

Underutilization of antithrombotic therapy in atrial fibrillation

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SUMMARY

Most patients with atrial fibrillation should be considered for antithrombotic therapy. In a retrospective survey we investigated practice in two hospitals. For patients at high risk, established guidelines recommend warfarin, or aspirin if anticoagulants are contraindicated; for those at medium risk, either may be used.

Of 156 with atrial fibrillation (acute, chronic or paroxysmal), 119 were at high risk, mean age 79 years. According to the guidelines, 89 of these were suitable for anticoagulation but only 49 (55%) received warfarin; 27 received aspirin and 13 neither. Of 27 patients at medium risk (mean age 70 years), 6 were not prescribed any antithrombotic therapy.

This survey indicates that guidelines on antithrombotic therapy are commonly disregarded and that, in particular, warfarin is underutilized in the group for whom it is most indicated.

INTRODUCTION

Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia in clinical practice and is associated with excess mortality¹. The overall annual risk of stroke in AF is 4.5%, and warfarin therapy reduces this to 1.4%. In patients at very high risk of stroke it is even more effective, reducing the annual rate from 12% to 5%². This has to be set against a small increase in haemorrhage, about 1.3% compared with 1% in controls. Published guidelines indicate that most patients with AF should be considered for antithrombotic therapy. We conducted a retrospective survey of hospital practice.

METHODS

Patients discharged with the diagnosis of AF during 1997-1998 in two hospitals over a three-month period were included (a teaching hospital and a district general hospital). Notes were selected by means of the coding list, with AF as either a primary or a secondary diagnosis. Information was gathered from both inpatient and outpatient follow-up notes. The diagnosis of AF was confirmed from electrocardiographic findings and was classified into acute, chronic or paroxysmal AF from the discharge summary and the clinical history. Associated risk factors—namely, hypertension, diabetes, transient ischaemic attacks, cerebrovascular accidents, other thromboembolic events, ischaemic heart disease and left ventricular failure—were

noted. Chronic AF and paroxysmal AF were considered to carry similar risks of stroke². Patients receiving anticoagulation for prosthetic valves or vascular grafts were excluded. Patients were then classified into high, medium or low risk according to the then established guidelines (Box 1)^{3,4}.

We assessed the antithrombotic therapy after risk stratification. Any documented reason for not giving secondary prophylaxis was noted. If none was recorded, possible contraindications such as previous bleed, active gastrointestinal ulcer, iron-deficiency anaemia, chronic confusion, recurrent falls, allergy or patient's refusal

Box 1 1996 guidelines for antithrombotic therapy in atrial fibrillation

High risk

History of transient ischaemic attack or cerebrovascular accident (annual risk 12%)
 > 75 years, with hypertension or diabetes (annual risk 8%)
 Large left atrium, impaired left ventricular function, intracardiac thrombus, valvular lesions, calcification of the mitral valve

In this group warfarin is the drug of choice; if it is contraindicated, use aspirin

Medium risk (annual risk 4%)

> 65 years, with no other risk factors
 < 65 years, with hypertension or diabetes
Either warfarin or aspirin could be used

Low risk (annual risk 1%)

< 65 years, with no other risk factors
Neither aspirin nor warfarin indicated

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Table 1 Risk groups

	Total	High risk	Medium risk	Low risk
Number	156	119 (76%)	27 (17.5%)	10 (6.5%)
Men	65 (42%)	51	10	4
Women	91 (58%)	68	17	6
Mean age (range)	77 (28–92)	79 (57–92)	70 (66–84)	49 (28–64)
Acute AF	7 (4.5%)	0	1	6
Paroxysmal AF	35 (22.5%)	18	13	4
Chronic AF	114 (73%)	101	13	0

AF=Atrial fibrillation

were looked for. Patients with any of the above were judged unsuitable for anticoagulation. Wherever warfarin was contraindicated, suitability for aspirin was assessed. Any complications due to antithrombotic therapy were noted.

RESULTS

We identified 156 who had had AF (Table 1). Most of them (76%) were in the high-risk group, for which the mean age was 79 years (range 57–92). The AF was chronic in three-quarters.

67 patients (43%) had an echocardiogram. Cardioversion was not considered in any of the patients with chronic AF. We found no records of major bleeding. Treatment given was analysed according to the risk group (Table 2).

31 patients were unsuitable for anticoagulation for the reasons shown in Table 3. 18 of these were judged suitable for aspirin but only 8 received it.

DISCUSSION

The major limitation of this study is its retrospective nature. Since our sample is from two different hospitals, we believe it represents a wider practice pattern.

In Table 4 we summarize the benefits of antithrombotic therapy according to risk stratification. But schemes such as this are derived from clinical trials in which the patients may differ. For example, the mean age of patients who would benefit from warfarin (79) was much higher than that of patients on warfarin in the pooled analysis (69). Nonetheless, we judge that antithrombotic therapy was under-utilized.

Another question concerns the target international normalized ratio (INR), which was 2–3 in our series. This target for AF patients of all ages was derived by consensus from the results of five clinical trials². But this range may not be suitable for all patients over the age of 75. In a combined analysis of five clinical trials, the rate of intracranial bleeding in patients over 75 was 0.3% per year. But, in the only clinical trial that specifically looked at

Table 2 Treatment given

	High risk	Medium risk	Low risk
Total	119	27	10
Suitable for anticoagulation	89	26	10
Warfarin	49 (55%)	13 (50%)	1 (10%)
Aspirin	27 (30%)	7 (27%)	3 (30%)
None	13 (15%)	6 (23%)	6 (60%)

Table 3 Reasons for withholding warfarin (more than one in some patients)

	High risk (n=30)	Medium risk (n=1)
Recurrent falls	9	0
Confusion	8	0
Iron-deficiency anaemia	8	1
Gastrointestinal bleed	4	0
Patient refusal	3	0
Disseminated carcinoma	2	0

Table 4 Risk of ischaemic stroke % per patient per year

Risk	No prophylaxis	Aspirin	Warfarin
Previous transient ischaemic attack or stroke	12	10	4–5
High risk	8	4–5	1–2
Moderate risk	4	1–2	1–2
Low risk	1	<1	<1

patients above 75, with a mean INR of 2.6, the rate of intracranial haemorrhage was 1.8% per year⁵. This obviously raises concern among physicians regarding the safety of an INR above 2.6 in elderly patients. The SPAF III trial⁶ suggests that an INR over 1.6 offers substantial

Box 2 1999 guidelines for prevention of stroke in atrial fibrillation (AF)

Risk group	Recommended therapy	Alternatives
Lone AF, under 60	None	Aspirin
Low risk	Aspirin	Warfarin INR 1.6–3
Medium risk	Aspirin or warfarin	–
High risk		
< 75 years	Warfarin INR 2.5 (range 2–3)	Aspirin
≥ 75 years	Warfarin INR 2.5 (range 2–3) or Warfarin INR 2.0 (range 1.6–2.5)	Aspirin
Previous stroke or transient ischaemic attack	Warfarin INR 3.0 (range 2.5–4)	Warfarin INR 2.5 Aspirin

protection, which is maximal around 2. A consensus statement from the Royal College of Physicians of Edinburgh suggests that, in elderly patients, a target INR of 2.0 (range 1.6–2.5) gives an acceptable balance between risk and benefit (Box 2)⁷. The high mean age of our high-risk patients may explain why physicians hesitated to anticoagulate.

Even so, aspirin might have been given more often. Though less efficacious than warfarin, aspirin should be used whenever warfarin is contraindicated. We could not tell from the case notes why it was prescribed so little. In the medium-risk group, 23% of patients did not receive any antithrombotic therapy. One patient in the low-risk group was anticoagulated—probably unnecessarily.

Risk stratification in older patients can be difficult because any minor disturbance in their functional status (such as infection or a fall) or mental capacity may make anticoagulation temporarily unsafe. So elderly patients on warfarin should be carefully monitored to avoid any complications due to anticoagulation. Medium-risk and low-risk patients should be assessed regularly for development of any risk factors that would warrant anticoagulation.

Although the argument for antithrombotic prophylaxis in AF is reiterated in every guideline it is still underutilized. We recommend that, when there are reasons for non-treatment, these should be recorded in the patient's notes.

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