Reviewer's report

Title: Gender differences in presentation, course and diagnosis of chest pain in primary care

Version: 1 Date: 3 September 2009

Reviewer: Marie Pirotta

Reviewer's report:

Thank-you for the opportunity to review this interesting research paper. The research question is well defined and will be of interest to general practitioners. The method is rigorous and well thought through.

My main suggestion to improve the paper is that in each of the main diagnostic groups, apart from CHD which is well characterised, the results should be presented by final diagnosis rather than as a heterogenous group. The grouped results are not very helpful to clinicians.

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

Some specific questions and suggestions that may improve the paper:

Methods
1. Please define “delayed-type reference standard” when this term first appears.
2. Please explain how the 209 GPs to be approached for the study were chosen.
3. Why was the age of 35 years chosen as the cut-off for eligibility?
4. What training did the research associate of the Department who sat on the reference panel have to assess diagnoses of chest pain?

Results
1. How many practices were involved in the data collection?
2. How was the total number of patients attending during the data collection period estimated?
3. Is it possible to compare both the GP and patient characteristics to those of the whole country or region?
4. Was there any data collected on patients NOT approached or missed in data collection?
5. When providing results it would be helpful through to include percent of total patients with either chest pain in general or of those with CHD. Sometimes it was hard to discern which group was being reported.
6. When reporting risks and comorbidities, there is no mention of age – was this adjusted for?
7. In Table 3 there is a symbol after ‘Continuous pain” that is not explained.

Discussion
1. Did you explore or consider whether other issues may have an impact on the length of time that passed before people presented with their chest pain? Do women wait longer before presenting?
2. It would be interesting to explore why so many women had chest pain persisting at 6 months – as I mentioned earlier – it would be very interesting for you to present these data by diagnostic group. Are women under-diagnosed or under-treated?

Minor Essential Revisions
1. The Flow Chart is very useful.
   a. Could you also insert percentages of the total agreeing to participate at each stage
   b. Include the 6 week data
   c. Include the 60 lost to follow up and 11 deaths on the chart.
2. Is there any demographic data available for the 34 cases where information was lacking or incomplete? Is there any reason to suspect that any systematic bias may have occurred in this regard?
3. Could you include in the results the total (%) by gender where no diagnosis was able to be made by the reference panel?
4. It would be particularly useful to report the course of chest pain by diagnostic category rather than as a total.
5. Results of the random audits are not reported.
6. In Table 2 hypertension in listed as a cause of chest pain, which does not make sense to me.
7. The statement: “...our findings do not support a different clinical presentation of CHD in women” belies a belief that men represent the norm or standard. Perhaps you could express that there was no difference between the two groups.
8. There seems to be an important word omitted in the sentence “…only chest wall tenderness in palpation largely ruled out acute MI …”
9. In the final paragraph you mention Bayesian approach. To make the results relevant to family doctors, it would be useful to explain what this approach is and how it is used.

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)
1. Statistics – were the data adjusted for clustering and for baseline findings?

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'