PLAB Pediatrics Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. **What is the primary investigation used to assess for biliary atresia?**
   - **A. Magnetic resonance imaging**
   - **B. Abdominal ultrasound**
   - **C. Computed tomography scan**
   - **D. Liver biopsy**

2. **What distinguishes the male salt wasting form of congenital adrenal hyperplasia?**
   - **A. Penile enlargement**
   - **B. Hyperkalemia**
   - **C. Ambiguous genitalia**
   - **D. Excess androgens**

3. **What is indicated for a child with diarrhea and vomiting who is unable to retain fluids?**
   - **A. Oral rehydration**
   - **B. Intravenous fluids**
   - **C. Antibiotics**
   - **D. Anti-emetics**

4. **Asperger's syndrome is described as having what primary features?**
   - **A. Intellectual disability with poor language skills**
   - **B. Difficulty in social interaction with above-average intelligence**
   - **C. Normal social skills but poor academic performance**
   - **D. Severe emotional disturbances with normal development**

5. **What is the primary condition indicated by the presence of vesicles on the hands and feet along with fever and mouth ulcers?**
   - **A. Herpangina**
   - **B. Hand, foot, and mouth disease**
   - **C. Roseola infantum**
   - **D. Impetigo**

6. What is the expected clinical presentation of a child with DiGeorge's syndrome?

A. Sudden weight gain

B. Severe allergic reactions

C. Recurrent infections and feeding difficulties

D. Isolated limb abnormalities

7. What chromosomal abnormality is associated with Down syndrome?

A. Trisomy 18

B. Trisomy 21

C. Monosomy X

D. Trisomy 13

8. Which signs would you expect during the assessment of clinical shock in a child?

A. Increased skin turgor and clear urine output

B. Cold and clammy extremities with prolonged capillary refill

C. High blood pressure with red consciousness

D. Warm skin and moist mucous membranes

9. What vaccination can prevent a significant number of acute epiglottitis cases?

A. MMR vaccine

B. DTP vaccine

C. Polio vaccine

D. Hib vaccine

10. What characteristic feature is associated with parvovirus B19 rash?

A. Spotty rash on the abdomen

B. Slapped cheek rash

C. Rash localized to the feet

D. Rash with blister formation

Answers

1. B
2. B
3. B
4. B
5. B
6. C
7. B
8. B
9. D
10. B

Explanations

1. What is the primary investigation used to assess for biliary atresia?

A. Magnetic resonance imaging

B. Abdominal ultrasound

C. Computed tomography scan

D. Liver biopsy

The primary investigation used to assess biliary atresia is abdominal ultrasound. This imaging technique is particularly effective in evaluating the biliary system in infants. An abdominal ultrasound can reveal the absence or abnormality of the gallbladder and can also assess the intrahepatic and extrahepatic bile ducts. Ultrasound is non-invasive, does not involve radiation, and provides real-time imaging which is crucial for identifying structural anomalies. In cases of suspected biliary atresia, an ultrasound can help differentiate between other conditions such as choledochal cysts or liver diseases by looking for specific markers, such as the "triangular cord sign," which indicates obliterated bile ducts. Other imaging modalities, like magnetic resonance imaging and computed tomography, are less commonly used in this clinical context due to their higher costs, longer procedural times, and exposure to radiation in the case of CT scans. Liver biopsy, while useful in diagnosing liver pathology, is not a first-line investigation for biliary atresia, as it does not provide information about the anatomy of the bile ducts. Therefore, abdominal ultrasound stands out as the primary tool for the initial assessment of biliary atresia, guiding further management decisions based on the findings.

2. What distinguishes the male salt wasting form of congenital adrenal hyperplasia?

A. Penile enlargement

B. Hyperkalemia

C. Ambiguous genitalia

D. Excess androgens

The male salt-wasting form of congenital adrenal hyperplasia (CAH), specifically due to 21-hydroxylase deficiency, is characterized by an inability to produce sufficient aldosterone, which ultimately leads to a loss of sodium and an accumulation of potassium in the blood, causing hyperkalemia. In this setting, because aldosterone is crucial for sodium retention and potassium excretion, males with this form of CAH do not effectively manage their electrolyte balance, resulting in elevated potassium levels. This is a key manifestation of the disorder and is medically significant, as severe hyperkalemia can lead to life-threatening cardiac arrhythmias and other complications. The other options refer to features that can be associated with CAH but do not specifically distinguish the male salt-wasting form. For instance, while excess androgens are present in all forms of CAH due to adrenal hyperplasia, and ambiguous genitalia can occur in females due to prenatal exposure to these excess androgens, these features are not exclusive or defining characteristics of the male salt-wasting form. Penile enlargement can also occur, but it is not the primary distinguishing feature of this condition. Thus, hyperkalemia stands out as the hallmark condition that defines the male (and female)

3. What is indicated for a child with diarrhea and vomiting who is unable to retain fluids?

A. Oral rehydration

B. Intravenous fluids

C. Antibiotics

D. Anti-emetics

In the scenario of a child experiencing diarrhea and vomiting who is unable to retain fluids, intravenous fluids are indicated as the appropriate intervention. This is primarily due to the severity of the child's condition, where the loss of fluids can lead to dehydration, which can be critical in young children. When a child cannot keep fluids down orally due to persistent vomiting, oral rehydration would not be effective as the fluids would not be retained. Intravenous fluids allow for immediate and controlled rehydration, helping to restore electrolyte balance and hydration status safely and efficiently. This method also bypasses the gastrointestinal tract, ensuring that the child receives necessary fluids directly into circulation. While antibiotics and anti-emetics might be considered in specific cases, they are not the primary treatment in this situation. Antibiotics are generally reserved for bacterial infections contributing to diarrhea and are not indicated unless there is a clear infectious etiology. Anti-emetics might provide symptomatic relief for vomiting, but they do not address the urgent need for hydration and would not be appropriate if the child remains unable to hold any fluids down.

4. Asperger's syndrome is described as having what primary features?

A. Intellectual disability with poor language skills

B. Difficulty in social interaction with above-average intelligence

C. Normal social skills but poor academic performance

D. Severe emotional disturbances with normal development

Asperger's syndrome, now classified under the umbrella of Autism Spectrum Disorders (ASD), is primarily characterized by challenges in social interaction, alongside a higher-than-average intellectual capacity and often an above-average focus on specific interests. Individuals with Asperger's typically have intact language skills, which distinguishes the syndrome from other developmental disorders that may involve language delay or impairment. The description of having difficulty in social interaction aligns with the hallmark features of Asperger's syndrome. These individuals may struggle to understand social cues, engage in reciprocal conversation, or form peer relationships, despite having cognitive strengths. Their intellectual abilities are often not just above average; they may excel in certain areas, demonstrating a high level of expertise or focus. This understanding addresses why the other options do not correctly describe Asperger's syndrome. Intellectual disability with poor language skills describes a different condition, while normal social skills but poor academic performance misrepresents the social difficulties commonly associated with Asperger's. Severe emotional disturbances with normal development also does not align well with the core characteristics of Asperger's, as emotional and behavioral aspects are distinctly separate from the linguistic and intellectual profiles found in these individuals. Thus, the selection of difficulty in social interaction with above-average intelligence accurately captures the essence of Asperger's syndrome

5. What is the primary condition indicated by the presence of vesicles on the hands and feet along with fever and mouth ulcers?

A. Herpangina

B. Hand, foot, and mouth disease

C. Roseola infantum

D. Impetigo

The primary condition indicated by the presence of vesicles on the hands and feet, along with fever and mouth ulcers, is Hand, Foot, and Mouth Disease (HFMD). This illness is most commonly caused by enteroviruses, particularly Coxsackievirus A16 and enterovirus 71. HFMD typically presents with a characteristic clinical picture: patients will develop febrile symptoms followed by the appearance of painful oral ulcers—often affecting the tongue and buccal mucosa—and vesicular lesions on the palms of the hands and soles of the feet. The combination of these symptoms strongly suggests HFMD as the underlying diagnosis. Other conditions may present with similar symptoms but do not manifest all the features typical of HFMD. For instance, herpangina, caused by the same virus family, usually presents with mouth ulcers but generally lacks the vesicular lesions on the hands and feet. Roseola infantum is characterized primarily by a sudden high fever followed by a rash, but does not present with vesicles or mouth ulcers at the onset. Impetigo is a bacterial skin infection that presents with pustules and crusted lesions usually around the face and is not associated with fever and oral ulcers to the extent seen in HFMD. Thus,

6. What is the expected clinical presentation of a child with DiGeorge's syndrome?

A. Sudden weight gain

B. Severe allergic reactions

C. Recurrent infections and feeding difficulties

D. Isolated limb abnormalities

DiGeorge syndrome, also known as 22q11.2 deletion syndrome, is characterized by a number of clinical features that stem from the developmental disruption of structures derived from the third and fourth pharyngeal pouches. One of the hallmark presentations in infants and children with this condition is recurrent infections. This is primarily due to thymic hypoplasia or aplasia, leading to T-cell deficiency, which compromises the immune response. As a result, children with DiGeorge syndrome are more susceptible to infections. Additionally, these children may experience feeding difficulties, which can arise from anatomical issues (such as congenital heart defects or cleft palate) and underlying developmental delays affecting the swallowing reflex. Together, recurrent infections and feeding difficulties are classic presentations associated with this syndrome, as they highlight the immunocompromised state of affected children and the associated challenges they face in their early development and care. The other options presented do not align with the primary clinical manifestations of DiGeorge syndrome. Sudden weight gain, for example, is more typical of other conditions such as adrenal insufficiency, and severe allergic reactions are not specifically characteristic of DiGeorge syndrome. Isolated limb abnormalities may suggest other congenital syndromes or conditions, but they do not typically present in conjunction with the

7. What chromosomal abnormality is associated with Down syndrome?

A. Trisomy 18

B. Trisomy 21

C. Monosomy X

D. Trisomy 13

Down syndrome is specifically associated with a chromosomal abnormality known as Trisomy 21. This means that individuals with Down syndrome have three copies of chromosome 21 instead of the usual two. This extra genetic material impacts physical and cognitive development, leading to the characteristic features and potential health concerns associated with the condition. The presence of an additional chromosome causes various developmental issues, including distinct facial features, increased risk for certain congenital heart defects, and developmental delays. Diagnosing Down syndrome typically involves genetic testing, which would reveal the presence of the extra chromosome. Understanding this genetic foundation is critical in pediatrics, as it informs the approach to management, early intervention strategies, and support for children with Down syndrome. Recognition of the features associated with Trisomy 21 and its implications allows healthcare providers to offer comprehensive care that meets the unique needs of these children and their families.

8. Which signs would you expect during the assessment of clinical shock in a child?

A. Increased skin turgor and clear urine output

B. Cold and clammy extremities with prolonged capillary refill

C. High blood pressure with red consciousness

D. Warm skin and moist mucous membranes

In the assessment of clinical shock in a child, certain signs indicate a compromised circulatory status and decreased perfusion. The presence of cold and clammy extremities, along with prolonged capillary refill time, suggests peripheral vasoconstriction which is a common compensatory mechanism in shock. This occurs as the body prioritizes blood flow to vital organs, redirecting it away from the extremities, which leads to a cooler extremity temperature and clamminess of the skin. Prolonged capillary refill time—typically more than 2 seconds—further indicates inadequate perfusion and is a key sign of shock. It reflects how quickly blood returns to the capillary beds after pressure is released. In a child experiencing shock, you would expect this refill time to be extended due to decreased cardiac output or hypovolemia. The other options illustrate signs that do not typically align with the presentation of clinical shock. Increased skin turgor and clear urine output indicate good hydration and perfusion rather than shock. High blood pressure with clear consciousness does not suggest shock, which often presents with hypotension and altered mental status if severe. Warm skin and moist mucous membranes might suggest the opposite of shock, reflecting effective circulation rather than the compromised state seen in

9. What vaccination can prevent a significant number of acute epiglottitis cases?

A. MMR vaccine

B. DTP vaccine

C. Polio vaccine

D. Hib vaccine

The Hib vaccine is specifically designed to prevent infections caused by Haemophilus influenzae type b, which is a leading cause of acute epiglottitis in children. Prior to the widespread use of the Hib vaccine, epiglottitis due to this bacterium was a common and severe condition, often requiring hospitalization and intubation due to airway obstruction. By immunizing children against Hib, the incidence of epiglottitis has significantly declined, demonstrating the vaccine's effectiveness in preventing this serious respiratory infection. The vaccination leads to the development of immunity against the bacteria, thereby reducing the cases of epiglottitis caused by Hib. Other vaccines listed serve different purposes and do not have a direct impact on preventing acute epiglottitis. The MMR vaccine protects against measles, mumps, and rubella; the DTP vaccine protects against diphtheria, tetanus, and pertussis; and the polio vaccine protects against poliovirus. None of these vaccines target the Haemophilus influenzae type b bacterium, making them ineffective in preventing cases of acute epiglottitis.

10. What characteristic feature is associated with parvovirus B19 rash?

A. Spotty rash on the abdomen

B. Slapped cheek rash

C. Rash localized to the feet

D. Rash with blister formation

The characteristic feature associated with parvovirus B19 rash is the slapped cheek appearance. This distinctive rash typically presents in two stages. Initially, children exhibit fever and flu-like symptoms, followed by the development of the classic rosy, red rash primarily on the cheeks, which gives the appearance of being slapped. This is often accompanied by a lacy, reticular rash that can appear on the body and extremities as the condition progresses. Understanding the context of parvovirus B19 is important as it primarily affects children and can lead to fifth disease, also known as "slapped cheek syndrome." The name derived from the hallmark cheek rash highlights the striking and recognizable appearance of the condition that aids in its diagnosis. Other types of rashes mentioned, such as a spotty rash on the abdomen, a localized rash on the feet, or rashes with blister formation, do not accurately describe the presentation of parvovirus B19 and are associated with other infectious diseases or conditions. Recognizing the distinct "slapped cheek" feature is crucial for differentiating this viral infection from others in a clinical setting.