CME CREDIT

ONE MINUTE CONSULT

BRIEF QUESTIONS AND ANSWERS ON CURRENT CLINICAL CONTROVERSIES

Q: Should patients receive anticoagulation for paroxysmal atrial fibrillation?

MINA K. CHUNG, MD
Department of Cardiology, Section of Cardiac Electrophysiology and Pacing, Cleveland Clinic

A: A CONSENSUS COMMITTEE of the American College of Chest Physicians recommended that anticoagulation be considered for all patients with atrial fibrillation, whether it be chronic or paroxysmal.[1] To summarize these recommendations, anticoagulation with warfarin (target international normalized ratio 2.5, range 2.0–3.0) is recommended for all anticoagulation-eligible patients older than 75 years, as well as for patients younger than 75 years who have any of the following risk factors for thromboembolism:

- Prior transient ischemic attack, systemic embolus or stroke
- Hypertension
- Poor left ventricular function
- Rheumatic mitral valve disease
- Prosthetic heart valves.

Patients 65 to 75 years old with no risk factors can be treated with aspirin or warfarin. Aspirin is recommended for patients younger than 65 years who have no risk factors.

TYPES OF ATRIAL FIBRILLATION

Paroxysmal atrial fibrillation describes a condition in which there are intermittent periods of atrial fibrillation that usually terminate spontaneously. Between episodes, the intervening predominant baseline rhythm is sinus rhythm.

Persistent atrial fibrillation, in contrast, requires an intervention, such as electrical cardioversion, to be converted back to sinus rhythm.

Permanent atrial fibrillation describes a condition in which the atrial fibrillation cannot be successfully cardioverted, or if it can, sinus rhythm cannot be maintained.

RATIONALE FOR TREATING PAROXYSMAL ATRIAL FIBRILLATION

Although some experts have long questioned whether to give anticoagulation for paroxysmal atrial fibrillation, several arguments support its use.

Risk of stroke

The risk of thromboembolic complications, including stroke, appears independent of whether atrial fibrillation is paroxysmal or chronic. Patients with paroxysmal atrial fibrillation do tend to have less structural heart disease and may tend to be younger than patients with chronic, persistent atrial fibrillation. Indeed several older trials found a lower risk of stroke in patients with paroxysmal atrial fibrillation.[2–4]

However, several recent trials reported that the risk of stroke was similar in patients with paroxysmal and chronic persistent atrial fibrillation. In a combined analysis of five of these trials,[5–10] 426 of 3,706 patients had paroxysmal atrial fibrillation at the time of randomization. The investigators found that "the type of atrial fibrillation (constant or paroxysmal)...had no discernible effect on the stroke rate." On univariate analysis, patients with paroxysmal atrial fibrillation had a relative risk of stroke of 0.9 (not statistically significant), with a stroke event rate of 5.7% per year. The SPAF trial[5] reported that patients with intermittent atrial fibrillation had a stroke rate of 3.7% per year. The presence of underlying heart disease best correlates with stroke risk.[11]

Strokes typically occur at the onset of paroxysmal atrial fibrillation, with the transition of paroxysmal to chronic atrial fibrillation, and during the first year of atrial fibrillation, clustering around the onset of atrial fibrillation.[11,12] In one study the incidence of

Strokes typically occur at the onset of paroxysmal atrial fibrillation

embolism was reported to be 6.8% in the first month, decreasing to 2% per year over the subsequent 5 years.[13] Rare thromboembolic events have also been reported in 3 (0.8%) of 357 patients who had episodes of atrial fibrillation terminating within 48 hours. The patients in this study who had embolic events had normal left ventricular function but were women over 80 years old. Advanced age (older than 75 years) and female gender have been identified as risk factors for thromboembolic complications in atrial fibrillation.[1,10,14,15]

Atrial fibrillation is often asymptomatic

Another argument for using antithrombotic therapy in patients with paroxysmal atrial fibrillation and risk factors for stroke is that episodes are often asymptomatic and last longer than suspected. In fact, asymptomatic episodes have been reported to be 10 times as common as symptomatic episodes.[16] Therefore, the frequency of episodes is usually underestimated, and patients with apparent good control of their symptomatic paroxysmal atrial fibrillation may thus have more frequent or longer episodes than sensed, particularly on drug therapies that control ventricular response during atrial fibrillation. In addition, paroxysmal atrial fibrillation can progress asymptomatically with increasing episodes of longer and longer duration to even established, persistent atrial fibrillation.

Treatment appears beneficial

Unfortunately the major clinical trials of anticoagulation in atrial fibrillation included relatively few patients with paroxysmal atrial fibrillation. However, the available data suggest that anticoagulant treatment is beneficial in this subgroup. Two of the recent large randomized clinical trials of warfarin demonstrated efficacy of warfarin in patients with paroxysmal atrial fibrillation and underlying heart disease.[5,6] In the combined analysis cited above, the annual stroke event rate in patients with intermittent atrial fibrillation was 5.7% in the control group compared to 1.7% in the warfarin group.[10]

The risk of stroke is similar in paroxysmal vs chronic atrial fibrillation

REFERENCES

1. **Laupacis A, Albers G, Dalen J, Dunn MI, Jacobson AK, Singer DE.** Antithrombotic therapy in atrial fibrillation. Chest 1998; 114:579S–589S.
2. **Petersen P, Godtfredsen J.** Embolic complications in paroxysmal atrial fibrillation. Stroke 1986; 17:622–626.
3. **Sherman DG, Goldman L, Whiting RB, Jurgensen K, Kaste M, Easton JD.** Thromboembolism in patients with atrial fibrillation. Arch Neurol 1984; 41:708–710.
4. **Kannel WB, Abbott RD, Savage DD, McNamara PM.** Coronary heart disease and atrial fibrillation: the Framingham Study. Am Heart J 1983; 106:389–396.
5. **Stroke Prevention in Atrial Fibrillation Investigators.** Stroke Prevention in Atrial Fibrillation Study. Final results. Circulation 1991; 84:527–539.
6. **The Boston Area Anticoagulation Trial for Atrial Fibrillation Investigators.** The effect of low-dose warfarin on the risk of stroke in patients with nonrheumatic atrial fibrillation. N Engl J Med 1990; 323:1505–1511.
7. **Moulton AW, Singer DE, Haas JS.** Risk factors for stroke in patients with nonrheumatic atrial fibrillation: a case-control study. Am J Med 1991; 91:156–61.
8. **Cabin HS, Clubb KS, Hall C, Perlmutter RA, Feinstein AR.** Risk for systemic embolization of atrial fibrillation without mitral stenosis. Am J Cardiol 1990; 65:1112–1116.
9. **Roy D, Marchand E, Gagne P, Chabot M, Cartier R.** Usefulness of anticoagulant therapy in the prevention of embolic complications of atrial fibrillation. Am Heart J 1986; 112:1039–1043.
10. **Atrial Fibrillation Investigators.** Risk factors for stroke and efficacy of antithrombotic therapy in atrial fibrillation. Analysis of pooled data from five randomized controlled trials. Arch Intern Med 1994; 154:1449–1457.
11. **Aboaf AP, Wolf PS.** Paroxysmal atrial fibrillation. A common but neglected entity. Arch Intern Med 1996; 156:362–367.
12. **Wolf PA, Kannel WB, McGee DL, Meeks SL, Bharucha NE, McNamara PM.** Duration of atrial fibrillation and imminence of stroke: the Framingham study. Stroke 1983; 14:664–667.
13. **Takahashi N, Seki A, Imataka K, Fujii J.** Clinical feature of paroxysmal atrial fibrillation: An observation of 94 patients. Jpn Heart J 1981; 22:143–149.
14. **Stroke Prevention in Atrial Fibrillation Investigators.** Adjusted-dose warfarin versus low-intensity, fixed-dose warfarin plus aspirin for high-risk patients with atrial fibrillation: Stroke Prevention in Atrial Fibrillation III randomised clinical trial. Lancet 1996; 348:633–638.
15. **The SPAF III Writing Committee for the Stroke Prevention in Atrial Fibrillation Investigators.** Patients with nonvalvular atrial fibrillation at low risk of stroke during treatment with aspirin: Stroke Prevention in Atrial Fibrillation III Study. JAMA 1998; 279:1273–1277.
16. **Page RL, Wilkinson WE, Clair WK, McCarthy EA, Pritchett EL.** Asymptomatic arrhythmias in patients with symptomatic paroxysmal atrial fibrillation and paroxysmal supraventricular tachycardia. Circulation 1994; 89:224–227.