



Preventing stroke in atrial fibrillation: Why are so many eligible patients not receiving anticoagulant therapy?

Stuart J. Connolly, MD

‡ See related article page 493

Atrial fibrillation is responsible for more disability than any other cardiac arrhythmia because of its high incidence and the considerable potential for adverse outcomes. There is increasing evidence from epidemiologic studies that atrial fibrillation independently increases the risk of death,¹ and it is well established that it is a major cause of stroke.² Atrial fibrillation is predominantly a disease of elderly people, with the incidence increasing markedly through the seventh, eighth and ninth decades of life. It also becomes responsible for an increasing proportion of strokes as the population ages, accounting for almost one-third of strokes in people over 80. The demographic changes expected over the next few decades in Western countries will undoubtedly increase the societal burden from this disorder.

The demonstration that anticoagulant therapy benefits patients with atrial fibrillation is one of the most important recent advances in the management of cardiac arrhythmia. The evidence from multiple randomized trials clearly indicates a 67% reduction in the risk of stroke with the use of warfarin.³ The concern that there would be excessive bleeding in patients receiving warfarin did not materialize. Advanced age does increase the risk of hemorrhagic complications somewhat, particularly intracranial hemorrhage,⁴ but it also increases the risk of stroke. The risk-benefit ratio for anticoagulant therapy in atrial fibrillation, even in elderly people, favours initiating therapy in the majority of patients. ASA therapy has been evaluated for stroke prevention in atrial fibrillation, with considerably less promising results: at best, one can expect only about a 20% reduction in the risk of stroke.⁵

On the basis of these findings every patient with atrial fibrillation, whether it is intermittent or chronic, should be considered a potential candidate for anticoagulant therapy. Upon further analysis, some patients will be found not to benefit from anticoagulation because they are still at low risk for stroke. Risk factors for stroke in patients with atrial fibrillation have been identified from follow-up studies;³ these are prior stroke or transient ischemic attack, mitral stenosis, a history of hypertension requiring treatment, diabetes mellitus, moderate to severe left ventricular dysfunc-

tion and advanced age. Patients with none of these factors have a risk of stroke of 1% or less and probably will not benefit from anticoagulant therapy. However, if any risk factor is present, then warfarin is indicated. In some patients anticoagulant therapy is contraindicated (e.g., elderly patients with a history of falling) because the risk of bleeding is too high.

The article by Dr. J. Jaime Caro and associates in this issue is illuminating (page 493).⁶ Their goal was to determine whether the results from randomized trials could be replicated in actual practice. In their nonrandomized cohort study they categorized patients into 4 groups according to the antithrombotic therapy they received for the entire study period: ASA, warfarin, blended treatment (those who started on one active therapy and switched to the other or who switched treatments more than once) and no treatment. Their results support those from the randomized trials. Patients receiving warfarin had a markedly lower rate of stroke than those in all the other groups. In any nonrandomized comparison, patient selection may play a role in determining the results. However, in this study one would expect that patients at higher risk of stroke would receive warfarin and that this would result in a bias against warfarin. This makes the results even more convincing. Although the patients in the warfarin group did have a lower mean age than those in the ASA and no-treatment groups, they did have a much higher incidence of prior stroke, which certainly put them at risk for recurrent stroke.

Perhaps the most important finding of Caro and associates' study is that only 87 (39%) of the 221 patients received warfarin throughout the study period. This is a relatively low rate of use of a highly effective, relatively inexpensive therapy. As the authors note, similar patterns of low rates of anticoagulant use have been noted in several other surveys.⁷⁻¹¹ Stafford and Singer⁸ found that anticoagulant therapy use in patients with atrial fibrillation increased from 7% in 1980 to 32% in 1993 but that elderly patients and those being treated by family practitioners were relatively less likely to receive anticoagulant therapy than others.

Clearly we need to understand better why an effective therapy, the benefits of which are widely known, is being underused. For every patient with atrial fibrillation, chronic or intermittent, the physician should ask "Why is this pa-



tient not receiving anticoagulant therapy?" If there is no clear reason, then most likely that patient should be given it.

Dr. Connolly is a Professor in the Faculty of Health Sciences, McMaster University, Hamilton, Ont.

Competing interests: Dr. Connolly has received speaker's fees from a manufacturer of warfarin.

References

1. Benjamin EJ, Wolf PA, D'Agostino RB, Silbershatz H, Kannel WB, Levy D. Impact of atrial fibrillation on the risk of death: the Framingham Study. *Circulation* 1998;98:946-52.
2. Wolf PA, Dawber TR, Thomas HE, Kannel WB. Epidemiologic assessment of chronic atrial fibrillation and risk of stroke: the Framingham Study. *Neurology* 1978;28:973-7.
3. Atrial Fibrillation Investigators. Risk factors for stroke and efficacy of antithrombotic therapy in atrial fibrillation. *Arch Intern Med* 1994;154:1449-57.
4. Stroke Prevention in Atrial Fibrillation Investigators. Bleeding during antithrombotic therapy in patients with atrial fibrillation. *Arch Intern Med* 1996;156:409-16.
5. Atrial Fibrillation Investigators. The efficacy of aspirin in patients with atrial fibrillation. *Arch Intern Med* 1977;157:1237-40.
6. Caro JJ, Flegel KM, Orejuela ME, Kelley HE, Speckman JL, Migliaccio-Walle K. Anticoagulant prophylaxis against stroke in atrial fibrillation: effectiveness in actual practice. *CMAJ* 1999;161(5):493-7.
7. Schlicht JR, Davis RC, Naqi K, Cooper W, Rao V. Physician practices regarding anticoagulation and cardioversion of atrial fibrillation. *Arch Intern Med* 1996;156:290-4.
8. Albers GW, Yim JM, Belew KM, Bittar N, Hattemer CR, Phillips BG, et al. Status of antithrombotic therapy for patients with atrial fibrillation in university hospitals. *Arch Intern Med* 1996;156:2311-6.
9. Stafford RS, Singer DE. National patterns of warfarin use in atrial fibrillation. *Arch Intern Med* 1996;156:2537-41.
10. Munschauer FE, Priore RL, Hens M, Castilone A. Thromboembolism prophylaxis in chronic atrial fibrillation: practice patterns in community and tertiary-care hospitals. *Stroke* 1997;28:72-6.
11. Brass LM, Krumholz HM, Scinto JM, Radford M. Warfarin use among patients with atrial fibrillation. *Stroke* 1997;28:2382-9.