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TEST YOUR KNOWLEDGE
SERIES 1(A)

Cardiovascular System

Kavitha M
Reader, MMM College of Nursing, Chennai

1. A client who underwent a percutaneous, transluminal coronary angioplasty four weeks ago has a subsequent ejection fraction of 30%. The client returns for a follow-up visit. Examination reveals lungs that are clear during auscultation and slight pedal edema. The client's medications are digoxin (Lanoxin), furosemide (Lasix), enalapril maleate (Vasotec), and aspirin. The client reports 3 kg weight gain over the past two days. The cardiac-vascular nurse's initial action is to:
   (a) Document the weight and reassess the client at the next session.
   (b) Inquire about the client's medication compliance.
   (c) Notify the client's physician.
   (d) Review the client's most recent nuclear scan.

Ans. 1(b) Rationale: Client is on cardio protective medications, diuretics can cause patients to gain weight. Hence, assessing the compliance to medication is the priority than assessing the efficacy of drugs.

2. A client with myocardial infarction is receiving tissue plasminogen activator, alteplase. While on the therapy, the nurse's plan is to prioritize one of the following?
   (a) Observe sign of bleeding.
   (b) Signs of renal failure.
   (c) Sign of vomiting and giddiness.
   (d) ECG changes.

Ans. 2(a) Rationale: Clients receiving Thrombolytic therapy need to be monitored for signs of bleeding.

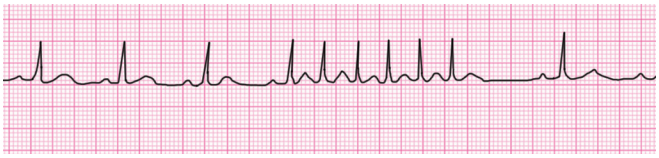
3. A nurse is interviewing a client receiving Metoprolol. On collecting the history, the client is also on insulin. Which of the following statements made by the nurse will correctly explain the possible interaction of these medications?
   (a) This medication will maintain the blood sugar level on a normal range.
   (b) This medication will have no effect on the blood sugar level".
   (c) This medication may mask some of the symptoms of hypoglycemia such as tremor, palpitation, and rapid heartbeat.
   (d) This medication may mask some of the symptoms of hyperglycemia such as headache, increased thirst and blurred vision.

Ans. 3(c) Rationale: Beta-blockers such as Metoprolol may increase the risk of hypoglycemia in clients receiving insulin. In addition, beta-blockers may mask some of the symptoms of hypoglycemia such as tremor, palpitation, and rapid heartbeat, making it more difficult to recognize an upcoming episode.

4. During the preoperative nutritional assessment, the nurse should question the client on weight, diet, and food preferences. Which of the following data should be reported as being a source of concern?
   (a) Unintentional weight loss.
   (b) Blood Urea Nitrogen (BUN) value of 26 mg/dl.
   (c) High-protein diet to lose weight.
   (d) Six caffeinated drinks daily.

Ans. 4(a) Rationale: All cardiac surgery clients undergo nutritional screening to identify malnourishment and those who are at-risk to ensure an adequate nutritional plan is included as part of the client's care. Unintentional weight loss, protein-calorie malnutrition, laboratory findings (e.g., anemia, hypoalbuminemia, vitamin B12 deficiency), and low body mass index are among the variables suggesting nutritional deficiency.

5. A 72 year old male client is complaining of dizziness and anxiety. Initial ECG was taken, an IV is started and the client is given oxygen, but his vital signs became unstable. An IV push of adenosine is given and his condition stabilizes with the final rhythm. Identify the initial rhythm from the below image?



   (a) Ventricular fibrillation.
   (b) Sinus Tachycardia.
   (c) Paroxysmal supraventricular tachycardia.
   (d) Atrial flutter

Ans. 5(c) Rationale: ECG Strip: Interpretation: Paroxysmal supraventricular tachycardia, initial junctional rhythm at 48 beats per minute converting to supraventricular tachycardia at 250 beats per minute.

6. A 57 yr old male client who weighs 70 kgs came to the hospital with the c/o breathlessness and on admission, BP shows 96/60 mm of Hg with tachycardia. The doctor advised to start inj. Dopamine double strength. Ordered dose is 10 mics. How many ml of diluted drug has to be administered through the syringe pump?
   (a) 12.2 ml.
   (b) 11.5 ml.
   (c) 10.5 ml.
   (d) 10 ml.

Ans. 6(c) Rationale: Dopamine available dose: 200mg/5ml

$$\frac{\text{Ordered dose} \times \text{BWt} \times \text{dilution volum} \times 60}{\text{Strength} \times 1000} = \frac{10 \times 70 \times 50 \times 60}{20 \times 20 \times 1000} = \frac{4{,}230{,}000}{4{,}00{,}000} =$$

Amount of drug to be administered –10.5 ml

7. A client has been diagnosed to have chronic mitral regurgitation. When interviewing the client, the healthcare provider expects the client to verbalize one of the following?
   (a) Occasional syncope.
   (b) Insomnia.
   (c) Frequent dyspnea.
   (d) Swelling of the feet.

Ans. 7(c) Rationale: Dyspnea may develop as blood will back up into the lungs, causing pulmonary edema.

8. The cardiac-vascular nurse encourages a patient with hypertension to adopt a low-sodium diet. What is the recommendation for sodium intake by American Heart Association (AHA)?
   (a) 3,000 mg per day.
   (b) 1,500 mg per day.
   (c) 1,700 mg per day
   (d) 2,400 mg per day

Ans. 8(b) Rationale: The American Heart Association (AHA) recommends an ideal limit of not more than 1,500 mg per day for most adults, especially for those with high blood pressure. Even cutting back by 1,000 mg a day can improve blood pressure and heart health.

9. A client recently had a cardiac catheterization via right-radial approach. The client has a compression device in situ. He complaints of numbness and pain in the right hand. The cardiac-vascular nurse notes a diminished pulse, with a cool and cyanotic hand. Which one of the following the nurse should prioritize and implement?
   (a) Calls the physician.
   (b) Performs Allen's test.
   (c) Reduces the pressure on the puncture site.
   (d) Uses the Doppler to assess for pulse signals.

Ans. 9(c) Rationale: In the above situation reducing the pressure will be the initial action that the nurse needs to take, before going for the other interventions.

10. A 52 yrs old female client was brought to the emergency room with the complaints of blurred vision and severe headache. On assessment, her BP is 250/150 mm of Hg, an IV Sodium Nitroprusside is started. What is the mechanism of action?
   (a) Alpha adrenergic antagonist.
   (b) Beta adrenergic antagonist.
   (c) ACE Inhibitor.
   (d) Direct smooth muscle vasodilator.

Ans. 10(d) Rationale: Sodium Nitroprusside is a direct smooth muscle vasodilator. It works directly on the large arteries to lower systolic BP.