Putting Prevention Into Practice

An Evidence-Based Approach

Screening for Atrial Fibrillation

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Case Study

A 60-year-old man, W.S., comes to your office for a wellness visit. He is originally from India and has lived in the United States for more than 40 years. He has a history of hypertension, has never smoked, and has no history of stroke. He is current with preventive services, including vaccinations, appropriate cancer screenings, and counseling for healthy diet and physical activity; his hypertension is well controlled; and he is not experiencing any adverse symptoms. His 87-year-old father recently experienced a nonfatal stroke and was subsequently diagnosed with atrial fibrillation (AF), to which the stroke was attributed. W.S. is concerned about his risk of AF and asks you about available screening tests.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF) recommendations on screening for AF, how should you proceed with this patient?

- ☐ A. W.S. is not in the population covered by the USPSTF recommendation.
- ☐ B. W.S. should be screened with electrocardiography (ECG) because of his family history and higher risk of AF.
- ☐ C. W.S. should not be screened because the harms of screening outweigh the benefits.
- ☐ D. W.S.'s risk of AF will increase as he ages; thus, he should be screened on a later date.
- ☐ E. There is insufficient evidence to evaluate the balance of benefits and harms of screening for AF in this patient.

2. According to the USPSTF recommendation, which of the following statements about the benefits and harms of screening for AF are correct?

- ☐ A. Episodes of AF detected by screening may be of short duration, and the benefits of detecting and treating such episodes are uncertain.
- ☐ B. The risk of stroke from AF cannot be modified.
- ☐ C. ECG misinterpretation is a potential cause of harm to the patient.
- ☐ D. Harms associated with screening for and treatment of AF include increased risk of bleeding due to anticoagulation and anxiety about abnormal test results.

3. After discussion, W.S. remains interested in screening methods to detect AF. Which one of the following statements about detection of AF is correct?

- ☐ A. Stroke is the first sign associated with AF in approximately 20% of patients who have a stroke associated with the condition.
- ☐ B. Screening, whether performed once, intermittently, or continuously, is equally effective at detecting all episodes of AF.
- ☐ C. A large percentage of the U.S. population is screened regularly for AF.
- ☐ D. Only ECG is appropriate as a screening method for AF.
- ☐ E. Any identified episode of AF should be treated with anticoagulation.

Answers appear on the following page.

See related USPSTF Clinical Summary at https://www.aafp.org/afp/2022/0600/od1.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and supporting documents on the USPSTF website (https://www.uspreventiveservicestaskforce.org). The practice recommendations in this activity are available at https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/atrial-fibrillation-screening.

This series is coordinated by Kenny Lin, MD, MPH, deputy editor.

A collection of Putting Prevention Into Practice published in *AFP* is available at https://www.aafp.org/afp/ppip.

CME This clinical content conforms to AAFP criteria for CME. See CME Quiz on page 582.

Author disclosure: No relevant financial relationships.

Answers

1. The correct answer is E. For asymptomatic adults 50 years and older, the USPSTF determined that the balance of benefits and harms of screening for AF could not be adequately evaluated (I statement).[1] No studies reported on variation in benefits or harms of screening based on factors such as stroke risk (e.g., based on CHA_2DS_2-VASc score [congestive heart failure, hypertension, 75 years or older {doubled}, diabetes mellitus, stroke/transient ischemic attack/thromboembolism {doubled}, vascular disease {prior myocardial infarction, peripheral artery disease, or aortic plaque}, 65 to 74 years of age, sex category {female}]; https://www.mdcalc.com/cha2ds2-vasc-score-atrial-fibrillation-stroke-risk), age, sex, or race or ethnicity.[2] Although the prevalence of AF increases with age, available evidence is insufficient to recommend screening at a later age in the absence of signs or symptoms consistent with AF. If this patient presented clinically with signs and symptoms concerning for AF or after a stroke, the USPSTF recommendation would no longer be applicable because it applies only to patients 50 years and older without a diagnosis or symptoms of AF and without a history of transient ischemic attack or stroke.[1]

2. The correct answers are A, C, and D. AF can be persistent or paroxysmal, as well as symptomatic or asymptomatic. Subclinical AF refers to AF that is device-detected, asymptomatic, and not clinically apparent.[1] Patients with clinical AF are at an increased risk of stroke if not treated with anticoagulation, but the benefits of detecting and treating subclinical AF, particularly AF that is of short duration or low burden, are less clear. Harms identified with screening for AF include anxiety around abnormal test results and misinterpretation of the test, potentially leading to misdiagnosis and unnecessary treatment. The USPSTF assessed that the evidence was adequate that treatment of AF with anticoagulation was associated with small to moderate risk of harm, particularly risk of major bleeding. Although most studies reporting on harms of treatment of AF focused on long-standing, persistent AF, the USPSTF assessed that this evidence was applicable to episodes of AF detected by screening.[1]

3. The correct answer is A. Although AF does not always cause symptoms, for approximately 20% of patients who have stroke associated with AF, stroke is the first sign.[2] The USPSTF does not make a recommendation for or against screening; however, evidence was determined to be adequate that intermittent and continuous screening strategies were more effective at identifying patients with previously undiagnosed AF than usual care. Few data are available on the current prevalence of screening for AF with ECG or other modalities in the United States.[1] The benefits of detecting and treating subclinical AF, particularly AF that is of short duration or low burden, are unclear.

The views expressed in this work are those of the authors and do not reflect the official policy or position of Griffin Hospital or the U.S. government.

References

1. Davidson KW, Barry MJ, Mangione CM, et al. Screening for atrial fibrillation: US Preventive Services Task Force recommendation statement. *JAMA*. 2022;327(4):360-367.
2. Kahwati LC, Asher GN, Kadro ZO, et al. Screening for atrial fibrillation: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2022;327(4):368-383. ■