

Antianginal Agents Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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SAMPLE

Questions

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- 1. Following the administration of a scheduled dose of 50-mg atenolol PO, the nurse should prioritize what assessment?**
 - A. Oxygen saturation levels**
 - B. Level of consciousness (LOC)**
 - C. Oral temperature**
 - D. Blood pressure**
- 2. What is a contraindication for the use of nitrates?**
 - A. Cerebral hemorrhage**
 - B. Hypotension**
 - C. Liver dysfunction**
 - D. Hypovolemia**
- 3. How quickly does sublingual nitroglycerin typically begin to act?**
 - A. Five to ten minutes**
 - B. One to three minutes**
 - C. Ten to fifteen minutes**
 - D. Immediately**
- 4. Which of the following symptoms would most likely indicate a side effect of nitrates?**
 - A. Dry mouth**
 - B. Headache**
 - C. Weight gain**
 - D. Rash**
- 5. What important advice should a nurse give a client using a nitroglycerin patch regarding alcohol?**
 - A. Avoid drinking alcoholic beverages.**
 - B. Limit alcohol to one drink.**
 - C. It is safe to consume alcohol.**
 - D. Alcohol should not affect the patch.**

- 6. What does an electrocardiogram primarily show about the heart?**
- A. Mechanics of heart movement**
 - B. Impulses moving through the heart**
 - C. The size of the heart**
 - D. Heart rate variability**
- 7. What instruction should the nurse give for administering nitroglycerin transdermal spray?**
- A. Administer after consulting with a care provider**
 - B. Administer as soon as chest pain develops**
 - C. Administer if pain persists after 30 minutes of rest**
 - D. Administer only during nighttime**
- 8. How long does it typically take for warfarin to achieve its onset of action?**
- A. 1 day**
 - B. 3 days**
 - C. 5 days**
 - D. 7 days**
- 9. What is the appropriate replacement time frame for sublingual nitroglycerin?**
- A. Indefinite shelf life**
 - B. Annually**
 - C. Every six months**
 - D. Monthly**
- 10. Which adverse effect might a nurse observe in a client prescribed nitroglycerin for angina?**
- A. Renal insufficiency**
 - B. Hypotension**
 - C. Sedation**
 - D. Hypokalemia**

Answers

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

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Explanations

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1. Following the administration of a scheduled dose of 50-mg atenolol PO, the nurse should prioritize what assessment?

- A. Oxygen saturation levels**
- B. Level of consciousness (LOC)**
- C. Oral temperature**
- D. Blood pressure**

After administering a scheduled dose of atenolol, prioritizing the assessment of blood pressure is crucial due to the pharmacological effects of the medication. Atenolol is a selective beta-1 adrenergic blocker, primarily used to manage hypertension and angina by reducing heart rate, myocardial contractility, and the overall oxygen demand of the heart. Monitoring blood pressure after administration is essential because atenolol can lead to hypotension, especially in patients who are already on other antihypertensive medications or have conditions predisposing them to lower blood pressure. Assessing blood pressure helps ensure that the patient remains within a safe range and allows for timely interventions if the blood pressure drops significantly. While oxygen saturation, level of consciousness, and oral temperature are also important assessments in a clinical setting, they are not as directly affected by atenolol's mechanism of action. Therefore, focusing on blood pressure enables the nurse to gauge the immediate impact of the medication on the cardiovascular system, ensuring patient safety and effective ongoing management of their condition.

2. What is a contraindication for the use of nitrates?

- A. Cerebral hemorrhage**
- B. Hypotension**
- C. Liver dysfunction**
- D. Hypovolemia**

Cerebral hemorrhage is considered a contraindication for the use of nitrates due to the potential for increased intracranial pressure. Nitrates work by dilating blood vessels, which can lead to a reduction in blood pressure. In cases of cerebral hemorrhage, lowering blood pressure could exacerbate the bleeding or worsen the patient's condition by increasing the risk of further complications, such as increased cerebral edema or re-bleeding. While hypotension, liver dysfunction, and hypovolemia are factors that require caution or dosage adjustments when using nitrates, they do not serve as absolute contraindications. Patients with hypotension may need to avoid nitrates because these medications can lower blood pressure further, but it isn't an outright prohibition as individual circumstances may allow for careful administration under medical supervision. Liver dysfunction can affect drug metabolism, requiring careful monitoring but is not a direct contraindication. Hypovolemia can also lead to hypotension but does not outright prevent the use of nitrates, though they should be used cautiously in these situations.

3. How quickly does sublingual nitroglycerin typically begin to act?

- A. Five to ten minutes
- B. One to three minutes**
- C. Ten to fifteen minutes
- D. Immediately

Sublingual nitroglycerin is designed for rapid absorption and onset of action, making it particularly effective for acute angina attacks. When placed under the tongue, nitroglycerin bypasses the gastrointestinal tract and is absorbed directly into the bloodstream through the mucous membranes. This allows for a quick response, with the medication typically beginning to relieve angina symptoms within one to three minutes. This rapid onset is crucial in emergency situations where immediate relief of chest pain is necessary. Patients are often instructed to use sublingual nitroglycerin at the onset of angina symptoms due to this quick action. Other methods of administration for nitroglycerin, such as oral tablets or patches, take significantly longer to produce effects, illustrating the unique rapid action of the sublingual form.

4. Which of the following symptoms would most likely indicate a side effect of nitrates?

- A. Dry mouth
- B. Headache**
- C. Weight gain
- D. Rash

Nitrates are commonly used as antianginal agents to relieve angina by dilating blood vessels, which can lead to a number of side effects due to their vasodilatory effects. One of the most frequently reported side effects of nitrates is headache. This occurs because the expansion of blood vessels can lead to increased pressure and distention of intracranial blood vessels, resulting in a headache. Patients often experience this side effect when they first start treatment with nitrates or when the dosage is increased. It is usually not severe and may diminish as the body adjusts to the medication. In contrast, while dry mouth, weight gain, and rash may occur with various medications or conditions, they are not typical side effects associated with nitrates. Dry mouth is more commonly linked to other classes of drugs, weight gain is not a known reaction to nitrates, and while rashes can occur with many medications, they are not characteristic of nitrate therapy.

5. What important advice should a nurse give a client using a nitroglycerin patch regarding alcohol?

A. Avoid drinking alcoholic beverages.

B. Limit alcohol to one drink.

C. It is safe to consume alcohol.

D. Alcohol should not affect the patch.

Using a nitroglycerin patch can enhance the effects of certain substances in the body, including alcohol. When a client is prescribed nitroglycerin, which is used primarily to prevent angina attacks, it is crucial to manage its interaction with alcohol to avoid potential complications such as severe hypotension (low blood pressure). Alcohol can dilate blood vessels, similarly to how nitroglycerin works. When both substances are used together, they can amplify each other's effects, leading to excessive lowering of blood pressure, dizziness, or even fainting. Thus, advising a client to avoid drinking alcoholic beverages ensures their safety by minimizing the risk of these adverse reactions. While some medications allow limited alcohol consumption, in the case of nitroglycerin, the emphasis must be on excluding alcohol entirely to maintain stable blood pressure and ensure the effectiveness of the medication without unnecessary complications.

6. What does an electrocardiogram primarily show about the heart?

A. Mechanics of heart movement

B. Impulses moving through the heart

C. The size of the heart

D. Heart rate variability

An electrocardiogram (ECG or EKG) primarily shows the electrical impulses moving through the heart. This technique captures the electrical activity that prompts the heart to contract and pump blood. The ECG records the timing and strength of these electrical signals as they progress through the heart's conduction system, allowing for the analysis of heart rhythms and the identification of various cardiac conditions. While other recording methods might provide insights into the mechanics of heart movement or its size, the ECG is specifically designed to track the electrical impulses. The interpretation of these impulses can highlight any irregularities in heart rhythm, signs of ischemia, or structural issues that may affect electrical conduction. Therefore, option B is the most accurate reflection of what an ECG primarily shows about the heart.

7. What instruction should the nurse give for administering nitroglycerin transdermal spray?

- A. Administer after consulting with a care provider**
- B. Administer as soon as chest pain develops**
- C. Administer if pain persists after 30 minutes of rest**
- D. Administer only during nighttime**

The instruction to administer nitroglycerin transdermal spray as soon as chest pain develops is critical because nitroglycerin is designed to provide rapid relief from anginal symptoms. The mechanism of action for nitroglycerin involves the dilation of blood vessels, which helps to increase blood flow to the heart and reduces the heart's workload. Therefore, using the spray immediately when experiencing pain allows for prompt action against the anginal episode, enhancing the effectiveness of the treatment. Delaying administration until pain persists or consulting with a care provider may lead to prolonged discomfort and potential complications, as angina can indicate underlying cardiac issues that require immediate intervention. Similarly, restricting the use of nitroglycerin to nighttime is not practical, as episodes of chest pain can occur at any time and require timely treatment. Thus, the emphasis on administering the spray at the onset of chest pain aligns with best clinical practices for managing angina pectoris.

8. How long does it typically take for warfarin to achieve its onset of action?

- A. 1 day**
- B. 3 days**
- C. 5 days**
- D. 7 days**

Warfarin is an anticoagulant that requires time to reach effective levels in the body due to its mechanism of action, which involves the inhibition of vitamin K-dependent clotting factors. When administered, warfarin does not immediately affect existing clotting factors, as these factors have varying half-lives and are still present in the bloodstream. The onset of action is typically seen around three days after initiation of therapy. After about this duration, the levels of the vitamin K-dependent clotting factors such as Factors II (prothrombin), VII, IX, and X begin to decrease, which leads to an increased anticoagulation effect. It's important for healthcare providers to monitor INR levels during this time to ensure that the patient reaches the desired level of anticoagulation. The gradual decrease of these factors rather than an immediate effect accounts for the requirement of about three days for warfarin to achieve its full therapeutic action.

9. What is the appropriate replacement time frame for sublingual nitroglycerin?

- A. Indefinite shelf life**
- B. Annually**
- C. Every six months**
- D. Monthly**

Sublingual nitroglycerin is commonly used for rapid relief of anginal attacks. While it is effective, the stability of the medication can change over time, which can affect its potency. The appropriate time frame for replacing sublingual nitroglycerin is every six months. This recommendation is based on findings that the medication can lose its efficacy after this period, especially if it is not stored properly (for instance, exposure to light or moisture). In order to maintain its effectiveness, it is important to follow this replacement schedule. This ensures that patients always have access to reliable medication when they experience angina. Other proposed time frames such as annually, monthly, or an indefinite shelf life do not align with best practices or manufacturer guidelines regarding the stability and potency of the drug.

10. Which adverse effect might a nurse observe in a client prescribed nitroglycerin for angina?

- A. Renal insufficiency**
- B. Hypotension**
- C. Sedation**
- D. Hypokalemia**

Nitroglycerin is a nitrate medication commonly used to treat angina pectoris by dilating blood vessels and improving blood flow to the heart muscle. One of the most notable adverse effects of nitroglycerin is hypotension, which occurs because the medication causes vasodilation. This can lead to a decrease in blood pressure, especially when the patient stands up or exerts themselves, which may result in dizziness or fainting. It is essential for the nurse to monitor the patient's blood pressure closely after administering nitroglycerin to prevent complications associated with lowered blood pressure. While renal insufficiency, sedation, and hypokalemia may occur with various medications or health conditions, they are not common adverse effects directly associated with nitroglycerin. Monitoring for hypotension is crucial for ensuring patient safety when using this medication.