CEA Nursing Practice Exam (Sample)

Study Guide

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Questions

1. If a patient holds a familiar object in their hand to identify it, what test is being performed?

A. Monognometrics

B. Graphesthesia

C. Two Point Discrimination

D. Stereognosis

2. Which gram-negative rod is least likely to cause a urinary tract infection?

A. Escherichia Coli

B. Proteus Mirabilis

C. Enterococcus

D. Klebsiella Oxytoca

3. A 43-year-old female with a platelet count of 80,000 is most likely diagnosed with which condition?

A. Thrombastemia

B. Pancytopenia

C. Thrombocytopenia

D. Thrombocytosis

4. Which agent should never be prescribed as monotherapy for asthma management?

A. Mast cell stabilizers

B. Long acting beta agonists

C. Inhaled corticosteroids

D. Leukotriene inhibitors

5. What is a common sign of a thyroid storm?

A. Hypotension

B. Severe fever

C. Bradycardia

D. Severe hypoglycemia

6. Which of the following immunoglobulins are the first to be elevated in the serum after a diagnosis of Hepatitis A?

A. IgD.

B. IgG.

C. IgA.

D. IgM.

7. How is classic phase 2 migraine managed according to general principles?

A. Patients in phase 2 migraine should avoid additional serotonin

B. Patients in phase 2 migraine need serotonin antagonism

C. Patients in phase 2 migraine need serotonin agonism

D. Patients in phase 2 migraine will benefit from oxygen therapy

8. When managing a patient with chronic alcoholism, what abnormal CBC result is the nurse practitioner likely to find?

A. Low MCV and MCH

B. Normal MCV and MCH

C. Chronic alcoholism will not affect the differential

D. Elevated MCV and MCH

9. Which agent dilates the efferent arteriole of the kidney?

A. Valsartan (Diovan)

B. Misoprostol (Cytotec)

C. Furosemide (Lasix)

D. Ibuprofen (Advil)

10. What is a firm contraindication for the use of combined oral contraceptives?

A. Remote history of provoked DVT after a knee surgery

B. History of cluster headaches

C. History of migraine without aura

D. History of migraine with aura

Answers

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

Explanations

1. If a patient holds a familiar object in their hand to identify it, what test is being performed?

A. Monognometrics

B. Graphesthesia

C. Two Point Discrimination

D. Stereognosis

The test being described is stereognosis, which refers to the ability to identify objects through touch by recognizing their shape, size, texture, and other physical properties without relying on vision. When a patient holds a familiar object in their hand, they use their tactile senses and previous experiences to determine what the object is, showcasing their sensory integration and memory. This type of sensory testing is particularly significant in neurological assessments, as it can help in identifying conditions that may impair sensory processing. Stereognosis assesses not only the functional ability to perceive tactile stimuli but also the brain's capability to interpret those stimuli based on prior knowledge and familiarity with the objects. Other options describe different sensory tests. For example, graphesthesia assesses the ability to recognize letters or numbers written on the skin, two-point discrimination measures the distance at which a person can discern two discrete points on the skin, and monognometrics is not a standard term related to sensory assessment. Understanding these distinctions is essential for correctly identifying the type of sensory examination being conducted.

2. Which gram-negative rod is least likely to cause a urinary tract infection?

A. Escherichia Coli

B. Proteus Mirabilis

C. Enterococcus

D. Klebsiella Oxytoca

The correct answer is Enterococcus, and this is due to the specific characteristics of the bacteria involved in urinary tract infections (UTIs). Enterococcus is a genus of bacteria that, while capable of causing infections in certain circumstances, is not the primary pathogen associated with UTIs. It is more commonly implicated in infections such as endocarditis and can occasionally be involved in more complicated urinary tract infections, particularly in hospitalized or immunocompromised patients, but it is less frequent in otherwise healthy individuals. In contrast, Escherichia coli is the leading cause of uncomplicated UTIs, accounting for a significant majority of cases. Proteus mirabilis can also be a known cause of UTIs, often associated with indwelling catheters, while Klebsiella oxytoca can contribute to both complicated and uncomplicated urinary infections. Therefore, these gram-negative rods have a strong association with urinary tract infections, whereas Enterococcus is less commonly the cause in typical scenarios. This distinction highlights the bacteriological dynamics of UTIs and demonstrates why Enterococcus stands out as the least likely of the options presented to cause these infections.

3. A 43-year-old female with a platelet count of 80,000 is most likely diagnosed with which condition?

A. Thrombastemia

B. Pancytopenia

C. Thrombocytopenia

D. Thrombocytosis

The patient's platelet count of 80,000 is indicative of thrombocytopenia, a condition characterized by an abnormally low level of platelets in the blood. Normal platelet counts typically range from 150,000 to 450,000 platelets per microliter of blood; therefore, a count of 80,000 is well below this range. Thrombocytopenia can be caused by various factors, including bone marrow disorders, increased destruction of platelets due to immune responses, or conditions that affect platelet production. It is important to recognize this condition, as it can lead to increased bleeding risk, which is a critical consideration in clinical care. In contrast, thrombocythemia (thrombastemia, which is not the standard term), and thrombocytosis refer to conditions where the platelet count is elevated above the normal range, which does not apply to this patient's situation. Pancytopenia involves a reduction in all three blood cell types: red blood cells, white blood cells, and platelets, and is not solely indicated by the low platelet count presented here. Therefore, the most accurate diagnosis given the provided platelet count is thrombocytopenia.

4. Which agent should never be prescribed as monotherapy for asthma management?

A. Mast cell stabilizers

B. Long acting beta agonists

C. Inhaled corticosteroids

D. Leukotriene inhibitors

Long-acting beta agonists (LABAs) should never be prescribed as monotherapy for asthma management because they do not address the underlying inflammation associated with asthma. While LABAs are effective bronchodilators that provide relief from bronchoconstriction, they can lead to increased risk of worsening asthma symptoms or severe asthma exacerbations if used without an inhaled corticosteroid. Inhaled corticosteroids are the cornerstone of asthma management due to their anti-inflammatory properties, significantly decreasing airway inflammation and responsiveness, which is a critical part of asthma control. Mast cell stabilizers and leukotriene inhibitors can help reduce inflammation and are often used in conjunction with other therapies, but they also do not replace the need for inhaled corticosteroids in managing persistent asthma. Combining LABAs with inhaled corticosteroids allows for both bronchodilation and the reduction of inflammation, creating a more effective and safer treatment approach for individuals with asthma. This is why using LABAs alone is not recommended and emphasizes the importance of incorporating anti-inflammatory medication into asthma treatment regimens.

5. What is a common sign of a thyroid storm?

A. Hypotension

B. Severe fever

C. Bradycardia

D. Severe hypoglycemia

A common sign of a thyroid storm is severe fever. In this life-threatening condition, characterized by an extreme overproduction of thyroid hormones, the body's metabolism is significantly heightened. This hypermetabolic state can lead to an increased body temperature, often exceeding 101 degrees Fahrenheit (38.3 degrees Celsius) and potentially reaching as high as 106 degrees Fahrenheit (41 degrees Celsius) or more. The fever is the result of the body's excessive metabolic activity, which accelerates various physiological processes, including thermogenesis. Monitoring for fever in patients at risk of thyroid storm is crucial, as it can be one of the earliest indicators of this serious condition. Other symptoms often include tachycardia, agitation, and altered mental status, which collectively reflect the crisis induced by excessive thyroid hormone levels. Thus, recognizing severe fever as a key sign can aid in early detection and prompt treatment of this critical situation.

6. Which of the following immunoglobulins are the first to be elevated in the serum after a diagnosis of Hepatitis A?

A. IgD.

B. IgG.

C. IgA.

D. IgM.

In the context of Hepatitis A infection, IgM immunoglobulins are the first antibodies produced by the immune system in response to the virus. When a person is infected with Hepatitis A, the body recognizes the virus as a foreign invader and initiates an immune response. The production of IgM antibodies usually begins within a few weeks after infection and serves as an early indicator of acute Hepatitis A. The presence of IgM in the serum is significant because it helps in diagnosing a recent infection. Healthcare providers often rely on serological testing to detect these antibodies when establishing a diagnosis of Hepatitis A. The elevation of IgM levels indicates that the body is actively responding to a new infection. Other immunoglobulins like IgG, IgA, and IgD serve different roles in the immune response. IgG is typically produced later, indicating past infection or immunity, whereas IgA is important for mucosal immunity. IgD is less understood and plays a minor role in the immune response compared to IgM and IgG. Therefore, the prominence of IgM in the early stages of Hepatitis A infection highlights its critical role in the immediate immune response and diagnosis.

7. How is classic phase 2 migraine managed according to general principles?

A. Patients in phase 2 migraine should avoid additional serotonin

B. Patients in phase 2 migraine need serotonin antagonism

C. Patients in phase 2 migraine need serotonin agonism

D. Patients in phase 2 migraine will benefit from oxygen therapy

In managing classic phase 2 migraines, the focus is on the role of serotonin in migraine pathology. During this phase, the body may be experiencing a decrease in serotonin levels, which can contribute to the symptoms associated with migraines. Serotonin agonism, which involves stimulating serotonin receptors to increase serotonin activity, has been shown to alleviate migraine symptoms. By promoting serotonin's action, agonists can lead to vasoconstriction and a reduction in the inflammatory processes that exacerbate a migraine. In contrast, serotonin antagonism, which blocks serotonin receptors, would not address the underlying deficiencies during a classic phase 2 migraine where increased serotonin activity is desirable. Oxygen therapy, although beneficial in certain types of headaches, is not a standard treatment for classic migraines, and avoiding additional serotonin could further aggravate the situation by not addressing the underlying serotonin deficiency. Thus, the choice of serotonin agonism aligns with the physiological needs of patients experiencing classic phase 2 migraines. This understanding of serotonin's role is crucial for effective migraine management.

8. When managing a patient with chronic alcoholism, what abnormal CBC result is the nurse practitioner likely to find?

A. Low MCV and MCH

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In the context of chronic alcoholism, elevated mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) are commonly observed due to the effects of alcohol on the bone marrow and red blood cell production. Chronic alcohol consumption often leads to macrocytic anemia, which is characterized by larger-than-normal red blood cells. This increase in MCV is primarily due to the inhibition of folate metabolism and vitamin B12 absorption, both of which are crucial for proper red blood cell production. Additionally, alcohol can directly suppress bone marrow function, further contributing to this abnormality. The elevation of MCV and MCH reflects changes in the size and hemoglobin content of red blood cells, indicators of macrocytic anemia often seen in patients with a long history of alcohol use. This is a direct association and common finding in clinical practice when monitoring hematological parameters in individuals with chronic alcoholism.

9. Which agent dilates the efferent arteriole of the kidney?

A. Valsartan (Diovan)

B. Misoprostol (Cytotec)

C. Furosemide (Lasix)

D. Ibuprofen (Advil)

Valsartan, a medication classified as an angiotensin II receptor blocker (ARB), functions by inhibiting the action of angiotensin II, a potent vasoconstrictor that typically affects the efferent arteriole in the kidney. By blocking this receptor, Valsartan leads to dilation of the efferent arteriole, which can decrease glomerular pressure and improve renal blood flow. This dilation is particularly significant in situations where there is increased pressure within the glomeruli, such as in conditions of hypertension or heart failure. The improved blood flow resulting from the dilation can help reduce the workload on the kidneys and may assist in preserving renal function under stress. Other medications listed do not primarily target the efferent arteriole in the same way. Misoprostol is primarily used for its effects on the gastrointestinal mucosa and does not have a significant influence on renal arterioles. Furosemide is a loop diuretic that acts on the ascending limb of the loop of Henle to promote diuresis, and it does not specifically dilate the efferent arteriole. Ibuprofen, a nonsteroidal anti-inflammatory drug (NSAID), can actually constrict renal blood flow through its effects on prost

10. What is a firm contraindication for the use of combined oral contraceptives?

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The use of combined oral contraceptives is contraindicated in patients with a history of migraine with aura due to the increased risk of stroke associated with estrogen-containing medications. Migraines with aura are characterized by neurological symptoms, such as visual disturbances, which can indicate increased susceptibility to vascular events. This heightened risk is particularly relevant for women who are of reproductive age and may be prescribed hormonal contraception. In contrast, a remote history of a provoked deep vein thrombosis (DVT) after surgery typically does not preclude the use of combined oral contraceptives, especially if the DVT was related to a temporary condition. A history of cluster headaches and migraines without aura also does not carry the same level of risk associated with combined oral contraceptives as migraines with aura do, making them less concerning in terms of contraindications. Thus, the critical factor leading to the contraindication is the association between migraine with aura and an increased risk of thromboembolic events, reinforcing the need for careful patient evaluation in contraceptive planning.