Reviewer's report

Title: Stroke with atrial fibrillation or atrial flutter: descriptive population-based study from the Brest Stroke Registry.

Version: 1 Date: 19 January 2015

Reviewer: Nicole Lowres

Reviewer's report:

The topic of the article is of interest as it aims to describe the prevalence of atrial fibrillation or flutter amongst stroke patients. Importantly, it also aims to determine adherence to medication prescription guidelines for stroke prevention in the year 2008.

I feel the article is of interest to readers and will add to and support the current published literature on the subject. I feel the article would be enhanced with consideration of the following suggestions.

MAJOR COMPULSORY REVISIONS

1. “General”
   The abstract states the aim of the manuscript is to look at the prevalence of cardiac arrhythmias in stroke patients, however from the body of the manuscript the aim is look at the prevalence of AF and flutter. It seems the term “CA” is used in two different contexts throughout the manuscript; firstly to describe cardiac arrhythmias in general, and secondly to specifically and solely refer to AF and flutter. I would suggest consideration of using “AF and flutter” (or choose a different abbreviation) instead of CA, as there are many other arrhythmias that fall into the category of CA, that are not included in the analysis.

2. “Background section”:
   There are some statements in the background that need to be referenced (eg: first paragraph, sentences 7 and 9).

3. “Methods, statistical analysis section”:
   The statistical analysis methods and tests used should be described in some detail, rather than stating the analyses were performed by a statistician.

4. “Results”:
   The results section is quite lengthy and a little difficult to extract the information from. I would suggest that many of the results could be condensed into a table, especially the final three paragraphs that describe medication prescription. Therefore figure 3 may not be required in its current form.

5. “Figure 3”
It is of interest to readers to be able to see the proportion of patients in each CHADS2 category that were prescribed appropriate VKA and were within the therapeutic range. At present the total figure of VKA prescription is presented, incorporating both therapeutic and non-therapeutic ranges together. Additionally are the patients on both aspirin and VKA included in the VKA group too?

6. “Results”:
I understand the authors chose to present CHADS breakdowns based on the fact that the CHADS score was being used by the guidelines in 2008. To make the data presented in the manuscript of more interest to the readers, it would be good to also know what the breakdown was for stroke according to the CHADS-VASc score (advocated by the current guidelines). This information may be available from the Brest database and could be discussed in the results or discussion section.

7. “Discussion section”:
The discussion felt like a repeat of the results only. I think the discussion would benefit from some rewriting and exploration/interpretation of the results. The discussion could also include discussing the results in the light of the new AF guidelines, the use of CHADS-VASc and the move away from aspirin prescription.

8. “Limitations”
Limitations were not listed. One limitation is that it is possible some people with paroxysmal AF were not identified/diagnosed at the time of stroke as long term monitoring did not appear to be performed, only a single ECG.

MINOR ESSENTIAL REVISIONS

9. In some places the quality of written English detracted from the manuscript. I found some sentences were difficult to understand and therefore I needed to read them a few times to understand what the authors were trying to convey (for example, the second sentence of the background in the abstract). The manuscript would be improved by some rewording and grammar corrections (for example: Abstract, results section, second sentence: “the prevalence of CA was of 31.0%” – “of” should be removed)

10. I would suggest limiting the use of abbreviations when the term is only used once in the manuscript, as it detracts the reader when there are so many abbreviations. For example, I would remove the abbreviations TEE, CHF and WHO from the manuscript, and from the list of abbreviations.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being
published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests