist

4.High arched palate (Minor Criteria)

Ocular system :Ectopia lentis (upward displacement of the lens or dis located lens)

Cardiovascular

1. Dilatation of the ascending aorta

2. Dissection of the ascending aorta

954. A child who came for 6 month vaccination appointment, his family report he had an anaphylaxis shock at 4 months vaccination: what vaccine to give and what not to give? Or do an allergy test first? Or reassure and give them all?

A. ?

B. Allergy test

Answer: B

955. Which of the following contacts should receive rifampin chemoprophylaxis after diagnosis of invasive Neisseria meningitidis in a child?

A. All children and adults in the same household if there is an unimmunized or partially immunized child younger than 48 months

B. All children and adults in the same household or daycare facility regardless of immunization history

C. All unimmunized or partially immunized children in the same household

D. Unimmunized or partially immunized children younger than 4 yr of age in the same household

Answer: B

Chemoprophylaxis for contacts of a person with proven or suspected N. meningitidis infection is indicated for all household, daycare, and nursery care contacts. The index patient should also receive rifampin prophylaxis if penicillin was used for treatment.

956. Which is not generally a characteristic of a suspicious skin lesion?

A. Asymmetric border

B. Bleeding

C. Color change

D. Diameter less than 5 mm

E. Variegation of color

Answer: D

Skin lesions that represent concern usually possess certain characteristics, including

A=Asymmetric and irregular borders

B=Bleeding or ulceration; persistent itching or tenderness

C=Color change or variegation of color

D=Diameter >6 mm

If any of these criteria are met, the lesion should be biopsied and sent for pathologic examination. Large, raised, and pigmented congenital lesions should also be biopsied. Patients who have a history of dysplastic nevi syndrome are at increased risk for the development of melanoma, particularly if a family member has been affected.

957. Which of the following is the most common cardiac lesion associated with Down syndrome?

A. Endocardial cushion

B. Patent ductus arteriosus

C. Tetralogy of Fallot

D. Transposition of the great vessels

Answer: A

Down Syndrome

1. It is the most common chromosome abnormality among liveborn infants. It is the most frequent form of intellectual disability (mental retardation) caused by a microscopically demonstrable chromosomal aberration.

2. Trisomy 21 non-disjunction is most common cause (95 % of cases).

Cardiac defects

1. Nearly 50 % are affected

2. Endocardial cushion (atrioventricular septal) defects are most common

3. Ventricular septal defect

The types of heart defects in children with Down syndrome can be broken down into three broad categories:

1. Atrioventricular septal defects

2. Ventricular septal defect (VSD), atrial septal defect (ASD), or patent ductus arteriosus

3. Other complex heart disease

958. When a catheter-related infection is suspected or diagnosed, in which of the following situations is immediate removal recommended?

A. Bloodstream infection without signs of sepsis

B. Candida spp. infection

C. Coagulase-negative Staphylococcus spp. Infection in 1 of 2 blood cultures obtained

D. Exit site infection without bacteremia

E. S. aureus infection in a short-term catheter

Answer: C

Criteria considered when recommending immediate removal include severity of illness, underlying immune status, organism identified in blood cultures and usual response to antibacterial therapy and ability to make biofilms on catheters and virulence, role in commensal skin flora, and evidence of tunneled or exit site infection. Infections with Candida spp., S. aureus , or atypical mycobacterium warrant immediate removal of long-term catheters. In short-term catheters, delayed removal can be considered for exit site infections without bacteremia or bloodstream infection without signs of sepsis. Coagulasenegative Staphylococcus are unfortunately both common skin flora and common sources of catheter-related bacteremia. Theygenerally do not lead to recommendations to remove a catheter immediately, especially if only 1 of multiple blood cultures grows the organism.

959. A three year-old girl presented to Emergency Department with fever, vomiting and abdominal pain which began 10 hours ago. Radiological examination confirmed a dilated intestinal pouch attached to the anterior abdominal wall. Her diagnosis was the persistence of a Meckel's diverticulum. Which of the following sites will the surgeon look for this diverticulum?

A. Cecum

B. Lower Duodenum

C. Lower Ileum

D. Lower Jejunum

Answer: C

Meckel's diverticulum is a true diverticulum, containing all layers of the small bowel wall. They arise from the antimesenteric surface of the middle-to-distal ileum. The diverticulum represents a persistent remnant of the omphalomesenteric duct, which connects the midgut to the yolk sac in the fetus

960. A 7 year old male presents to the ER with a two day history of worsening ear pain and drainage. On the day prior to presentation, his parents noted redness behind his right ear, and that his right ear appeared to be sticking out. He had been well until 10 days ago when he started complaining of a cough and runny nose that progressed to include right ear pain and fever. He was evaluated in the clinic 5 days ago and diagnosed with an acute right otitis media. He was placed on amoxicillin and he initially appeared to improve until two days ago when his ear pain recurred and this is now accompanied by ear drainage, redness behind his right ear, and a prominent right pinna which is pointing up and out , The most likely diagnosis ?

A. Mastoiditis

B. Meningitis

C. Necrotizing otitis externa

D. Otitis externa

E. Otitis media with effusion

Answer: A

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media.

Symptoms include ear pain, fever, crying, irritability, diffculty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

There are many complications of otitis media. Mastoiditis presents with ear drainage, redness behind his right ear, and a prominent right pinna which is pointing up and out. Otitis media with effusion does not present with red pinna and inflammed mastoid process.

Treatment: High-dose amoxicillin (10 days for empiric therapy). Resistant cases may require amoxicillin/clavulanic acid.

961. A 3-year-old female presents with an anterior cervical neck mass that developed over the past several days in the setting of a URI. On physical examination, she is afebrile with a unilateral anterior cervical lymph node. The node is enlarged to 3 x 4 cm in diameter. It is tender, erythematous, and soft without fluctuance. Her past medical history is negative for prior similar episodes. There is no history of pet or animal exposure. What is the most likely causative organism

A. Cat scratch disease

B. Group B Streptococcus (GABHS)

C. M. avium complex (MAC)

D. Mycobacterium tuberculosis

E. Staphylococcus aureus

Answer: E

cervical lymphadenitis. This infection often occurs within the setting of a URI and presents with a unilateral, tender, warm, enlarged lymph node. This most often occurs in the submandibular chain. The most common organisms causing this infection are S. aureus and group A Streptococcus , which together account for over 80% of infections. The presentation is acute over days and can progress to develop an area of fluctuance, which can indicate an underlying abscess. First-line therapy is oral antibiotics; however, children should be admitted for IV antibiotics if ill-appearing or needing surgical drainage of an underlying abscess. Ultrasound can be a helpful tool for assessing and guiding drainage of abscesses. Lymphadenitis caused by MAC would be expected to have a more indolent course and can present with a draining sinus tract. Lymph node infection as a result of MAC is most common in young children because of their tendency to put objects contaminated with soil, dust, or standingwater into their mouths. Bartonella can cause generalized lymphadenopathy but most commonly after exposure to a kitten. GABHS can cause lymphadenitis in young infants as part of late-onset GBS disease but is unlikely in this scenario. M. tuberculosis also generally causes more indolent disease.

962. A 45 year old man has presented to you in emergency complaining of increased sound intensity in his right ear. He hears the environmental noises and normal speech of other people hurts him. Which of the following muscle is likely to be injured?

A. Genioglossus

B. Palatopharyngeus

C. Stapedius

D. Tensor tympani

Answer: C

The tensor tympani is a muscle within the ear,Innervation of the tensor tympani is from the tensor tympani nerve, a branch of the mandibular division of the trigeminal nerve. Injury leads to increased intensity of chewing and self-sounds. Stapedius is supplied by, nerve to stapedius, a branch of facial nerve. This muscle help dampen the external noise or decrease the amplitude of high intensity sounds.

963. Which of the following statement is false regarding protein hydrolyzed formula:

A. Extensively hydrolyzed formulas are the preferred formulas for infants intolerant to cow's milk or soy proteins.

B. Extensively hydrolyzed formulas may be more effective than partially hydrolyzed in preventing atopic disease.

C. Partially hydrolyzed contains oligopeptides with a molecular weight of <5000 d, while extensively hydrolyzed contain peptides with a molecular weight <3000 d.

D. Partially hydrolyzed formulas can be fed to infants who are allergic to cow's milk protein.

Answer: D

Protein hydrolysate formulas may be partially hydrolyzed, containing oligopeptides with a molecular weight of <5000 d, or extensively hydrolyzed, containing peptides with a molecular weight <3000 d. Because the protein is not extensively hydrolyzed, these formulas should not be fed to infants who are allergic to cow's milk protein. In studies of infants who are at high risk of developing atopic disease and who are not breast-fed exclusively for 4-6 mo, there is modest evidence that atopic dermatitis may be delayed or prevented in early childhood

by the use of extensively or partially hydrolyzed formulas, compared with cow's milk formula. Extensively hydrolyzed formulas may be more effective than partially hydrolyzed in preventing atopic disease.

Extensively hydrolyzed formulas are the preferred formulas for infants intolerant to cow's milk or soy proteins.

964. A 3 month old infant with recurrent infections that include Tuberculosis and aspergillosis is seen at your clinic for routine follow up. History reveals that two brothers with similar disease died at 3 year. The parents want to know which vaccine to give on an annual basis.

A. BCG

B. Influenza

C. Polio

D. Varicella

Answer: B

Answer: A (IM influenza).

Explanation: This baby is immunodeficiency patient so he need annual influenza vaccine.. Most immunocompromised patients 6 months of age or older should receive annual influenza vaccination as an injection; these patients should not receive live attenuated influenza vaccine administered as a nasal spray.

965. A 3-week-old baby is found in a car on a hot summer day. An ambulance brings the infant into the Emergency Department. Her

temperature is 41 degrees, HR 170, and RR 8. She is minimally responsive and has hot dry skin. Which of the following statements is TRUE?

A. Acetaminophen and/or ibuprofen should be administered immediately to start reducing the temperature.

B. Evaporative cooling by spraying the body with lukewarm atomized water and fanning is much less effective than cold water immersion.

C. First-line measures should be invasive cooling with cardiopulmonary bypass and gastric, peritoneal, or pleural lavage should be implemented immediately.

D. Ice water immersion may not be the ideal form of cooling because shivering and peripheral vasoconstriction may increase heat production.

E. The infant is suffering from heat exhaustion.

Answer: D

The infant in this scenario is suffering from heat stroke. This is the most severe form of heat-related illness and carries a high morbidity and mortality unless cooling measures are instituted quickly. Water immersion is a quick and effective method of reducing body temperature, however, ice water immersion may be counterproductive because shivering and peripheral vasoconstriction may work towards increasing heat production. Evaporative cooling with atomized lukewarm water and fanning is another effective way of cooling a patient. These and other noninvasive cooling measures should be instituted immediately and are first-line therapies. Antipyretic medications should not be given in heat stroke. These medications may potentiate organ damage and are not effective in heat stroke.

966. Which of the following is the best initial investigation to help in the diagnosis of croup?

A. Blood culture

B. White cell count

C. c-spine x-ray

D. pharyngeal swab

Answer: C

Explanation : Answers are missing but, it is clinical diagnosis and an xray lateral view is diagnostic showing steeple sign.

967. A 25-year-old woman presents to the doctor with throat pain, muffled speech and difficulty swallowing. Examination shows erythema and enlargement of the left tonsillar pillar. Which of the following is the most likely diagnosis?

A. Acute epiglottitis

B. Peritonsillar abscess

C. Pharyngitis

D. Retropharyngeal abscess

Answer: B

Streptococcus pyogenes is the most commonly associated organism with peritonsillar abscess. Presents with fever, unilateral sore throat, neck pain,referred earache,dysphagia and muffled voice. There is excessive salivation due to inability to swallow leading to drooling. Symptoms are typically present for at least 3 days before abscess is

formed. The tonsils are swollen, which pushes the uvula to the contralateral side. This may cause difficulty in jaw movements and eating or drinking. Management includes needle drainage (patient should be in the Trendelenburg position), monitoring, and intravenous antibiotics.

968. Which of the following statements is correct based on the studies currently available about prevention of necrotizing enterocolitis?

A. Dosing of probiotic strains for the prevention of NEC has been standardized internationally and requires a minimum of 1.0 x10 10 colony-forming units/day.

B. Exposure to antenatal steroids is associated with a decreased risk of necrotizing enterocolitis in premature infants.

C. Intermittent increases in metabolic demand from bolus feeding put very-low-birth-weight infants at risk for necrotizing enterocolitis.

D. Rapid advancement of enteral feeding in premature, very-low-birthweight infants increases the risk of necrotizing enterocolitis.

E. When compared with formula, feeding with maternal breast milk protects against necrotizing enterocolitis, but feeding with donor breast milk confers a risk similar to feeding with formula.

Answer: B

Although it has been di□cult to elucidate the speci□c pathophysiology leading to necrotizing enterocolitis in premature infants, multiple studies have aimed to identify risk factors and test potential prophylactic measures/therapies. At present,

the following factors and strategies have been identified as protective in premature infants:

1. Antenatal corticosteroids (protective mechanism unclear).

2. Feeding with human milk (maternal or donor breast milk) when compared with feeding with formula.

3. Fluid restriction.

4. Administration of enteral antibiotics (not recommended due to concern for the development of resistant organisms).

5. Treatment with specific probiotic strains (in infants with birth weight less than 1000 g) based on the results of a variety of clinical trials. However, there has been no consistency in strain, dose, or regimen in any of the reported studies, to date. Other strategies studied (ie, different enteral feeding styles, administration of immunoglobulins or amino acid supplements) have not changed the incidence of necrotizing enterocolitis.

969. Ductus depended □ow is required in all of the following except: A B C D

A. Left hypoplasia syndrome

B. Persistent truncus arteriosus

C. Pulmonary stenosis

D. TGA with intact ventricular septum

Answer: B

Ans. A Persistent truncus arteriosus DUCTAL DEPENDENT LESIONS I. Left sided heart lesions Systemic blood flow is dependent upon ductal patency

a. Coarctation of the aorta

b. Interrupted aortic arch

c. Hypoplastic left heart syndrome

d. Aortic stenosis II.

Right sided heart lesions Pulmonary blood flow is dependent on ductal patency

a. Tetralogy of Fallot

b. Transposition of great vessels c. Tricuspid atresia

d. Pulmonary stenosis/atresia e. Hypoplastic right heart syndrome

f. Ebstein’s anomaly

970. Hypernatremia may be caused by all of the following except:

A. Adipsia

B. Gastroenteritis

C. Hyperglycemia

D. Nephrogenic diabetes insipidus

Answer: C

Hypernatremia is typically classified by a person's fluid status into low volume, normal volume, and high volume.[1] Low volume hypernatremia can occur from sweating, vomiting, diarrhea, diuretic medication, or kidney disease.[1] Normal volume hypernatremia can be due to fever, inappropriately decreased thirst, prolonged increased breath rate, diabetes insipidus, and from lithium among other causes.

[1] High volume hypernatremia can be due to hyperaldosteronism, be health care caused such as when too much intravenous 3% normal saline or sodium bicarbonate is given, or rarely be from eating too much salt.[1][2] Low blood protein levels can result in a falsely high sodium measurement.

971. Major findings in the Duke criteria for the diagnosis of endocarditis include all of the following Except:

A. Dehiscence of a prostatic valve

B. Intracardiac mass on a valve seen with echocardiography

C. Osler nodes

D. Two separate positive blood cultures for common bacteria

Answer: C

Immune complex phenomena and embolic events are minor criteria.

Two major or one major and 3-5 minor criteria suggest definite endocarditis.

972. Child complaining of painless unilateral hearing loss. On examination, tympanic membrane was erythematous and bulging. Which of the following is likely diagnosis?

A. Labyrynthitis

B. Meniere's disease

C. Otitis externa

D. Otitis media

Answer: D

Otitis Media is a suppurative infection of the middle ear cavity that is common in children. Up to 75% of children have at least three episodes by the age of two. Common pathogens include S. pneumoniae, nontypable H. influenzae, Moraxella catarrhalis, and viruses such as influenza A, RSV, and parainfluenza virus. Otitis Media is the most common cause of hearing loss in children is from otitis media. When the secretions of middle ear accumulate, they exert the pressure on tympanic membrane which is dangerous sign. If nothing done in time, the tympanic membrane may rupture, leading to hearing loss.

Symptoms include ear pain, fever, crying, irritability, difficulty feeding or sleeping, vomiting, and diarrhea. Young children may tug on their ears.

Treatment: High-dose amoxicillin (10 days for empiric therapy).

Resistant cases may require amoxicillin/clavulanic acid.

973. What is the most common congenital abnormally cause infective endocarditis ?

A. Atrial Septal \defect (ASD)

B. Patent Ductus Arteriosus (PDA)

C. Tetralogy of fallot

D. Ventricular Septal Defect (VSD)

Answer: C

Explanation: (C because according to the references the cause of IE is unrepaired cyanotic con- genital heart disease. Picture below is the American heart association recommendation for infective endocarditis management.

974. All of the following statements are true Except:

A. Cold antibodies are primarily of the IgM class and require complement for activity

B. In most instances of warm antibody hemolysis, no underlying cause is found

C. The hallmark of the autoimmune hemolytic anemias is a positive result on the direct Coombs test

D. The prognosis for patients with Evans syndrome (immune

thrombocytopenic purpura) is good after the acute episode

Answer: D

In most instances of warm antibody hemolysis, no underlying cause can be found; this is the primary or idiopathic type The laboratory hallmark of AIHA is a positive direct antiglobulin test (DAT) Cold agglutinins are typically IgM autoantibodies that cause RBC agglutination at temperatures lower than 37°C.The IgM antibody usually reacts with I/i RBC antigen, resulting in complement activation by fixation of antibody to the antigen at low temperatures. With Evans syndrome, only a small percentage of patients achieve complete remission.Most patients require second and possibly thrid line treatment

975. Which of the following conditions is associated with turner syndrome?

A. Coarctation of the aorta

B. Patent ductus arteriosus

C. Pulmonary atresia

D. Ventricular septal defect

Answer: A

1. Turner syndrome is one of the most common chromosomal abnormalities.

2. Turner syndrome is caused by the absence of one set of genes from the short arm of one X chromosome.

3. 45,X karyotype (about two thirds are missing the paternal X chromosome)

Clinical Presentation

1. Short stature

2. Shield chest: The chest appears to be broad with widely spaced nipples.

3. Lymphedema may be present at any age and is one finding that can suggest Turner syndrome on fetal ultrasonography.

4. Webbed neck and low posterior hairline due to lymph edema.

5. Pubic hair development is normal

6. Coarctation of the aorta is the most common cardiac defect associated with Turner syndrome.

7. Eye: Ptosis, strabismus, amblyopia, and cataracts are more common in girls with Turner syndrome.

976. Which of the following findings is consistent with the SIADH?

A. Hypernatremia

B. Hyperosmolality

C. Hypertonic urine

D. Hypovolemia

E. Increased glomerular filtration rate

Answer: C

SIADH is defined as less than maximally dilute urine in the presence of plasma hypoosmolality and hyponatremia. The condition is associated with a number of disorders, including small cell carcinoma of the lung, Guillain–Barre syndrome, acute intermittent porphyria, other pulmonary disorders (e.g., pneumonia, tuberculosis), and neurologic disorders (e.g., meningitis, tumors, trauma, stroke). In many cases, the condition may be idiopathic. The cause is the inappropriate release of antidiuretic hormone (ADH) with respect to the body's fluid osmolality.

Findings include

• Hyponatremia and hypoosmolality of body fluids

• Normal glomerular filtration rate

• Urine hypertonicity (usually >300 mOsmol per kg) despite a subnormal plasma osmolality and serum sodium concentration

• Isovolemia or hypervolemia without the presence of edema

• Urinary sodium wasting that increases with salt loading

Symptoms include confusion, anorexia, lethargy, and muscle cramps.

Treatment involves fluid restriction—often <1 L daily. More severe cases may require replacement of sodium and potassium deficits. Care should be taken not to replace deficits too quickly because of the risk of central pontine myelinolysis. Other treatments involve the long-term use of demeclocycline, which antagonizes the effect of antidiuretic hormone on the kidney and produces a nephrogenic diabetes insipidus and helps to correct hyponatremia.

977. A 6-year-old boy is brought to the emergency room with sudden onset of stridor and drooling. His temperature is 39 C, Blood pressure is 90/50 mmHg, pulse 122/min and respiratory rate of 37/min. Which of the following is the most appropriate management for this patient?

A. Administration of epinephrine

B. Endotracheal intubation in the operating room

C. IVbroad-spectrum antibiotics

D. Oxygen therapy

Answer: B

Epiglottitis is a medical emergency and rapid treatment must be initiated in order to prevent obstruction of the airway. The most common organisms of epiglottitis, in adults are Haemophilus

inffuenzae and Streptococcus pyogenes. Haemophilus Influenza type B is the most common cause in children and adults. Presents with sore throat, dysphagia, drooling, muffled voice and cough.

Examination: Cervical lymphadenopathy. The patient assumes a tripod position.

CXR: Thumbprint sign on lateral film. Management : Immediate endotracheal intubation in the operating room in patients with severe airway obstruction. Symptoms: Sore throat (95%), Odynophagia/dysphagia (95%), Muffled voice (54%) - "Hot potato voice," as if the patient is struggling with a mouthful of hot food. Adults may have preceding upper respiratory tract infection (URTI) symptoms.

978. A 4-year-old girl presented to your o□ce with fever and dysuria 1 week ago. Her urinalysis is positive for leukocyte esterase and nitrites. Her urine culture eventually grew out 100,000 cfu E. coli . You started her on a course of trimethroprim–sulfamethoxazole. Her fever and dysuria resolved completely, but the mother returns to the clinic today for the development of a rash. On examination, she is well appearing, but there are multiple punctate nonblanching macular purplish spots on her arms, legs, and trunks. You obtain a CBC that shows a white blood cell count of 1.7 x10 9 /L, hemoglobin of 7 g/dL, and platelets of 25 x10 9 /L. What is the most likely cause of her laboratory findings?

A. Acute lymphoblastic leukemia

B. Aplastic anemia

C. Congenital bone marrow failure syndrome

D. Drug effect

E. Viral suppression

Answer: D

The patient developed pancytopenia after a course of TMPSMX, which is known to cause bone marrow suppression. Other than the petechiae, she is well appearing with no fevers, hepatosplenomegaly, or pain that would point toward an underlying leukemia. The patient had a bacterial UTI, with no other signs of a concurrent viral infection. While this could be the first presentation of an acquired aplastic anemia or congenital bone marrow failure syndrome, these are relatively rare diseases, and drug effect is more likely.

979. A 2-yr-old child arrives in the PICU in respiratory distress and soon requires intubation and mechanical support. Because of a heart murmur detected 2 days later, a cardiology consultation is requested, and the fellow performing the consultation speaks with the family, indicating the need fo immediate heart surgery. The family is distressed at this news, and wonders why you have not mentioned the possibility of surgery. The most appropriate next step in management is to:

A. Advise the family not to give much credence to the fellow's opinions

B. Ask the family to discuss the matter further with the cardiology service

C. Convene a meeting with representatives from your service and the cardiology service, develop a plan, and then meet with the family to present recommendations

D. Homozygous a thalassemia

Answer: C

When such communication catches you off guard, regroup the team and family and discuss the events that led to the diagnosis and surgery.

Never forget the best interest of the patient despite less-thanoptimal communication.

980. A 32-wk gestational age infant develops grunting, flaring, and retraction after birth. He requires 50% oxygen (O2) by mask to keep his oxygen saturation above 95%. The next step in management, if he requires more O2, is to:

A. Begin nasal continuous positive airway pressure (CPAP)

B. Begin penicillin infusion

C. Institute inhalation of nitric oxide

D. Perform a blood transfusion

Answer: A

Nasal CPAP is often quite effective when larger premature infants develop respiratory distress syndrome (RDS).

981. Which of the following is the most common site of meckel's diverticulum?

A. Ileum

B. Jejunum

C. Rectum

D. Stomach

Answer: A

Meckel's diverticulum

1. Common remnant of vitelline duct that exists as outpouching of ileum and may contain ectopic tissue.

2. Asymptomatic; occasionally presents with painless rectal bleeding, intussusception, diverticulitis, or abscess formation.

3. The ileum is the most common site of Meckel's diverticulum.

4. The most sensitive test is Meckel diverticulum scan, 99 technetium pertechnetate

5. The uptake can be enhanced by cimetidine, glucagon, and gastrin

6. Treatment: Surgical resection.

Meckel’s rule of 2’s:

1. Most common in children under 2

2. 2 times more common in males

3. Contains 2 types of tissue (pancreatic and

4. gastric)

5. 2 inches long

6. Found within 2 feet of the ileocecal valve Occurs in 2% of the population

982. All of the following statements are true Except:

A. Erythropoiesis in utero is controlled by erythroid growth factors produced solely by the fetus

B. Few neutrophils are found in the fetal circulation until the third trimester

C. The anatomic site of hematopoiesis changes during gestation and the population of cells generated at those sites are distinct

D. Thrombopoietin is the physiologic regulator of platelet production but does not act as a potent stimulator of all stages of megakaryocyte growth and development

Answer: D

Hematopoiesis is the process by which the cellular elements of blood are formed. In the developing human embryo and fetus, hematopoiesis is conceptually divided into 3 anatomic stages: mesoblastic, hepatic, and myeloid. Mesoblastic hematopoiesis occurs in extraembryonic structures, principally in the yolk sac, and begins between the 10th and 14th days of gestation. By 6-8 wk of gestation the liver replaces the yolk sac as the primary site of blood cell production, and during this time the placenta also contributes as a hematopoietic site. By 10-12 wk extraembryonic hematopoiesis has essentially ceased. Hepatic hematopoiesis occurs through the remainder of gestation, although hepatic production diminishes during the second trimester while bone marrow (myeloid) hematopoiesis increases. The liver remains the predominant erythropoietic organ (few if any neutrophils are produced in the human fetal liver) through 20-24 wk of gestation...Thrombopoietin (TPO) is the physiologic regulator of platelet production and acts as a stimulator of all stages of megakaryocyte growth and development. Fetal blood contains few neutrophils until the third trimester. At 20 wk gestation the blood neutrophil count is 0-500/mm 3 . Although mature neutrophils are scarce, progenitor cells with the capacity to generate neutrophil clones are abundant in fetal blood. Similar to hematopoietic production of other cell lines, fetal erythropoiesis is regulated by growth factors produced by the fetus, not by the mother. Erythropoietin (EPO) does not cross the human placenta. Stimulating maternal EPO production does not stimulate fetal erythropoiesis.

983. A 10-year-old obese boy has central fat distribution, arrested growth, hypertension, plethora, purple striae, and osteoporosis. Which of the following disorders is most likely to be responsible for the clinical picture that this boy presents ?

A. ACTH-secreting pituitary adenoma

B. Adrenal adenoma

C. Bilateral adrenal hyperplasia

D. Craniopharyngioma

Answer: A

Cushing's disease (CD) is the most common cause of endogenous CS in childhood and adolescents after the age of 5 years. Defined as hypercortisolaemia caused by an ACTH-secreting corticotroph adenoma, pediatric CD accounts for approximately 75–80% of all pediatric CS cases Cushing syndrome is a rare entity, especially in children.1 The overall incidence of Cushing syndrome is approximately 2 to 5 new cases per million people per year. Only approximately 10% of the new cases each year occur in children. As in adult patients, in children with Cushing syndrome there is a female-to-male predominance, which decreases with younger age. There might even be a male-to-female predominance in infants and young toddlers with Cushing syndrome.1,3,4 The most common cause of Cushing syndrome in children is exogenous or iatrogenic Cushing syndrome. This is the result of chronic administration of glucocorticoids or ACTH. Glucocorticoids are being used more frequently for the treatment of many nonendocrine diseases including pulmonary, autoimmune, dermatologic, hematologic, and neoplastic disorders. In addition, ACTH is being used for the treatment of certain seizure disorders. The most common cause of endogenous Cushing syndrome in children is ACTH overproduction from the pituitary called Cushing disease. It is usually caused by an ACTH-secreting pituitary microadenoma and, rarely, a macroadenoma. ACTH secretion occurs in a semiautonomous

manner, maintaining some of the feedback of the HPA axis. Cushing disease accounts for approximately 75% of all cases of Cushing syndrome in children over 7 years. In children under 7 years, Cushing disease is less frequent; adrenal causes of Cushing syndrome (adenoma, carcinoma, or bilateral hyperplasia) are the most common causes of the condition in infants and young toddlers. Ectopic ACTH production occurs rarely in young children; it also accounts for less than 1% of the cases of Cushing syndrome in adolescents.

984. A 10 year old child presents with with hip pain and a high temperature of 38.5 degrees. x-ray of the hip shows increased hip joint space and US shows fluid accumulation. Lab revealed high ESR, and CRP, otherwise normal. What is the most likely diagnosis?

A. Fracture neck of femur

B. Gouty arthritis.

C. Reactive arthritis

D. Septic arthritis

Answer: D

It could be a case of Transient synovitis vs Septic arthritis. Adding in the CRP as a predictive factor, Jung et al found that patients with 4 of 5 predictors (body temperature 37ºC, ESR >20 mm/h, CRP >1 mg/dL, WBC >11,000/mL, and an increased hip joint space of >2 mm) had a high probability of having septic arthritis and were candidates for further study by MRI or joint aspiration.In settings in which routine aspirations of effusions is not performed, an MRI may help physicians differentiate transient synovitis from septic arthritis.

985. All of the following statements regarding adult and pediatric tumors are true Except:

A. Death due to childhood cancers results in a much longer loss of potential lifespan than is the case with cancer in adults

B. Distribution of cancer types differs markedly between adults and children

C. Genetic abnormalities are associated with most pediatric cancers but not with most adult cancers

D. In comparison with adult cancers, childhood cancers are infrequent

Answer: C

Specific genetic conditions are believed to account for <5% of all pediatric malignancies

986. Baby with greasy looking rash on face.

A. Eczema

B. Infantile acne

C. Seborrheic dermatitis

D. Tinea versicolor

Answer: C

Seborrheic dermatitis, characterized by erythema and greasy scales, is highly prevalent during the first 4 weeks of life, and it needs to be

differentiated from atopic dermatitis. Seborrheic dermatitis, or "cradle cap," occurs most commonly on the scalp, but it may also affect the face, ears, and neck. Management of seborrheic dermatitis usually consists of parental reassurance and observation, but tar-based shampoo, topical ketoconazole, or mild topical steroids may be required for treatment of severe or persistent cases.

987. A 4-year-old girl is brought to the physician for high fever, cough, coryza, conjunctivitis, maculopapular rash spread from the head down. Physical examination reveals splenomegaly and lymphadenopathy. Which of the following is the most likely diagnosis?

A. Measles

B. Meningitis

C. Rubella

D. Shigella

Answer: A

Measles

1. **Mode of transmission:** respiratory droplets (airborne).

2. The virus is infectious for 3-4 days before the onset of morbilliform rash and 4 days after the exanthem.

Diagnosis

1. IgM level serology (**most reliable test**)

2. Antigen detection in respiratory epithelial cells

3. Tissue by immunofluorescent method or PCR

Clinical presentation

1. Coryza

2. Cough

3. Conjunctivitis

4. High fever

5. Koplik spots

6. Rash is erythematous maculopapular rash spread from up down and disappear the same way

Prevention:

1. Intramuscular (IM) immunoglobulin prophylaxis should be given to unimmunized child if exposed to measles infection

2. Children received measles vaccine before 1 year do not count and need to receive two doses of MMR after 12 months for full immunization.

3. Infected child with measles should be placed under air borne precaution transmission and isolated for 4 days after the rash and for all duration of illness if immuno compromised.

Complications

1. **Otitis media is the most common**

2. Pneumonia (common cause of death)

3. Encephalitis

988. What is the inheritance mode of fanconi anaemia?

A. Autosomal dominant

B. Autosomal recessive

C. Both A and C

D. X-linked

Answer: C

Fanconi anaemia (FA) is a rare genetic disease resulting in impaired response to DNA damage. Although it is a very rare disorder, study of this and other bone marrow failure syndromes has improved scientific understanding of the mechanisms of normal bone marrow function and development of cancer. FA is primarily an autosomal recessive genetic disorder. This means that two mutated alleles (one from each parent) are required to cause the disease. The risk is 25% that each subsequent child will have FA. About 2% of FA cases are X-linked recessive, which means that if the mother carries one mutated Fanconi anemia allele on one X chromosome, a 50% chance exists that male offspring will present with Fanconi anemia.

989. You conducted a study in which a group of epileptic patients using carbamazepine for 10 years. Now you compare them with their age equivaent healthy individuals. What is this type of study called?

A. C-Cross sectional

B. Case control study

C. Prospective cohort study

D. Retrospective cohort study

Answer: C

● Cohort study: compares a group with exposure (carbamazepine in this Q) to a group without such exposure. Done in two ways; either Prospective (you give the exposure and follow the subjects for a specific time) or retrospective (the exposure occurred already in the past, you look back in the history).

● Case control study: compares a group with disease to a group without disease.

990. High risk factors for neonatal jaundice include all of the following except:

A. A sibling with jaundice

B. Neonatal polycythemia

C. Poor enteral intake

D. Post dates

Answer: D

Post mature infants have a lower incidence of jaundice unless polycythemia is present. Other risk factors for jaundice include hemolysis, Gilbert disease, breast-feeding, prematurity, diabetic mother, bruising, intestinal obstruction, hypothyroidism, and diseases producing cholestatic disorders.

991. You are seeing a 15-year-old patient with Fanconi anemia. Her blood counts have been stable with persistence of a mild macrocytic anemia and thrombocytopenia. On physical examination, you notice that she has a painless ulceration on the lateral aspect of her tongue. She has no history of trauma to the tongue. You suspect that this is:

A. Due to a herpes virus and prescribe acyclovir

B. Due to an enteroviral infection and will self-resolve

C. Leukoplakia that is commonly seen in FA patients

D. Oral candidiasis and prescribe nystatin

E. Squamous cell cancer and refer to an otolaryngologist

Answer: E

Fanconi anemia is an autosomal recessive syndrome of defective double-strand DNA repair. Patients with Fanconi anemia are at increased risk of squamous cell carcinoma as well as aplastic anemia, myelodysplastic syndrome, and acute myelogenous leukemia. In some patients, squamous cell carcinoma may be the initial manifestation of the disease. Congenital anomalies are common, presenting in more than half the patients—these include anomalies of the thumb and radius, as well as of the kidneys, esophagus, genitals, and head and neck. The other answer choices are not associated with Fanconi anemia. Of note, leukoplakia is commonly seen in patients with dyskeratosis congenita, another bone marrow failure syndrome that also predisposes to squamous cells carcinoma as well as bone marrow failure.

992. A 13-year-old boy with a history of tetralogy of Fallot presents with a rapidly progressive history of severe headaches, nausea, and vomiting.

Today at school, he had an episode where he was described as "losing consciousness" for approximately 1 minute. He has had a low-grade fever, and no gastrointestinal symptoms. CT scan with contrast reveals a 3 cm ring-enhancing lesion in his left frontal lobe. Past medical history also includes multiple caries and recent dental procedure last week. Empiric antimicrobial therapy for this patient should include:

A. Cefazolin

B. Ceftazidime

C. Metronidazole

D. Vancomycin and ceftriaxone

E. Vancomycin, ceftriaxone, and metronidazole

Answer: D

Depending on the size and location of the brain abscess, in an ideal situation, aspiration can be performed and appropriate aerobic and anaerobic cultures can be sent to direct appropriate therapy. In the meantime, gram-positive cocci (both multiple Streptococcus spp. And S. aureus), aerobic gram-negative rods, and anaerobic odontogenic sources are all potential pathogens. As a result, broad therapy for all of the above is necessary until additional information is obtained. Intravenous antibiotic therapy may be necessary for several weeks. In addition, coverage may need to remain broad-spectrum if cultures cannot be obtained or remain negative with no pathogen identified.

993. Which one of the following has been shown to be effective for improving symptoms of varicose veins?

A. Ephedra

B. Horse chestnut seed extract

C. Milk thistle

D. St. John’s wort

E. Vitamin B

Answer: B

Horse chestnut seed extract has been shown to be effective when used orally for symptomatic treatment of chronic venous insufficiency, such as varicose veins. It may also be useful for relieving pain, tiredness, tension, and swelling in the legs. It contains a number of anti-inflammatory substances, including escin, which reduces edema and lowers fluid exudation by decreasing vascular permeability. Milk thistle may be effective for hepatic cirrhosis. Ephedra is considered unsafe, as it can cause severe life-threatening or disabling adverse effects in some people. St. John’s wort may be effective for treating mild-to-moderate depression. Vitamin B is used to treat pernicious anemia.

994. Which of the following conditions is characterized by developmental delay, deafness, cataracts and purpura?

A. Congenital rubella syndrome

B. Down syndrome

C. Meniere's disease

D. Sickle cell trait

Answer: A

Rubella is generally a benign communicable exanthematous disease caused by rubella virus. Rubella virus is transmitted from person to person via the aerosolized particles from the respiratory tract. The major complication of rubella is its teratogenic effects when pregnant women contract the disease, especially in the early weeks of gestation. The virus can be transmitted to the fetus through the placenta and is capable of causing serious congenital defects, abortions, and stillbirths. Congenital rubella syndrome (CRS) is characterized by the triad of cataracts, patent ductus arteriosus, and sensorineural hearing loss.

995. A child with foul smelling breath and seed like structures coming out of the mouth. He is also a mouth breather. No history of fever. What's the most likely diagnosis?

A. Dental caries

B. Focal tonsillitis

C. Pharyngitis

D. Pulmonary disease

Answer: B

Individuals with acute tonsillitis present with fever, sore throat, foul breath, dysphagia, odynophagia, and tender cervical lymph nodes. Airway obstruction may manifest as mouth breathing, snoring, sleepdisordered breathing, nocturnal breathing pauses, or sleep apnea. clinical Tonsilloliths, also known as tonsil stones, are soft aggregates of bacterial and cellular debris that form in the tonsillar crypts, the crevices of the tonsils.[1] While they occur most commonly in the

palatine tonsils, they may also occur in the lingual tonsils. Protruding tonsilloliths may feel like foreign objects lodged in the tonsil crypt. They may be a nuisance and difficult to remove, but are usually not harmful. They are one of the causes of bad breath and always give off a putrid smell.

996. Which of the following is associated with excessive cow milk consumption for infants?

A. Iron deficiency anemia

B. Vitamin A deficiency

C. Vitamin D deficiency

D. Which of the following is associated with excessive cow milk consumption for infants?

Answer: A

1. Iron deficiency (ID) is the most common nutritional deficiency in children. 2. Breastfeeding of infants should be encouraged through the first year of life. Although containing low absolute iron concentration, up to 50% of iron in breast milk is absorbed and is sufficient for the first 6 months of life in normal infants.3. After 6 months, breastfed infants need iron supplementation, which may be achieved by introducing a variety of iron containing foods.4. Whole cow's milk, while a good source of calcium, is low in iron.5. A diet including cow's milk in the first year of life has been suggested as the major risk factor for subsequent development of iron deficiency and anemia in childhood, therefore elimination of this risk factor is an important component of preventive careCommon factors leading to an imbalance in iron metabolism include:

1. Insufficient iron intake

2. Decreased absorption due to poor dietary sources of iron

3. Introduction of unmodified cow's milk (nonformula cow’s milk) before 12 months of age.

4. Occult blood loss secondary to cow's milk protein-induced colitis

997. A baby who can sit in a tripod position, roll over and reach out for objects. How old is he?

A. 12 months

B. 18 months

C. 2 months

D. 6 months

Answer: D

Physical and motor skill markers: Able to hold almost all weight when supported in a standing position Able to transfer objects from one hand to the other Able to lift chest and head while on stomach, holding the weight on hands (often occurs by 4 months) Able to pick up a dropped object Able to roll from back to stomach (by 7 months) Able to sit in a high chair with a straight back Able to sit on the floor with lower back support Beginning of teething Increased drooling Should be able to sleep 6 to 8 hour stretches at night Should have doubled birth weight (birth weight often doubles by 4 months, and it would be cause for concern if this hasn't happened by 6 months)

998. A 10-year-old girl is presented with many freckles on her face, neck, and hands. The parents reported that she was unusually sensitive to sunlight. Examination showed an ulcerated nodule beside the nose, which was diagnosed as basal cell carcinoma.Which of the following is the most likely underlying cause of her disease?

A. Chromosomal abnormalities

B. Defect in DNA repair mechanism

C. Don't know

D. Inborn error of metabolism

E. Mutation of p53 gene

Answer: B

Basal cell carcinoma is a type of skin cancer. Basal cell carcinoma begins in the basal cells — a type of cell within the skin that produces new skin cells as old ones die off.Basal cell carcinoma usually develops on sun-exposed parts of your body, especially head and neck. Basal cell carcinoma occurs when one of the skin's basal cells develops mutation in its DNA. Basal cells are found at the bottom of the epidermis — the outermost layer of skin. Basal cells produce new skin cells. As new skin cells are produced, they push older cells toward the skin's surface, where the old cells die and are sloughed off. The process of creating new skin cells is controlled by a basal cell's DNA. A mutation in the DNA causes a basal cell to multiply rapidly and continue growing when it would normally die. Eventually the accumulating abnormal cells may form a cancerous tumor

999. A 4 year old is brought to the emergency room having ingested 3 bottles of ferrous gluconate 4 hours ago. Which of the following is the most appropriate action to take?

A. Gastric lavage

B. Give IV deferoxamine.

C. Give Ipepac

D. Give activated charcoal

Answer: B

he first step in treating a case of acute iron toxicity is to provide appropriate supportive care, with particular attention paid to fluid balance and cardiovascular stabilization. Initial treatment should also address the issue of preventing further absorption of iron by the GI tract. Ipecac-induced emesis is not recommended. This is especially true in iron ingestion, as GI distress is an early finding in iron poisoning and is present in all potentially serious ingestions, and ipecac-induced vomiting may cloud the clinical picture. Gastric lavage is not recommended because iron tablets are relatively large and become sticky in gastric fluid, making lavage unlikely to be of benefit.

Deferoxamine is the iron-chelating agent of choice. Deferoxamine binds absorbed iron, and the iron-deferoxamine complex is excreted in the urine. Deferoxamine does not bind iron in hemoglobin, myoglobin, or other iron-carrying proteins. Base the indications for using deferoxamine on both clinical and laboratory parameters. Indications for treatment include shock, altered mental status, persistent GI symptoms, metabolic acidosis, pills visible on radiographs, serum iron level greater than 500 μg/dL, or estimated dose greater than 60 mg/kg of elemental iron. Initiate chelation if a serum iron level is not available and symptoms are present.

1000. A chronic or recurrent course of abdominal pain, weight loss, and anemia in an adolescent girl suggests:

A. Anorexia nervosa

B. Henoch-Schonlein purpura

C. Inflammatory bowel disease

D. Pelvic inflammatory disease

Answer: C

Clinical manifestations of Crohn's disease (CD) are highly variable, but the most common constellation is right lower quadrant abdominal pain and nonbloody diarrhea, often accompanied by weight loss and other constitutional symptoms. Hematologic abnormalities include evidence of microcytic anemia, elevated white blood cell count in peripheral blood, and thrombocytosis. Markers of inflammation such as erythrocyte sedimentation rate (ESR) and high-sensitivity C-reactive protein (hsCRP) may also be elevated, the latter more commonly in CD than in UC. Absence of skin and joint involvement excludes Henoch-Schonlein purpura. Anorexia Nervosa is a psychological and potentially life-threatening eating disorder. Additionally, patients who suffer from this eating disorder exemplify a fixation with a thin figure and abnormal ating patterns