NEET Pediatrics Practice Test (Sample)

Study Guide

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Questions

1. At what level does pathological jaundice occur due to ABO/Rh incompatibility?

A. At birth

B. Day 1

C. Day 14

D. Day 28

2. Which metabolic condition can lead to "sweaty feet" odor in the urine?

A. Isovaleric acidemia

B. Smith-Lemli-Opitz syndrome

C. Cystic fibrosis

D. Phenylketonuria

3. Supravalvular aortic stenosis can be caused by which vitamin?

A. Vitamin A

B. Vitamin B12

C. Vitamin C

D. Vitamin D

4. What is associated with Grey baby syndrome?

A. Amoxicillin

B. Chloramphenicol

C. Penicillin

D. Gentamicin

5. What is the birth weight classification for a low birth weight (LBW) infant?

A. Less than 1.5 kg

B. Less than 2.5 kg

C. Less than 3.5 kg

D. Less than 4.5 kg

6. In Kawasaki disease, what does the "M" in the CREAM criteria stand for?

A. Mild fever

B. Mucosal involvement/Mucositis

C. Muscle pain

D. Multiple rashes

7. When is the immature pincer grasp typically developed?

A. 5 months

B. 7 months

C. 9 months

D. 11 months

8. Which disease is also known as erythema infectiosum?

A. Fifth Disease

B. Sixth Disease

C. Measles

D. Roseola

9. What is the approximate age range when infants generally develop a mature pincer grasp?

A. 9 months to 12 months

B. 10 months to 14 months

C. 12 months to 15 months

D. 13 months to 16 months

10. For infants older than 34 weeks, which feeding method is preferred?

A. Breastfeeding

B. Paladai

C. NG/ oroG tube

D. Formula feeding

Answers

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

Explanations

1. At what level does pathological jaundice occur due to ABO/Rh incompatibility?

A. At birth

B. Day 1

C. Day 14

D. Day 28

Pathological jaundice due to ABO or Rh incompatibility typically occurs within the first 24 hours after birth, making day 1 the critical time frame for its presentation. This rapid onset is primarily due to the hemolysis of red blood cells caused by the incompatibility between the mother's and the infant's blood types. In cases of ABO incompatibility, a mother's antibodies can cross the placenta and attack the fetal red blood cells, leading to increased bilirubin production and subsequently resulting in jaundice. Similarly, in Rh incompatibility, the maternal antibodies targeting Rh-positive fetal red blood cells can cause significant hemolysis shortly after birth. This condition is different from physiological jaundice, which usually appears later—typically around day 2 to 3 of life—as a result of immature liver function and the normal breakdown of red blood cells. Understanding the timing of jaundice onset related to these types of incompatibility is crucial for appropriate management and to prevent potential complications, such as kernicterus, which can occur if bilirubin levels rise dangerously high.

2. Which metabolic condition can lead to "sweaty feet" odor in the urine?

A. Isovaleric acidemia

B. Smith-Lemli-Opitz syndrome

C. Cystic fibrosis

D. Phenylketonuria

Isovaleric acidemia is a metabolic disorder that leads to the accumulation of isovaleric acid due to a deficiency of the enzyme isovaleryl-CoA dehydrogenase. This condition is part of a larger group known as organic acidemias, which are characterized by the body's inability to properly break down certain amino acids or fat metabolites. The "sweaty feet" odor in the urine is a classic symptom associated with isovaleric acidemia, stemming from the distinctive smell of isovaleric acid itself, which can resemble that of sweaty feet. This sensory symptom can often help clinicians recognize the condition during diagnosis. In contrast, the other listed conditions have different symptoms and metabolic disturbances. Smith-Lemli-Opitz syndrome is notable for physical malformations and cognitive impairment, while cystic fibrosis primarily affects the lungs and pancreas, presenting with thick mucus and digestive issues. Phenylketonuria leads to a build-up of phenylalanine, which can cause neurodevelopmental problems but does not specifically cause a "sweaty feet" odor. Understanding the specific metabolic pathways involved helps clarify why isovaleric acidemia is directly linked to this unique odor in urine.

3. Supravalvular aortic stenosis can be caused by which vitamin?

A. Vitamin A

B. Vitamin B12

C. Vitamin C

D. Vitamin D

Supravalvular aortic stenosis is a condition characterized by a narrowing of the aorta just above the aortic valve, and it can be associated with certain nutritional deficiencies. Vitamin D plays a crucial role in calcium metabolism and is important for the overall development of the cardiovascular system during fetal growth. Deficiencies or disturbances in vitamin D levels during pregnancy can lead to various congenital heart defects, including supravalvular aortic stenosis. Research indicates that maternal vitamin D deficiency may have teratogenic effects that can impact the development of the cardiovascular structures in the fetus. This relationship underscores the significance of adequate vitamin D levels in preventing certain congenital abnormalities related to the heart and major vessels. The other vitamins listed do not have a direct association with the development of supravalvular aortic stenosis in the same way that vitamin D does. For example, vitamin A is essential for vision and immune function; vitamin B12 is crucial for blood formation and neurological function; and vitamin C is important for the immune system and collagen synthesis. While all vitamins play vital roles in promoting health, the specific link between vitamin D deficiency and the risk of congenital heart conditions, including supravalvular aortic stenosis, highlights why it is the most relevant

4. What is associated with Grey baby syndrome?

A. Amoxicillin

B. Chloramphenicol

C. Penicillin

D. Gentamicin

Grey baby syndrome is a serious condition that can occur in newborns, particularly those who are premature or have low birth weight, and it is primarily associated with the use of chloramphenicol during pregnancy or in nursing mothers. Chloramphenicol is an antibiotic that can be passed through breast milk and has been shown to cause toxicity in infants. In infants, the liver is not fully developed, which leads to an inability to metabolize certain drugs effectively. Chloramphenicol can lead to the accumulation of toxic levels in the bloodstream, producing symptoms such as a grayish coloration of the skin, hypotension, hypothermia, and respiratory distress. This adverse effect highlights the importance of cautious use of certain medications during pregnancy and breastfeeding, as well as the need for healthcare providers to be aware of the potential risks of prescribing chloramphenicol to lactating mothers. Other antibiotics listed, such as amoxicillin, penicillin, and gentamicin, do not have a similar association with grey baby syndrome and are generally considered safe for use in pregnant or nursing mothers under proper medical guidance.

5. What is the birth weight classification for a low birth weight (LBW) infant?

A. Less than 1.5 kg

B. Less than 2.5 kg

C. Less than 3.5 kg

D. Less than 4.5 kg

A low birth weight (LBW) infant is classified as one whose birth weight is less than 2.5 kg (or 2500 grams). This classification is important because low birth weight can be an indicator of various health issues for the infant, including increased risk for morbidity and mortality, developmental delays, and potential long-term health problems. The significance of the 2.5 kg threshold stems from extensive research that has linked low birth weight to factors affecting prenatal growth and overall fetal health. Infants weighing less than this threshold may have had inadequate growth during pregnancy due to various reasons, including maternal health conditions, nutritional deficiencies, or issues related to pregnancy such as multiple gestation or complications like pre-eclampsia. By understanding this classification, healthcare providers can identify at-risk infants for further monitoring and intervention, which is vital for promoting better health outcomes postnatally.

6. In Kawasaki disease, what does the "M" in the CREAM criteria stand for?

A. Mild fever

B. Mucosal involvement/Mucositis

C. Muscle pain

D. Multiple rashes

In Kawasaki disease, the "M" in the CREAM criteria refers to mucosal involvement or mucositis. This is a key feature of the disease that helps differentiate it from other illnesses. In Kawasaki disease, mucosal involvement can present as inflammation and changes in the appearance of the mucous membranes, most notably in the oral cavity. This may include characteristics such as cracked lips, a strawberry tongue (enlarged, red papillae on the tongue), or inflammation of the oral mucosa. Recognizing mucosal involvement is critical for diagnosis, as Kawasaki disease is characterized by a multi-system inflammatory response, and the presence of this symptom, along with others in the CREAM criteria—conjunctival injection, rash, extremity changes, and fever—helps clinicians establish a diagnosis. Other options do not accurately capture the defining aspects of Kawasaki disease. Mild fever, muscle pain, and multiple rashes, while potentially associated with various conditions, do not specifically pertain to the CREAM criteria and are not distinguishing features of Kawasaki disease in the same way that mucosal involvement is.

7. When is the immature pincer grasp typically developed?

A. 5 months

B. 7 months

C. 9 months

D. 11 months

The immature pincer grasp typically develops around 9 months of age. This developmental milestone represents a significant advancement in fine motor skills, where a baby can use their thumb and index finger to grasp small objects. Prior to this stage, infants may rely on a whole-hand grasp or a raking motion to pick up items. At around 9 months, the coordination between the thumb and index finger improves, allowing for a more precise grip. This skill is crucial for further development, as it lays the foundation for later abilities such as feeding oneself and manipulating more complex objects. Fine motor skills continue to refine over the next few months, eventually leading to a more mature pincer grasp around 12 months of age. Developmental timelines can vary slightly from child to child, but by 9 months, most infants will demonstrate the immature pincer grasp, indicating the progression of their motor skills.

8. Which disease is also known as erythema infectiosum?

A. Fifth Disease

B. Sixth Disease

C. Measles

D. Roseola

Erythema infectiosum is commonly known as Fifth Disease. This viral infection is primarily caused by parvovirus B19 and typically affects children. The disease is characterized by a distinctive rash that often appears on the face, giving a "slapped cheek" appearance, followed by a lacy, reticular rash on the body. The name "Fifth Disease" comes from its historical classification among the five classic childhood exanthemas, which include measles, rubella, and chickenpox. Fifth Disease is generally mild and self-limiting, and while it can cause mild symptoms such as fever and sore throat, many children may not exhibit any symptoms at all. The condition is usually more serious in individuals with weakened immune systems or certain hemolytic conditions. The term "erythema infectiosum" specifically refers to this condition, helping differentiate it from other diseases with similar symptoms but different causative agents and implications. Understanding this connection reinforces the importance of both the clinical presentation and the terminology used in pediatrics, aiding in accurate diagnosis and communication regarding childhood viral illnesses.

9. What is the approximate age range when infants generally develop a mature pincer grasp?

A. 9 months to 12 months

B. 10 months to 14 months

C. 12 months to 15 months

D. 13 months to 16 months

Infants typically develop a mature pincer grasp between 9 months and 12 months of age. This developmental milestone is essential as it signifies the ability of a child to use their thumb and forefinger to pick up small objects, which is a crucial skill for later tasks such as self-feeding and writing. At around 9 months, many infants start showing signs of this grasp, and by 12 months, it is usually well-established. This ability reflects not only fine motor development but also cognitive processing as they learn about and interact with their environment. If a child has not developed this skill by around 12 months, it can be an indicator for parents or caregivers to consider discussing developmental concerns with a pediatrician. This timeline helps professionals in assessing children's growth and motor skills effectively.

10. For infants older than 34 weeks, which feeding method is preferred?

A. Breastfeeding

B. Paladai

C. NG/ oroG tube

D. Formula feeding

Breastfeeding is preferred for infants older than 34 weeks due to the numerous benefits it provides. At this age, infants are often able to coordinate sucking, swallowing, and breathing effectively, making them more capable of breastfeeding directly from the mother. Breast milk contains essential nutrients, antibodies, and enzymes that are key to enhancing the infant's immune system and promoting optimal growth and development. The act of breastfeeding is also beneficial for maternal-infant bonding and helps to establish a healthy feeding pattern. While other methods of feeding, such as paladai, NG or oroG tube feeding, and formula feeding, have their respective indications, they are generally considered less favorable for these infants when direct breastfeeding is an option. Paladai, for example, is often used for younger or less mature infants who are unable to breastfeed effectively. Tube feeding methods are usually utilized when infants cannot feed orally due to medical conditions or prematurity. Formula feeding can serve a purpose, especially when breastfeeding is not possible, but it does not provide the additional immunologic and developmental benefits that breast milk offers. In summary, breastfeeding stands out as the best method for infants over 34 weeks due to its comprehensive advantages that support both their immediate and long-term health.