Anticoagulation in atrial fibrillation

Is there a gap in care for ambulatory patients?

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ABSTRACT

OBJECTIVE Atrial fibrillation (AF) substantially increases risk of stroke. Evidence suggests that anticoagulation to reduce risk is underused (a “care gap”). Our objectives were to clarify measures of this gap in care by including data from family physicians and to determine why eligible patients were not receiving anticoagulation therapy.

DESIGN Telephone survey of family physicians regarding specific patients in their practices.

SETTING Nova Scotia.

PARTICIPANTS Ambulatory AF patients not taking warfarin who had risk factors that made anticoagulation appropriate.

MAIN OUTCOME MEASURES Proportion of patients removed from the care gap; reasons given for not giving the remainder anticoagulants.

RESULTS Half the patients thought to be in the care gap had previously unknown contraindications to anticoagulation, lacked a clear indication for anticoagulation, or were taking warfarin. Patients’ refusal and anticipated problems with compliance and monitoring were among the reasons for not giving patients anticoagulants.

CONCLUSION Adding data from primary care physicians significantly narrowed the care gap. Attention should focus on the remaining reasons for not giving eligible patients anticoagulants.

RÉSUMÉ

OBJECTIF La fibrillation auriculaire (FA) augmente considérablement le risque d’accident vasculaire cérébral. Les données scientifiques donnent à croire que l’anticoagulothérapie pour réduire le risque n’est pas suffisamment utilisée (une «lacune dans les soins»). Nos objectifs étaient de préciser l’ampleur de cette lacune dans les soins en tenant compte des données provenant des médecins de famille et de déterminer les raisons pour lesquelles des patients admissibles à une anticoagulothérapie ne les recevaient pas.

CONCEPTION Un sondage téléphonique auprès de médecins de famille concernant des patients spécifiques dans leur pratique.

CONTEXTE La Nouvelle-Écosse.

PARTICIPANTS Des patients de cliniques externes souffrant de FA ne prenant pas de warfarine et ayant des facteurs de risque justifiant une anticoagulothérapie.

PRINCIPALES MESURES DES RÉSULTATS La proportion de patients exclus de la lacune dans les soins; les motifs justifiant de ne pas avoir donné aux autres des anticoagulants.

RÉSULTATS Il existait, chez la moitié des patients qu’on pensait «manquer» de soins, des contre-indications auparavant inconnues de suivre une anticoagulothérapie; il n’était pas clairement indiqué chez ceux-ci de prendre des anticoagulants; ou encore, ils prenaient de la warfarine. Le refus des patients et les problèmes anticipés entourant la conformité et la surveillance comptaient au nombre des raisons de ne pas donner des anticoagulants aux patients.

CONCLUSION L’ajout de données provenant des médecins de première ligne réduit considérablement l’ampleur de la lacune dans les soins. Il faudrait insister sur les autres raisons de ne pas administrer aux patients admissibles une anticoagulothérapie.
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Research

Atrial fibrillation (AF) has a prevalence of between 2% and 10% among elderly people and will become an increasingly important health issue in our aging population. It is of particular concern because patients with AF have an almost fivefold increased risk of stroke, which can be substantially reduced by treating those at high risk. Evidence on benefit and risk of anticoagulation was comprehensively reviewed by a Canadian Cardiovascular Society Consensus Conference. This review resulted in grade A recommendations based on level I evidence (randomized controlled trials) that were published in January 1996.

Despite strong evidence in the literature since 1991 in favour of anticoagulation, studies of AF patients of general practitioners in the United Kingdom revealed anticoagulation rates of only 21.4%, 36%, 8, 9 and 52%. A variety of reasons were reported for not using anticoagulants. These included patients' wishes, 2, 9, 10 dementia, 2, 8 frailty or falls, 2, 8 age or “extreme age,” 2, 8, 10 multiple comorbid conditions, 2 “consultant's opinion,” 9 risk outweighs benefits, 9 dyspepsia, 8 anticipation of problems with compliance or monitoring, 2 and being housebound. 2 Among a national sample of ambulatory AF patients in the United States, 43% of those with additional risk factors for stroke were treated with anticoagulants. Two thirds of Canadian patients with AF who had been in a trial of anticoagulant therapy were treated with warfarin after the study was terminated. Reasons for not prescribing warfarin included patient preference (67%), risk outweighing benefits (16%), acetylsalicylic acid preferred to warfarin (10%), and a “nuisance” factor (7%).

We define the “care gap” as the proportion of patients with no known contraindications to warfarin therapy and for whom warfarin is indicated who remain untreated. Evidence shows that this gap has narrowed in recent years. The first Canadian study we found, of AF patients recruited from an academic family medicine practice in Toronto, reported that 78.2% were taking warfarin in 1999 and 2000.13 A baseline measure in an unpublished population-based study in Nova Scotia, using information provided by AF patients, found that 69.2% were receiving anticoagulant therapy. We believed that family physicians could shed some light on the remaining 30.8% gap in that study. Our objectives were to enhance measurement of this gap by adding data on ambulatory patients from community family physicians and to determine whether reasons for not treating patients are different now that the care gap appears to be narrowing.

METHODS

Design and setting

This study was a census survey by telephone of family physicians throughout Nova Scotia who had one or more eligible patients in their practices.

Sample frame and subjects

Patients were identified from a database created for a population-based study of patients with AF living in the community. These patients were found through a survey of electrocardiogram facilities throughout Nova Scotia between November 1999 and March 2001. Of the 425 patients in the study database in March 2001, 71 remained apparently
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71 eligible for anticoagulation but untreated. These 71 patients constituted the apparent care gap and formed our sample. Patients were contacted by telephone by the study coordinator (B.B.) to obtain consent for us to approach their family physicians, who were subsequently also recruited by letter and telephone.

Collection and analysis of data

An interview guide was used. It contained an open-ended invitation to tell the interviewer why a patient was not being treated with anticoagulants. A checklist of possible responses drawn from previous UK studies was included, as was an “other” option. Physicians were encouraged to refer to their patients’ charts to complement their memories. This step was taken to ensure reliable information. All interviews were conducted by trained interviewers (B.B. and K.N.) who documented all reasons for not giving patients anticoagulation therapy. Analysis consisted of descriptive statistics of categorical data.

The research ethics board of the Queen Elizabeth II Health Sciences Centre in Halifax, NS, approved the study’s protocol and that of the initial study from which our sample was drawn. Signed consent was obtained from both patients and family physicians.

RESULTS

The 53 (74.6%) patients who agreed to participate had an average age of 70.4 (standard deviation 12.1, range 28 to 90 years); 34 were male (64%). Seventeen patients refused to be included in our study, as did one family physician (Figure 1). Thus we do not know the anticoagulation status of 18 patients. Seven patients were reported to have started taking warfarin since the sample was drawn, leaving 46 patients whose family physicians we interviewed.

Of the 46 patients, 20 were found to have either previously unknown contraindications or no appropriate indication for warfarin therapy (Figure 2). Substantial bleeding was the most
common contraindication (n = 7, including five with gastrointestinal bleeding). A consultant had contributed to decisions about therapy for four of these seven patients. Two patients reacted or were intolerant to warfarin (a “significant” skin rash for one, and nausea and vomiting for the other). Three patients had had single episodes of AF as a consequence of acute self-limited triggers (infection, heart surgery, or hospitalization for unspecified cause). No current evidence justifies using anticoagulants for these patients.

The remaining 26 patients had indications for warfarin therapy but were not being treated. Two reasons were given for not treating each of three patients, for a total of 29 responses. The most common reason for not being treated was patients’ refusal (seven patients) (Figure 3). Single episodes, usually remote, without a known trigger (five patients) and paroxysmal AF (four patients) were also cited. The decision not to treat was made or shared by a consultant for eight of these nine patients. Actual or anticipated problems with compliance and monitoring, based on previous experiences with patients, were the reason for not treating five patients, one of whom was also reported to have dementia (her family physician believed her caregiver would not have been able to comply with treatment and blood monitoring). One patient’s physician said the patient was younger than 65 and that therapy was not indicated. This patient was originally included in the study because he had hypertension, a major risk factor.

Within the group of 26 patients, 16 saw consultants as well as their family physicians. For four patients, family physicians indicated “consultant judgment” as the only reason for withholding treatment. One patient was not offered anticoagulants because of continuing nonsteroidal anti-inflammatory therapy. No reason was offered for one patient who had multiple comorbid conditions; the family physician labeled it an “oversight” on his or her part, although the patient had seen three separate consultants in emergency settings and had received no recommendation for anticoagulation.

![Figure 2. Patients for whom warfarin is not indicated or contraindicated: N=20.](image)
Our results, in comparison with reports reviewed above, suggest that the care gap continues to narrow. Of the 425 patients in the initial database, 71 appeared to be in the care gap, and our sample included 75% (53/71) of them. Adding data from family physicians removed 50.9% (27/53) of these patients from the gap. We suggest that researchers exercise caution when dealing with clinical conditions largely managed in ambulatory care (by primary physicians and consultants). Significant estimation errors could occur when data on ambulatory patients are not included in their investigations.

Some of the reasons noted in earlier studies for not using anticoagulants persist. The most common reason for being in the care gap in our study is patient refusal, also called patient preferences or wishes in Canadian and UK studies. Use of appropriate patient education materials or aids to decision making might help ensure that patients are making truly informed decisions, but respect for patient choice implies that the number of patients who could benefit from anticoagulation, but refuse treatment, will not diminish to zero. Knowing truly achievable rates of implementation of such therapy is important in a world of proposed payment incentives for practice. It might be proposed that a family practice receive additional payments from health insurance plans if, for example, 80% of patients with AF in the practice are treated. Such targets must be based on evidence of what is achievable, not on “best guesses.” There is also an ethical issue: are patients to be counted in the gap if they have made an informed choice not to be treated?

Another factor observed in our study and cited in the UK studies for not prescribing warfarin was anticipated problems with compliance and monitoring. Although patient-specific issues accounted for some of these (eg, noncompliance with other treatment regimens in the past), other concerns, such as lack of transportation for patients or their blood samples to the laboratory, could be overcome by community venipuncture services or volunteer drivers. A structured anticoagulation clinic in a primary care setting in the United States has recently been shown to improve monitoring and INR (International
Normalized Ratio) control. Further research should be done to identify and test strategies to reduce these anticipated problems or remove this barrier to optimal care.

One reason for avoiding anticoagulation not observed in previous studies is diagnosis of a single episode of AF without known trigger or paroxysmal AF. We acknowledge that most evidence supporting anticoagulation has been developed in trials of chronic AF and that evidence regarding paroxysmal AF is much less convincing. It is possible that community specialists and family physicians are uncertain whether the evidence applies to these patients or whether they or the patients themselves believe the risks outweigh the possible benefits.

A high proportion (16/26, 62%) of patients who were not using anticoagulants saw consultants as well as their family physicians. Whether consultants were called to help with managing patients’ arrhythmias or anticoagulation or both is unclear. The clinical judgment of a consultant, also seen in UK data, was the only reported reason for not giving anticoagulants to four patients. The decision not to treat another patient (with hypertension) because he was younger than 65 years is consistent with other studies, suggesting that hypertension is not recognized or accepted as a risk factor. This belief can be modified through continuing medical education.

It is useful to note some reasons reported in other studies but not offered in this study. Old age (or “extreme age”) was not a justification for avoiding anticoagulation in this study as it was in many earlier studies. Although our sample is small, this result could indicate that the message that benefits outweigh risks for elderly people as well as younger people has been accepted by physicians and patients. Multiple comorbid conditions were also not offered as a justification for not treating patients.

Limitations

The generalizability of our results might be limited by the type of patients who were successfully recruited into the original study. Although vigorous efforts were made to identify all patients with electrocardiographic (ECG) diagnoses of AF in Nova Scotia, not all ECG facilities cooperated, and not all physicians and patients were willing to be involved. Because the treatment rate was high, our sample in the care gap was therefore small, and the numbers for each reason for not using anticoagulants were very small. The accuracy of patient self-reported information regarding risk factors and contraindications was not validated by checking with physicians or hospital records. Similarly, the accuracy of information gathered at interviews with physicians could not be validated, and the appropriateness of their judgment regarding relative contraindications could not be considered.
Conclusion
The care gap in anticoagulation of patients with AF who are at increased risk of stroke appears narrower than previously reported after data from family physicians’ practices are included. Some previously recorded reasons for not using anticoagulants, such as patients’ refusal and anticipated problems with compliance and monitoring, persist, but old age and multiple comorbid conditions were not cited as reasons in our study.

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Contributors
Dr Putnam participated in conception and design of the project and analysis and interpretation of data, and he drafted most of the article. Ms Nicol participated in acquiring, analyzing, and interpreting the data and drafted components of the paper and revised it critically. Drs Anderson, Burge, and Cox and Mr Flowerdew participated in conception and design of the project, analysis and interpretation of data, and revising the manuscript critically. Ms Chiasson participated in analyzing and interpreting the data and revising drafts of the paper for critical content. All the authors gave final approval to the manuscript submitted.

Competing interests
None declared

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