Editor-in-Chief's Note

Some Observations About Atrial Fibrillation


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As I walked out of the theater one evening, an elderly man next to me slumped to the ground. I spotted and called over a nearby usher, and together we eased him into a chair. White haired and probably in his 70s, he said he had suddenly felt faint but was otherwise okay. I checked his pulse, and it was rapid, weak, and irregularly irregular. It seemed likely that he was experiencing an episode of atrial fibrillation (AFib). His wife, who was behind others when this happened, came rushing over. I asked her if he was known to have AFib. She replied that it was diagnosed a year before but that he was ignoring his physician's advice to be further evaluated and treated because he only rarely felt palpitations. His age and sex are classic risk factors for AFib.

Given the availability of databases derived from large population studies, many characteristics (in addition to being male and elderly) are now recognized as AFib risk factors. Table I, created from the cited references, lists some of the risk factors that appear to have valid associations with AFib. They are not listed in any specific order of magnitude because studies and populations are not comparable.[1–10]

Several people I know who have AFib have been told to avoid coffee and other caffeinated drinks. The idea of caffeine intake as a risk factor seemed to me to make common sense because of increases in heart rate via caffeine's inhibitory effect on adenosine. However, this concern should only apply to caffeine-naive individuals because long-term ingestion is associated with tolerance to caffeine's cardiovascular effects. Coffee drinkers who have AFib will be heartened by a recent article proclaiming the relative neutrality and even possible benefits of coffee consumption in many forms of heart disease (including arrhythmias) and stroke.[11]

Early recognition and treatment to improve any underlying or predisposing causes are essential. Once a diagnosis is established, agents to lower heart rate (eg, β-adrenergic receptor antagonists, popularly called β-blockers) or to reestablish sinus rhythm (eg, sotalol) are typically used. These therapies may be combined, when indicated and safe, with proper anticoagulation. Thus, a regimen that involves rate and rhythm control and anticoagulation is usually central to the prevention of strokes and to reduce the likelihood of falls and their

Table I. Risk factors for atrial fibrillation.

Advanced Age	Hyperthyroidism	Obstructive Sleep Apnea
Male	Hypertension	Diabetes mellitus
Coronary artery disease	Congestive heart failure	Valvular heart disease
Left ventricular dysfunction (by echocardiography)	Congenital heart disease	Hypertrophic cardiomyopathy
Wolff-Parkinson-White syndrome	Obesity or Dyslipidemia or metabolic syndrome	Excessive use of alcohol
Physical stress or exertion	Emotional distress	Various genetic factors

Table II. Agents for the prevention of thromboembolic complications from atrial fibrillation.

Generic Name	Trade Name	Mechanism of Action
Warfarin sodium	Coumadin	Vitamin K–dependent clotting factors inhibitor
Apixaban	Eliquis	Factor Xa inhibitor
Dabigatran	Pradaxa	Direct thrombin inhibitor
Rivaroxaban	Xarelto	Factor Xa inhibitor

complications, particularly in vulnerable elderly people. However, it is also clear that not all patients require anticoagulation. Amiodarone is often recommended for the prevention of AFib in patients undergoing cardiac or pulmonary surgery.[12,13]

Another option for patients who are already fibrillating is direct current cardioversion. This strategy is particularly useful for patients who are hemodynamically unstable and already receiving anticoagulant therapy.[14] Very symptomatic patients can undergo catheter radiofrequency ablation or surgical ablation (when having an otherwise needed heart surgery).

Low-dose aspirin is still used by some clinicians for its antithrombotic properties, but the newest (2014) guidelines from England's National Institute for Health and Care Excellence clearly state that aspirin should not be used.[15] Currently available anticoagulants are listed in Table II. Unwanted bleeding can occur with all these agents. Warfarin is the only one of these 4 agents that has an antidote, vitamin K, which is typically given orally. Before the use of any anticoagulant, patients need to be carefully assessed for bleeding tendencies. Another caution is that only warfarin is approved for patients with mechanical prosthetic heart valves.[16]

Professor Peter Thompson, our Topic Editor for Cardiology, Preventive Medicine, and Primary Care, has chosen to focus on AFib in this issue. He has invited a series of useful and informative contributions to examine aspects of AFib.[17–23] As more experience is gained with newly available agents, we plan to continue our coverage of this troublesome disorder. I encourage readers who have comments regarding AFib to submit them to us.

In June of this year, the *New England Journal of Medicine* featured 2 articles that examined cohorts of patients with cryptogenic strokes or transient ischemic attacks.[24,25] A cryptogenic stroke was defined as one whose cause could not be determined by standard testing, including 24-hour electrocardiography. In one study, the experimental intervention was the use of 30 days of event-triggered monitoring.[24] In the other study, the intervention involved the use of an insertable cardiac monitor that transmitted data to the investigators.[25] The conclusions from both studies were comparable: more intensive monitoring revealed underlying AFib 5 to 6 times more frequently than was detected by conventional testing.

Carefully diagnosing and treating AFib have been facilitated by new treatments and new diagnostic strategies. Patients will benefit when their treating clinicians become better informed about these changes—lives will be saved and morbidity will be reduced.

In a recent issue, I included a poem of mine. Several readers have told me they enjoyed it as a change of pace from the usual editorial content. This month's topic inspired another poem.

When AFib is Not a Lie

Lub dub, lub dub, lub dub
Normal sounds from the heart
First the blood swirls about
Then the valves move apart

The lub is the soft one
It's longer than dub
The dub is much louder
And briefer than lub