Module 8: Cardiovascular Disease

EDUCATIONAL OBJECTIVES
At the conclusion of the activity, the participant will be better able to:

1. Discuss the epidemiology and pathophysiology of common cardiovascular disorders
2. Explain the basic approach to treatment for common cardiovascular disorders
3. Discuss appropriate monitoring parameters for cardiovascular medications discussed in this module
4. Demonstrate effective patient counseling skills for patients with a cardiovascular disorder discussed in this module

Post-Test/Rationale

1. In the African American population, including people with diabetes, JNC 8 recommends initial antihypertensive therapy with:
   A. ACE inhibitor
   B. ARB
   C. β-blocker
   D. calcium channel blocker***

Correct answer: D
In the general African-American population, including patients with diabetes, JNC 8 recommends initial antihypertensive therapy with a thiazide diuretic or calcium channel blocker. The other antihypertensive drug classes listed are not recommended as initial therapy for these patients.

2. For adults with chronic kidney disease and hypertension, the recommended blood pressure goal per JNC 8 is:
   A. < 150/90 mmHg
   B. < 140/90 mmHg***
   C. ≤ 140/90 mmHg
   D. < 130/85 mmHg

Correct answer: B
For adults with chronic kidney, the recommended blood pressure goal per JNC 8 is < 140/90 mmHg. Answer A is the goal blood pressure for the general population ≥ 60 years of age. Answers C and D are not recommended blood pressure goals per JNC 8 for any of the populations noted within the guideline.

3. Per the ACCF/AHA guidelines, which of the following agents may be useful to decrease hospitalizations in patients who have stage C heart failure with reduced LVEF?
   A. hydralazine/isosorbide dinitrate
   B. ACE inhibitors
C. β-blockers
D. digoxin**

Correct answer: D
Per the guideline, digoxin may be useful in patients who have stage C heart failure with reduced LVEF in order to reduce hospitalizations. Hydralazine/isosorbide dinitrate is recommended for stage C African American patients with NYHA class III to IV heart failure and reduced ejection fraction who have optimized ACE inhibitor and β-blocker therapy. ACE inhibitors and β-blockers are initially recommended in stage B patients with a history of MI or ACS with reduced ejection fraction.

4. What are common adverse events of hydralazine/isosorbide dinitrate therapy?
   A. headache, dizziness, and gastrointestinal effects**
   B. fluid retention, urinary tract infection, and dry mouth
   C. tachycardia, angina, and nausea
   D. dementia, hypotension, and thrombocytopenia

Correct answer: A
Of the events listed, common adverse effects of hydralazine/isosorbide dinitrate therapy include headache, dizziness, and gastrointestinal effects; therefore, answer A is correct.

5. All of the following are appropriate dosage regimens for VTE prevention in acutely ill medical patients EXCEPT:
   A. enoxaparin 40 mg SC once daily
   B. fondaparinux 2.5 mg SC once daily
   C. dalteparin 2500 units SC once daily**
   D. unfractionated heparin 5000 units SC three times daily

Correct answer: C
The dose of dalteparin for VTE prevention in acutely ill medical patients is 5000 units SC once daily; therefore, answer C is incorrect.

6. A 45-year-old person with diabetes and a LDL level of 150 mg/dL attends your clinic for initial management of hyperlipidemia. As initial therapy, you appropriately recommend:
   A. atorvastatin 40 mg**
   B. simvastatin 80 mg
   C. pravastatin 40 mg
   D. pitavastatin 2 mg

Correct answer: A
For patients, 40 to 75 years of age, with diabetes and an LDL level of 70 to 189 mg/dL, high-intensity statin therapy is generally recommended. High-intensity statin therapy includes atorvastatin 40 to 80 mg or rosuvastatin 20 to 40 mg once daily; therefore, answer A is correct.

7. When should a reduction in a statin dosage regimen be considered per the NCEP guidelines?
A. once target LDL goal is achieved  
B. for patients on hemodialysis  
C. for patients with NYHA class II to IV HF  
D. if 2 consecutive LDL levels are < 40 mg/dL**

**Correct answer:** D  
Per the NCEP guidelines, if 2 consecutive LDL levels are < 40 mg/dL then a reduction in stating dose may be considered (Answer D).

8. The 2 most common signs/symptoms of PAD are:  
A. hypertension and pain at rest in the lower extremities  
B. **pain at rest in the lower extremities and intermittent claudication****  
C. hyperlipidemia and intermittent claudication  
D. thickened toe nails and pain at rest in the lower extremities

**Correct answer:** B  
During the early stages of PAD, patients are often asymptomatic. However, as the disease progresses, the 2 most common signs/symptoms include intermittent claudication and pain at rest in the lower extremities (Answer B).

9. How often should thyroid function be monitored during amiodarone therapy?  
A. at baseline and every 12 months thereafter  
B. at baseline and every 3 to 6 months thereafter  
C. **at baseline and every 6 months thereafter****  
D. at each clinic visit

**Correct answer:** C  
Amiodarone therapy is associated with many adverse effects including alterations of lung, thyroid, and ophthalmic function. In order to ensure that the thyroid is functioning normally, patients on amiodarone therapy should have thyroid function monitored at baseline and every 6 months thereafter while on treatment (Answer C).

10. Which of the following is an appropriate recommendation for secondary prevention of cardioembolic ischemic stroke?  
A. aspirin 325 mg daily  
B. clopidogrel 75 mg daily  
C. dabigatran 150 mg daily  
D. **warfarin adjusted to an INR = 2.5****

**Correct answer:** D  
For the secondary prevention of cardioembolic stroke, warfarin adjusted to an INR = 2.5 is an appropriate recommendation (Answer D). Dabigatran may also be recommended; however, the appropriate dose is 150 mg twice daily. Aspirin and clopidogrel are appropriate options for noncardioembolic stroke prevention.