

Risk stratification in the management of atrial fibrillation in the community

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SUMMARY

This study assessed whether risk stratification in patients with atrial fibrillation (AF) in the community had a bearing on the likelihood of receiving aspirin or warfarin therapy. Seven hundred and fifty patients were identified from 14 practices by means of diagnostic READ codes or repeat prescriptions for digoxin from practice computers. The study demonstrates that general practitioners appreciate the importance of antithrombotic therapy in patients who have suffered stroke, but take poor account of increasing age and other independent risk factors. A more proactive approach to risk identification and treatment seems justified.

Keywords: atrial fibrillation; risk assessment; antithrombotic therapy.

Introduction

ATRIAL fibrillation (AF) is a major risk factor in the development of ischaemic stroke. Treatment with warfarin reduces this risk by 68% while aspirin reduces risk by 21%.^{1,2} Absolute likelihood of suffering a stroke is strongly influenced by the presence of additional risk factors, most particularly increasing age, diabetes, previous history of thromboembolism (stroke or transient ischaemic attacks [TIA]), hypertension, and congestive cardiac failure (CCF).¹ Targeting of antithrombotic therapy to high-risk patients is likely to maximize the benefits and minimize harm from treatment.³ Previous community-based studies have demonstrated that anticoagulation treatment of patients with AF is inadequate.⁴ However, it is not known whether an individual patient's age and risk factor profile is taken into account when antithrombotic treatment is being considered in the community.

The aim of this pragmatic study was to assess whether risk stratification in patients with AF in the community had a bearing on the likelihood of receiving aspirin or warfarin therapy.

Method

We randomly selected 20 general practices within Avon Health Authority and asked them to identify patients with AF by diagnostic codes from practice computers or from repeat prescriptions for digoxin. Each practice was then asked to confirm the presence or absence of AF and provide individual patient data on risk factors and contraindications to warfarin or aspirin therapy.

Results

Between February and July 1997, 14 practices identified 750 patients, of whom 522 (70%) were aged 75 years or older (95% confidence interval [CI] = 66% to 73%). The denominator practice population (aged 60 years or older) comprised 19 225 patients. Age-specific prevalence and risk factor prevalence was consistent with a large general practitioner (GP) survey reported in the Netherlands (data not shown but available on request from the authors).⁵

General practitioners reported that 126 patients (17%) had contra-indications to antithrombotic treatment (95% CI = 14% to 20%), while for 128 (17%) patients the GP was uncertain whether or not antithrombotic treatment was contra-indicated (95% CI = 14% to 20%). This left 496 (66%) patients in whom anti-thrombotic treatment was not contra-indicated (95% CI = 63% to 70%), 241 (49%) patients who had one risk factor (95% CI = 44% to 53%), 88 (18%) patients who had two risk factors (95% CI = 14% to 21%), and 24 (5%) patients who had three or more risk factors (95% CI = 3% to 7%). In these 496 individuals, 293 (59%) patients were taking antithrombotic treatment (95% CI = 55% to 63%), 127 (26%) patients were taking warfarin (95% CI = 22% to 29%), 181 (37%) patients were taking aspirin (95% CI = 32% to 41%), and 15 (3%) patients were taking both warfarin and aspirin (95% CI = 2% to 4%). In nine of these patients, the GP was uncertain as to whether the patient was taking warfarin or aspirin.

In absolute terms, of those aged over 75 years with no contra-indications to warfarin, 281 (79%) patients would be candidates for careful assessment with regard to warfarin therapy (95% CI = 75% to 83%). Adjusted estimates for the likelihood of being treated with warfarin, aspirin, or both are presented according to risk factor status in Table 1. Patients with a history of angina or myocardial infarction were excluded from adjusted estimates because of the association between aspirin use and ischaemic heart disease.

Discussion

This study confirms that AF is a condition primarily associated with ageing.⁵ The very elderly (those aged over 80 years) were no more likely to receive antithrombotic therapy than those aged 60 years or younger. Furthermore, a non-linear trend in the likelihood of being treated with warfarin with increasing age was observed. Those in the age range 70 to 79 years had the highest likelihood of being treated, particularly with aspirin. An association of low likelihood of treatment in the elderly has been observed in a previous study of AF in the community.⁴ Comorbidity is common with AF;⁵ however, of the independent risk factors for stroke, only a previous history of thromboembolism (stroke or TIA) was associated with treatment with warfarin or aspirin. The presence of three independent risk factors also increased the likelihood of being treated with warfarin or aspirin. It appears that GPs appreciate the importance of commencing antithrombotic therapy in those individuals who have suffered a stroke, but take poor account of increasing age and other independent risk factors, apart from a previous history of stroke or TIA. As the majority of cases of fatal and non-fatal stroke occur in the elderly, a more proactive approach to risk

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Table 1. Independent risk factors associated with the likelihood of being treated with antithrombotic, aspirin, or warfarin therapy.^a

	Any antithrombotic treatment OR (95% CI)	Aspirin OR (95% CI)	Warfarin OR (95% CI)
Age			
Less than 60 years ^b	1	1	1
60–69 years	2.3 (0.7–7.2)	5.7 (0.9–35.7)	0.8 (0.2–3.4)
70–79 years	3.8 (1.4–10.8) ^c	9.8 (1.8–16.9) ^d	2.3 (0.7–12.2)
80–89 years	1.3 (0.5–3.5)	4.5 (0.8–24.3)	0.4 (0.1–1.2)
90 years or older	1.1 (0.3–3.6)	5.7 (0.9–35.4)	0.04 (0.004–0.51) ^c
Sex			
Female ^b	1	1	1
Male	1.2 (0.8–2.0)	1.4 (0.8–2.4)	0.9 (0.4–1.7)
Congestive cardiac failure			
No ^b	1	1	1
Yes	1.1 (0.6–1.9)	1.0 (0.5–2.0)	1.2 (0.6–2.8)
Stroke/TIA			
No ^b	1	1	1
Yes	6.8 (3.1–14.8) ^d	6.4 (2.7–15.1) ^d	12.6 (4.4–36.2) ^d
Diabetes			
No ^b	1	1	1
Yes	0.8 (0.4–2.3)	1.0 (0.4–2.3)	0.2 (0.1–1.1)
Hypertension			
No ^b	1	1	1
Yes	1.6 (1.0–2.7)	2.2 (1.2–3.8) ^d	1.0 (0.5–2.2)
Risk factor			
No ^b	1	1	1
Yes	1.7 (1.1–2.7) ^c	2.6 (1.7–4.4) ^d	1.1 (0.6–1.9)
Cumulative risk factors			
0 ^b	1	1	1
1	1.4 (0.9–2.3)	2.2 (1.2–3.4) ^d	0.8 (0.4–1.5)
2	2.3 (1.2–3.0) ^c	3.4 (1.6–7.3) ^d	1.5 (0.6–3.8)
3 or more	6.5 (1.4–31.3) ^c	6.1 (1.0–36.1) ^c	6.1 (1.1–32.5) ^c

^aIndependent predictors are calculated from three separate multiple logistic regression models for each column: (i) adjusted for age, sex, and individual risk factors; (ii) adjusted for age, sex, and any risk factor; and (iii) adjusted for age, sex, and cumulative risk factors. ^bReference category; ^c $P < 0.05$; ^d $P < 0.01$.

identification and treatment seems warranted.

The practices participating in this study attended a study day in June 1998 that examined the benefits of risk stratification in the management of AF. A repeat study is planned at the end of 1998 to examine how far practice has changed in the light of this report.

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