Atrial fibrillation in general practice: how useful is echocardiography in selection of suitable patients for anticoagulation?

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SUMMARY

All patients identified from records in two practices in West Lothian (n = 103) as having atrial fibrillation (AF) were offered a clinical examination, electrocardiogram (ECG), and echocardiography. Sixty-five patients attended the examinations. Of these, 26 (40%) were found to be in sinus rhythm. Many of those in AF were already on warfarin. Only eight who were found to have AF, who were not already on warfarin and who had no contraindications to it, had additional risk factors that suggested they be treated with warfarin. In no case did echocardiography alter management decisions.

Keywords: atrial fibrillation; echocardiography; anticoagulation therapy.

Introduction

PATIENTS in atrial fibrillation (AF) are at risk of systemic embolization. In non-valvular AF, the risk of cerebral emboli causing stroke is approximately 5% per year.[1] Although there is good evidence for the use of anticoagulation in AF, in practice many patients are not given warfarin therapy.[2] The role of echocardiography in AF has not been fully clarified, with previous studies looking only at selected populations.[3] Our aim in this study was to establish if echocardiography influences clinical decisions regarding anticoagulant therapy for patients in general practice.

Method

The study was performed in two health centres in West Lothian (13 000 patients, urban, moderately deprived). All patients on the practice computer register with a diagnosis of AF were invited to take part in the study. Clinical examination and transthoracic echocardiography were performed to establish which patients were at increased risk of thromboembolism.

Risk factors for thromboembolic disease were identified on a similar basis to the Stroke Prevention in AF studies:[4,5]

- History of CCF, high blood pressure, previous arterial thromboembolism, age over 70 years, and
- Echo evidence of left-ventricular (LV) dysfunction, structural valve disease, or increased left atrial size.

Contraindications to anticoagulation were also identified, in particular:

- History of upper gastrointestinal bleeding or recent peptic ulcer disease, dementia, previous intracerebral haemorrhage, or poor compliance.

Results

Of 103 patients diagnosed with AF, 65 (63%) participated in the study. Twenty-six (40%) patients, however, were found on examination to be in sinus rhythm. Of these, 16 had documented recurrent AF and five were on warfarin. Thirty-nine (60%) patients were confirmed to be in AF by ECG, of whom 20 already took warfarin.

Anticoagulation has been recommended for patients in AF if they have one other clinical or echocardiographic indication. Among our patients in AF, 27 (69%) were over 70 years of age, 14 (36%) had hypertension, 12 (31%) had cardiac failure, 15 (38%) had previous thromboembolism, and nine (23%) had known valve disease. With echocardiography, impaired LV function was found in six (15%), structural valve lesions in 16 (41%), and enlarged left atrial size in 17 (44%). Overall, echocardiography revealed an abnormality in 25 (64%) of the 39 patients. However, all of these patients also had other clinical risk factors for thromboembolic disease.

Eight (21%) patients in AF were found to have previously undiagnosed structural valve disease. However, given the presence of additional risk factors, this did not alter the proposed clinical management to recommend anticoagulation.

Eight (21%) patients who were not on warfarin had at least one indication for anticoagulation in addition to AF, with no contraindication. Anticoagulation has since been offered to these patients. Nine patients (26%) had a major contraindication to warfarin.

In comparison, the echocardiography findings of the patients in sinus rhythm showed that only one patient had impaired LV function, two had structural mitral valve disease, and two had an enlarged left atrium. One of the patients had both structural valve disease and an enlarged left atrium, so only four out of 26 had any abnormality. Two of this small group were taking warfarin.

On review of the non-attenders' records, seven (18%) had already been treated with warfarin, 21 (55%) were too frail to consider anticoagulation, leaving 10 (26%) who have been invited to the surgery for further review.

Discussion

In this small study, the additional information gained from performing echocardiography on patients with atrial fibrillation did not affect decisions about their management (although some findings may have been valuable for decisions concerning anti-

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biotic prophylaxis or use of ACE inhibitors). It therefore throws doubt on the need for 'open access' echocardiography purely to assess risk of thromboembolism.

References

1. Cheseboro JH, Fuster V, Halperin JL. Atrial fibrillation - risk factor for stroke. *N Engl J Med* 1990; **323:** 1556-1558.
2. McCrory DC, Matchar DB, Samsa G, *et al*. Physician attitudes about anticoagulation for non-valvular atrial fibrillation in the elderly. *Arch Int Med* 1995; **155:** 277-281.
3. Desbiens NA. Should all patients with atrial fibrillation be screened with echocardiography? *J Gen Intern Med* 1992; **7:** 131-139.
4. The stroke prevention in atrial fibrillation investigators. Predictors of thromboembolism in atrial fibrillation. I. Clinical features of patients at risk. *Ann Int Med* 1992; **116:** 1-5.
5. The stroke prevention in atrial fibrillation investigators. Predictors of thromboembolism in atrial fibrillation. II. Echocardiographic features of patients at risk. *Ann Int Med* 1992; **116:** 6-12.

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