News and Views from the Literature

Atrial Fibrillation

Asymptomatic Atrial Fibrillation in Patients "Maintained" in Normal Sinus Rhythm: Implications for the Duration of Anticoagulation

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In the real world of clinical practice, we are often faced with pressure from patients to simplify care, either by reducing the number of medications taken per day or the frequency of clinic visits. A contemporary treatment regimen for atrial fibrillation (AF) mandates the use of oral anticoagulants and requires frequent blood testing because of narrow therapeutic indices and, at times, other medications, if maintaining sinus rhythm is a goal. Until recently, cardiologists have not had sufficient clinical data to guide important therapeutic decisions, particularly the duration of anticoagulation for patients who are being maintained in sinus rhythm. Recent data suggest that for many or most of these patients, the recurrence of asymptomatic AF is frequent enough to increase the risk of stroke to the extent that lifelong anticoagulation should be considered.

Long-Term Risk of Recurrent Atrial Fibrillation as Documented by an Implantable Monitoring Device: Implications for Optimal Patient Care

Israel CW, Gronefeld G, Ehrlich JR, et al.
J Am Coll Cardiol. 2004;43:47–52.

Israel and colleagues studied 110 patients with a class I indication for physiologic pacing and a history of atrial fibrillation (AF) who underwent implantation of a pacemaker system with dedicated functions for AF detection and electrogram storage. Patients were eligible for study if they had a documented history of paroxysmal or persistent AF with at least two episodes in the previous 3 months. Patients with chronic AF were excluded. All patients were in sinus rhythm at the time of pacemaker implantation; devices were programmed to the DDD mode (lower rate of 60 beats per minute [bpm] and upper limit of 120 bpm). The first device interrogation was at 1 month; further interrogations occurred at 3 and 6 months after implantation and at 6-month intervals thereafter. Patients were also interviewed to determine the presence of symptoms (palpitations, dyspnea, syncope, or near-syncope) that could be attributed to AF.

The primary study endpoint was the incidence of device-documented AF lasting longer than 48 hours in asymptomatic patients presenting in sinus rhythm at each follow-up visit. Sixty-three men and 47 women were included in the trial; 49% of subjects had paroxysmal AF and 51% persistent AF. Sixty-four percent of pacing indications were for sick sinus syndrome and 36% for atrioventricular block. Patients were treated with ß-blockers (41%), amiodarone (22%), sotalol (18%), non-dihydropyridine calcium antagonists (11%), and digitalis (16%). Seventy-eight percent of patients were treated with warfarin, with

a goal international normalized ratio of 2.0 to 3.0. All patients had clinical risk factors for stroke (age > 65 years, hypertension, history of transient ischemic attack or stroke, diabetes, congestive heart failure, mitral stenosis) and/or echocardiographic risk factors for stroke (left atrial enlargement or reduced left ventricular ejection fraction).

Patients were followed for a mean of 19 ± 11 months. Fifty patients had device-documented AF episodes lasting longer than 48 hours. Of these patients, 19 (38%) were asymptomatic and presented in sinus rhythm at the follow-up visit. In 51 of 110 patients (46%), AF was documented by the resting electrocardiogram (ECG) during the follow-up, with device interrogation revealing AF in 97 (88%) of patients. In 52% of the entire patient group, asymptomatic AF recurrence was detected by the implanted device in at least one follow-up interval. Device-documented AF recurrence lasted longer than 72 hours in 38% of patients, longer than 48 hours in 45% of patients, longer than 24 hours in 53% of patients, and longer than 12 hours in 64% of patients.

The results of this study imply that we overestimate the benefit of maintaining normal sinus rhythm in patients with atrial fibrillation.

Interestingly, but not surprisingly, in 40% of patients who reported AF symptoms, the ECG and device memory showed absence of AF.

Among the 55% of patients who were free of AF during the first 3 months or more of the study, 23% developed device-documented asymptomatic AF lasting longer than 48 hours during subsequent follow-up. In addition, there was no relationship between the antiarrhythmic regimen used and freedom from AF.

Unfortunately, the results of this study imply that we overestimate the benefit of maintaining normal sinus rhythm in patients with AF; many of these AF episodes were not associated with symptoms and occurred months after confirmation of NSR maintenance. In the Prevention of Atrial Fibrillation After Cardioversion trial,[1] of the 2300 daily ECG recordings that were transmitted telephonically, 75% were asymptomatic.

The implications of the results of this study are profound and suggest that large populations of patients with AF who are maintained in NSR would require lifelong anticoagulation to prevent stroke. In the Atrial Fibrillation Follow-up Investigation of Rhythm Management study,[2] the lack of a clinical benefit from rhythm-control therapy (vs rate-control therapy) was attributed to the incidence of stroke in patients from whom anticoagulation was withdrawn. In that study, 57% of strokes in the rhythm-control arm occurred in patients who stopped taking warfarin, presumably because it was felt that the likelihood of AF recurrence, and therefore stroke, was low. In an accompanying editorial, Kaufman and Waldo[3] suggest temporary anticoagulation in those patients without risk factors for stroke, particularly for whom AF is associated with a "discrete and transient precipitating event (for example, after open heart surgery or thyrotoxicosis)." They also cite data from the Stroke Prevention Oral Thrombin Inhibitor in Atrial Fibrillation III trial[4] showing ximelagatran to be at least as effective as warfarin, with less bleeding and no need for regular surveillance of prothrombin times, and suggest that lifelong anticoagulation might become much more palatable. ■

References

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Cardiac Arrest

Advances in Cardiopulmonary Resuscitation

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The American Heart Association estimates that 400,000–460,000 Americans die each year of cardiac causes before reaching a hospital.[1] Out-of-hospital cardiopulmonary resuscitation (CPR) has been shown to significantly reduce mortality if performed early by trained bystanders. The widespread availability of automatic external defibrillators in airports and public places has also been shown to enhance survival in patients with