

OMB # 0925-XXXX

Expiration Date: XX/XXXX

## CARDIOVASCULAR DISEASE KNOWLEDGE CHECK

Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: NIH, Project Clearance Branch, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA (0925-xxxx\*). Do not return the completed form to this address.

1. Which gender more commonly presents with atypical symptoms of CVD?
  - a. Men
  - b. Women**

The correct answer is B. Women are more likely to present with “atypical” symptoms of CVD. Because women often present with “atypical” symptoms of CVD, many women in the U.S. and other countries are unaware that heart disease is their greatest personal health risk.

2. Women with HFpEF tend to be:
  - a. Older, hypertensive, and without ischemic etiology**
  - b. Younger, hypertensive, and without ischemic etiology
  - c. Older, non-hypertensive, and with ischemic etiology
  - d. Younger, non- hypertensive, and with ischemic etiology

The correct answer is A. Women with HFpEF tend to be older, hypertensive, and without ischemic etiology.

3. Key clinical phenotypes of HFpEF demonstrate distinct pathophysiologic features and respond similarly to treatment, compared to the “garden variety” of HFpEF. Which of the below is required to standardize a set of phenotypes?
  - a. Study of clinical presentation

- b. Study of comorbidities
- c. Study of hemodynamic signatures
- d. All of the above**
- e. B & C only

The correct answer is D. Standardizing a set of HFpEF phenotypes will require studying clinical presentation, comorbidities, and hemodynamic signature.

4. What does the epidemiology of HFpEF teach us about sex differences in heart disease?
- a. Post-menopausal women account for 90% of incident HFpEF cases, indicating hormone levels play a role
  - b. Diabetes and chronic kidney disease are frequently associated with HFpEF in both sexes
  - c. Recent data suggest that female predominance seen with HFpEF persists even after adjusting for age and risk factors
  - d. All of the above
  - e. A & B only**

The correct answer is E. Statements A & B are correct. Recent data suggests that the female predominance seen with HFpEF reflects differential age demographics and risk factors.

5. Which of the following are predisposing factors for SCAD?
- a. Hormonal therapy
  - b. History of beta blocker use
  - c. Postpartum status
  - d. A& B only
  - e. A & C only**

The correct answer is E. Statements A & C are correct. Beta blockers are a treatment for SCAD and may be protective against long term cardiovascular events.

6. What gaps remain in knowledge about precision treatment for CMD?
- a. The inclusion of women in larger randomized trials

- b. Animal models to study CMD
- c. Appropriately powered, randomized, outcome trials testing management strategies in the “at-risk” population
- d. All of the above**
- e. B & C only

The correct answer is D. All of the data gathering strategies are needed to address gaps in knowledge on CMD.

7. Which of the following is true of sex differences in cardiac remodeling?
- a. There are no observed sex differences in cardiac remodeling
  - b. Women develop a concentric remodeling pattern, with thicker walls**
  - c. Women develop an eccentric remodeling pattern, with greater volume changes and thinner walls
  - d. Women develop an erratic remodeling pattern, with variable walls

The correct answer is B. Women develop a concentric remodeling pattern, with thicker walls, while men develop an eccentric remodeling pattern, with greater volume changes and thinner walls.

8. Of patients referred for coronary angiography for chest pain, approximately what percent of women and men were found to have nonobstructive CAD (normal coronary arteries)?
- a. 60% women; 60% men
  - b. 8% women; 40% men
  - c. 40% women; 8% men**
  - d. 66% women; 33% men

The correct answer is C. Among patients undergoing coronary angiography for chest pain, between 10-30% have normal coronary arteries. However, there is considerable variability by sex. In a study of 866 patients referred for evaluation of chest pain, 41% of the women were found to have normal coronary arteries compared to 8% of the men.

9. Which of the following are commonly associated with SCAD in women?
- a. Fibromuscular dysplasia
  - b. Pregnancy and the peripartum period

- c. Hypertension
- d. Diabetes
- e. All of the above
- f. A&B only**

The correct answer is F. Both fibromuscular dysplasia and pregnancy and the postpartum period are associated with SCAD in women.

10. What does the epidemiological data reveal about sex differences in SCAD?

- a. Patients with pregnancy-associated SCAD appear to have a worse prognosis than other SCAD patients
- b. While SCAD was thought to primarily affect young women, it is increasingly recognized in older and postmenopausal women
- c. Men often present with SCAD at slightly older ages than women
- d. A & B only**
- e. All of the above

The correct answer is D. Men often present with SCAD at slightly younger ages than women. Indeed, the predominance of SCAD in women has led to less evidence being gathered on how to care for men with SCAD.