

Self-Assessment Test

Advances in the Pharmacologic Management of Atrial Fibrillation: Opportunities for Managed Care Pharmacists to Improve Patient Outcomes

This program is located at www.ashpmedia.org/symposia/afib



This self-assessment test has been provided as a study aid only. At the conclusion of the internet-based activity, click on “Take CE Test” to proceed to the ASHP Learning Center and take the online activity post-test. You may print your CE statement immediately after successful completion of the post-test and evaluation.

There are a total of 25 questions associated with this self-assessment test.

1. Which of the following statements about the relationship between age and atrial fibrillation (AF) is correct?
 - a. Prevalence of AF is greater in women than men regardless of age.
 - b. Prevalence increases with age starting at age of 60 years.
 - c. Patients 65-85 years of age account for 70% of cases of AF.
 - d. Median age of patients with AF is 80 years.
2. Which of the following is the primary mechanism through which cardiovascular diseases lead to the development of AF?
 - a. Atrial instability caused by dilation of atria.
 - b. Atrial instability caused by dilation of ventricles.
 - c. Excessive sympathetic stimulation.
 - d. Lack of sympathetic stimulation.
3. Which of the following are hemodynamic consequences of AF?
 - a. Decreased ventricular diastolic filling time and increased cardiac output.
 - b. Decreased ventricular diastolic filling time and decreased cardiac output.
 - c. Increased ventricular diastolic filling time and decreased cardiac output.
 - d. Increased ventricular diastolic filling time and increased cardiac output.
4. Which of the following options best describes how the CHADS₂ score for stroke risk in patients with AF is computed?
 - a. Two points for history of stroke, one point each for advanced age (75 years or greater), hypertension, diabetes, and recent congestive heart failure.
 - b. Two points for history of stroke, one point each for advanced age (85 years or greater), hypertension, diabetes, and recent congestive heart failure.
 - c. Two points for history of stroke, one point each for advanced age (75 years or greater), hypertension, diabetes, and anticoagulant use within past year.
 - d. One point each for history of stroke, advanced age (75 years or greater), hypertension, diabetes, anticoagulant use within past year, and recent congestive heart failure.



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5. According to the American College of Chest Physicians clinical practice guidelines for the use of antithrombotic therapy in atrial fibrillation, the risk for stroke in a 72-year-old woman with AF, diabetes, and heart failure is
 - a. Low.
 - b. Intermediate.
 - c. High.
 - d. Impossible to determine based on the information provided.

6. Which of the following future trends in the prevalence and burden of AF is anticipated in the United States?
 - a. The prevalence and burden will increase because of the aging of the population and improved survival associated with treatment of AF and its risk factors.
 - b. The prevalence will increase because of the aging of the population and improved survival but burden will decrease because of more cost-effective treatments.
 - c. The prevalence and burden will decrease because of improved prevention strategies.
 - d. The burden will decrease because of decreased prevalence of AF.

7. JT is a 70-year-old Hispanic man being treated for hypertension, hyperthyroidism, and coronary heart disease, and he was diagnosed with a heart murmur three years ago. Vital signs include BP 130/78 mm Hg, HR 88 bpm, BMI 30 kg m². Recent ECG results show sinus rhythm, PR interval 150 msec, QT interval 400 msec. What is his risk of developing AF in the next 10 years?
 - a. 12%.
 - b. 16%.
 - c. 22%.
 - d. Greater than 30%.

8. Which of the following pharmacotherapies is used to prevent embolic stroke in patients with persistent atrial fibrillation?
 - a. Class Ia and Ic antiarrhythmic agents.
 - b. Class III antiarrhythmic agents.
 - c. Rate-control agents.
 - d. Warfarin.

9. If a patient with AF is hemodynamically unstable, the best treatment approach is
 - a. Immediate electrical cardioversion.
 - b. Rate-control agent.
 - c. Rhythm-control agent.
 - d. Rate-control agent plus antithrombotic therapy.



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10. In which of the following patients with new onset AF is a rhythm-control strategy warranted?
 - a. A 40-year-old man with a heart rate (HR) of 85 beats per minute (bpm) complaining of palpitations.
 - b. A 45-year-old woman with a HR of 73 bpm complaining of fatigue after walking the dog.
 - c. A 65-year-old woman with a HR of 70 bpm and no complaints.
 - d. A 70-year-old man with a HR of 92 bpm complaining of mild shortness of breath.
11. Which of the following antiarrhythmic agents would be a good choice in a patient with hypertension or a history of myocardial ischemia?
 - a. Amiodarone.
 - b. Disopyramide.
 - c. Dofetilide.
 - d. Sotalol.
12. Which of the following considerations can limit the usefulness of propafenone?
 - a. Intolerable anticholinergic effects.
 - b. Renal dysfunction.
 - c. Structural heart disease.
 - d. Thyroid dysfunction.
13. According to a meta-analysis conducted by Lafuente-Lafuente et al., which antiarrhythmic agents are associated with a greater reduction in risk for recurrence of AF?
 - a. Class III agents (amiodarone, sotalol, dofetilide).
 - b. Class Ib agents (flecainide, propafenone).
 - c. Class Ia agents (quinidine, disopyramide).
 - d. Class III and class Ia agents are comparable.
14. Which of the following characteristics of dronedarone may confer an advantage over amiodarone?
 - a. Less frequent dosing because of its longer half-life.
 - b. Lower risk of thyroid dysfunction because of the absence of iodine.
 - c. Larger volume of distribution because it is less lipophilic.
 - d. Larger volume of distribution because it is more lipophilic.
15. Which of the following results was observed with the use of dronedarone in the ATHENA placebo-controlled study of patients with AF?
 - a. A significant decrease in all-cause mortality.
 - b. A significant increase in all-cause mortality.
 - c. A significant decrease in the composite endpoint of all-cause mortality and cardiovascular hospitalization.
 - d. A significant increase in first hospitalization due to cardiovascular events.



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16. Which of the following antiarrhythmic agents would be appropriate for maintenance of sinus rhythm in a 70-year-old man with AF, heart failure, and normal renal function?
 - a. Amiodarone and dofetilide.
 - b. Flecainide and propafenone.
 - c. Dronedarone and sotalol.
 - d. Propafenone and sotalol.

17. Which of the following agents is being investigated for acute conversion of atrial fibrillation?
 - a. Dronedarone.
 - b. Vernakalant (intravenous formulation).
 - c. Vernakalant (oral formulation).
 - d. Rivaroxaban.

18. Which of the following statements about the comparative costs of rate-control strategies and rhythm-control strategies for patients with AF is correct?
 - a. The comparative costs of rhythm-control strategies and rate-control strategies are unknown.
 - b. Rhythm-control strategies and rate-control strategies are comparable in cost.
 - c. Rhythm-control strategies are less costly than rate-control strategies.
 - d. Rate-control strategies are less costly than rhythm-control strategies.

19. Compared with patients who do not have AF, the annual mean direct cost of treating patients with AF is
 - a. About the same.
 - b. Two times higher.
 - c. Three times higher.
 - d. Five times higher.

20. Which of the following cost categories contributes the most to the total direct cost of treating AF?
 - a. Drug costs.
 - b. Outpatient costs.
 - c. Hospital costs.
 - d. Home care costs.

21. In the new managed care paradigm, the trend is toward developing pharmacy benefits designs that
 - a. Shift more cost to patients, especially for medications and acute care.
 - b. Shift more cost to patients for catastrophic illnesses.
 - c. Offer a single-benefit tier for medications.
 - d. Keep deductibles low by charging higher premiums.



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22. Pharmacy benefits design to ensure consistency and quality of care for all patients with AF is considered an example of
- Population management.
 - Disease management.
 - Policy and process review.
 - Case management.
23. Which of the following statements summarizes the 80/20 rule of population management that might be applied to patients with AF?
- 80% of patients experience adverse events, but only 20% of these events are reported.
 - 80% of health care costs are incurred by 20% of patients.
 - 80% of patients fill their prescriptions, but the other 20% of patients cannot afford their copayments.
 - 80% of patients adhere to recommended treatment, but the other 20% of patients are nonadherent.
24. Which of the following statements about pharmacist-managed anticoagulation services for patients with AF is correct?
- The need for services is supported by the underprescribing of anticoagulation in patients with AF despite the availability of evidence-based guidelines.
 - The clinical effectiveness of services is well documented, but the cost effectiveness is not well documented.
 - Integration of services into managed care settings often presents a challenge because of the limited use of information technology.
 - At all levels of stroke risk, the largest percentage of the cost of services can be attributed to clinical pharmacy personnel.
25. Which of the following statements best summarizes the potential effect of an electronic prescribing aid for pharmacist-managed antiarrhythmic monitoring intervention in the managed care setting?
- Is costly to develop but can result in substantial improvement in toxicity monitoring.
 - Can be implemented without substantial investment of resources but shows minimal improvement in toxicity monitoring.
 - Can be implemented without substantial investment of resources and can result in substantial improvement in toxicity monitoring.
 - Can be implemented without substantial investment of resources and assures compliance with toxicity monitoring.



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