Supplementary data

Supplementary data are available at Age and Ageing online.

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References


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Quality of life of elderly people on warfarin for atrial fibrillation

SIR—Atrial fibrillation/flutter (AF) predisposes to ischaemic stroke and is associated with greater disability and mortality than those without AF [1]. The prevalence of AF rises with age and increases sharply in older people [2]. In one study, AF accounted for 10–15% of ischaemic strokes in younger people and nearly 25% in people aged over 80 years [3]. Therapeutic oral anticoagulation with international normalized ratio (INR) of 2–3 is well established both for primary and secondary stroke prevention. This confers an additional 40% risk reduction in recurrent stroke compared with antiplatelet therapy [4]. Furthermore, recent evidence suggests that this may also be associated with reduced stroke severity [5] and overall mortality [6] in patients with ischaemic stroke due to AF.
The CHADS2 score, which estimates risk of stroke in patients with AF, has been validated in recently discharged hospital patients aged 65 to 95 years [7]. The adjusted stroke rate per 100 patient-years is estimated from <1% (age <65 years, no risk factors) to 18.2% in patients with a CHADS2 score of six points [8]. Anticoagulation is recommended in high-risk (CHADS2 > 2) patients even after conversion of AF to sinus rhythm [9]. Warfarin is underused in older people [8]. Medical practitioners have felt that old age deters anticoagulation independent of severity of stroke and bleeding risk [10, 11]. Elderly patients with AF are often prescribed aspirin, on the presumption that it is safer. However, in BAFTA (Birmingham Atrial Fibrillation Treatment of the Aged) study there was no difference in major bleeding rates between warfarin (INR 2–3) and aspirin (75 mg) [12].

Assessment of quality of life (QL) has received increasing attention as an outcome measure of the subjective sequelae of disease. Measures of QL take into consideration the potential burdens and side effects of any treatment that leads to improvement in specific symptoms but that may negatively affect general well being. Health-related QL is a summarized outcome assessment that is designed to reflect the subjective impairment in general well being caused by individual aspects of pain, and psychological, emotional and physical disturbances.

Perceived reduction in QL is an important factor which may influence physicians’ prescription and patients’ use of warfarin therapy. Bleeding complications together with the inconvenience of anticoagulation monitoring are thought to reduce an individual’s QL. Conversely, patients may be more averse to the potential consequences of stroke and less bothered by the side effects of antithrombotic treatment than doctors. In an observational study, patients at high risk of stroke placed more value on the avoidance of stroke and less value on the avoidance of bleeding than did physicians [13].

Improving QL is a major goal in the management of chronic disease. QL improves when AF is treated, irrespective of the mode of treatment [14]. It might be anticipated that long-term warfarin therapy affects QL but in a previous study we found no difference between patients with short- and long-term warfarin treatment [15].

We have undertaken a further observational study in the same individuals at the beginning of warfarin therapy for thromboprophylaxis of AF and after 6 months to determine if there is a perceived change in QL with this treatment.

Results

One hundred and ten eligible patients filled in the SF12v2 questionnaire at the beginning of induction of anticoagulation. Fifty-five per cent were women. The mean age of men and women were 80 and 82 years, respectively. Ninety-four patients returned forms after 6 months. Seven incomplete responses were excluded, and 87 responses were analysed. Of the 16 non-responders, 6 did not wish to fill in the second questionnaire, 3 patients died, 1 suffered a stroke, 2 had to stop warfarin for bleeding complications and 4 patients could not be contacted.

Physical QL (PCS) and mental QL (MCS)

The SF12v2 norms for the population mean and standard deviation (SD) for PCS and MCS in over 75 age group were used as baseline QL values [18].

Inspecting the baseline values for QL, we found that our sample of patients with AF had PCS and MCS below (Table 1) those expected for an over 75 age group, and for females this reduction was statistically significant at the 5% level.
activities such as visiting relatives and friends whilst on physical and emotional problems interfered with their social monitoring. We assessed how much of the time patients’ testing as well as reducing the overall cost of anticoagulation inconvenience from waiting for transport and the duration of monitoring by community-based anticoagulation clinics. Most patients were then subsequently referred to and anticoagulation clinic for the initiation of warfarin therapy. All patients had to attend a hospital-based monitored by community-based anticoagulation clinics.

In our previous study, we compared the QL of older AF patients those on warfarin for less than a year (mean 0.5 year) with those on warfarin for over a year (mean 5.5 year) and did not find any difference in QL with duration of anticoagulation and recommended a further study assessing QL before and after warfarin treatment in the same individuals. We found that mental QL was affected only by increasing age and that physical QL was affected only by the CHADS2 score, which was unsurprising as CHADS2 is a surrogate marker of disease burden. Indeed, the fact that we found this in our study provides further confirmation of its reliability. A North American Study, Boston Area Anticoagulation Trial for Atrial Fibrillation (BAATAF) similarly showed no change in QL in a younger patient population (mean age 68 years) [20].

In our study, we used SF12v2 to assess health-related QL, as we were unable to find any other specific tool to use in elderly patients with AF. We found that QL remained the same in individuals over a period of 6 months on warfarin. All patients had to attend a hospital-based anticoagulation clinic for the initiation of warfarin therapy. Most patients were then subsequently referred to and monitored by community-based anticoagulation clinics close to their home. Community monitoring reduces patient inconvenience from waiting for transport and the duration of testing as well as reducing the overall cost of anticoagulation monitoring. We assessed how much of the time patients’ physical and emotional problems interfered with their social activities such as visiting relatives and friends whilst on warfarin. We did not find any significant difference after being on warfarin for 6 months. We did not address whether taking warfarin impaired their ability to take holidays.

Until recently, vitamin K antagonists have been the only available oral antithrombotic agents, and warfarin is the most commonly used drug in this group. However, it is a drug with some inherent problems including high plasma protein binding, genetic variation in metabolism, interactions with food and drugs, a narrow therapeutic index requiring frequent monitoring and slow onset of action requiring overlap with initial parenteral anticoagulation. Alternative oral agents such as direct thrombin inhibitors are being compared with warfarin for stroke prevention in AF. These newer agents do not require anticoagulation monitoring; however, there is no current test available to check their efficacy, and they must be used with caution in patients with renal impairment which occurs commonly in older people. Newer agents are also expensive and at present, no antidote is available to reverse over-anticoagulation. At least for the time being, warfarin remains the drug of choice for stroke prevention in patients with AF, and patients’ QL, which in turn may affect compliance, remains an important aspect of treatment.

This is an observational study in community-dwelling elderly people. The results are not applicable to patients with cognitive impairment, in whom anticoagulation is often avoided. The case for wider but judicious use of anticoagulation for older people with AF is strengthened further by this study. Our study excluded elderly patients who had previous complications arising from warfarin treatment, and those in care homes. As suggested by a recent Australian study, we need a better way to identify the risk of bleeding in frail elderly people. A further study with repeat assessments in the same individuals after being on warfarin for an even longer period of time might be helpful and it would be valuable to include other activities which might affect QL such as the ability to take holidays.

**Key points**

- Warfarin treatment *per se* does not affect either the physical or mental QL of older patients with AF over 6 months period.
- Physicians and their patients can be reassured that concerns regarding deterioration in QL need not play a significant role in deciding on warfarin use.

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This study was supported by grant 10/2004 from the British Geriatrics Society.

**Conflicts of interest**

The results of this study have been accepted as an abstract for the autumn meeting of the BGS 2008.

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**Table 1. Comparison of base line PCS and MCS**

<table>
<thead>
<tr>
<th>Component</th>
<th>PCS sample mean</th>
<th>PCS expected</th>
<th>P-value</th>
<th>MCS sample mean</th>
<th>MCS expected</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>38.52</td>
<td>40.13</td>
<td>0.443</td>
<td>45.71</td>
<td>46.13</td>
<td>0.059</td>
</tr>
<tr>
<td>Females</td>
<td>35.05</td>
<td>39.53</td>
<td>0.004</td>
<td>45.14</td>
<td>46.09</td>
<td>0.016</td>
</tr>
</tbody>
</table>

PCS = physical component scores, MCS = mental component scores.

**Table 2. Results of matched-pairs t-tests**

<table>
<thead>
<tr>
<th>Component</th>
<th>Difference</th>
<th>t-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS</td>
<td>1.78</td>
<td>1.887</td>
<td>0.062</td>
</tr>
<tr>
<td>MCS</td>
<td>0.75</td>
<td>0.798</td>
<td>0.427</td>
</tr>
</tbody>
</table>

PCS = physical component scores, MCS = mental component scores.

**Matched-pairs comparisons**

In order to determine if the QL scores were influenced by commencing warfarin therapy, matched-pairs t-tests were used for both the PCS and MCS. The results are shown in Table 2. There were reductions in the mean scores of both PCS and MCS, but neither difference reached statistical significance.

**Discussion**

In our previous study, we compared the QL of older AF patients those on warfarin for less than a year (mean 0.5 year) with those on warfarin for over a year (mean 5.5 year) and did not find any difference in QL with duration of anticoagulation and recommended a further study assessing QL before and after warfarin treatment in the same individuals.

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Research letters

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Improving pain management in elderly patients with dementia: validation of the Doloshort observational pain assessment scale

SIR—More than half of older adults report pain affecting their quality of life [1]. Self-assessment cannot be implemented in patients with limited communication abilities due to severe dementia [2, 3]. To address this issue, standardised observational pain scales have been designed but they may be relatively lengthy and their validity has not always been verified. A very brief validated tool could greatly enhance pain evaluation in busy clinical practices and could also help shorten more comprehensive geriatric and oncological assessments of such patients.

In a prior study, we demonstrated that Doloplus-2 correlated with self-assessment and had adequate internal consistency and test–retest reliability. We constructed a short version of Doloplus-2, Doloshort, which includes the five items that were significantly associated with the visual analogue scale (VAS) score in a multiple regression model [4, 5]. We conducted the present prospective study to examine the validity of Doloshort and confirm its ease of use.