Reviewer's report

Title: Ruling out coronary heart disease in primary care patients with chest pain: a clinical prediction score

Version: 1 Date: 8 November 2009

Reviewer: Frank Buntinx

Reviewer's report:

Minor essentiallt revisions:
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Abstract:
results: duration of chest pain (1-60 minutes: this way of preseting suggests a continuous variable to the reader. it took me till the tables before I realised this to be wrong. Please reformulate.

Interpretation: 'easy to use': a score with 8 parameters seems not so easy to use during clinical work.

Introduction:
OK.

Methods:
Relates each practice to one GP or to more than one on average?

settings and participants: 672 chest pain patients in a registration of almost 20 practice-years or less than 3 a month for each practice. I have no idea about the average number of patient contacts in a Swiss general practice, but this seems a very low prevalence. Did the authors check for the presence of a drop in prevalence over time (probably due to regiostration fatigue)? Be aware that in case of incomplete registration this incompleteness may be a selective one (GPs either will eitehr record the more serious cases or vice versa). Please discuss in the discussion section.

Using all data after a follow-up (FU) period as a reference standard seems OK to me for this kind of diagnsotic study. However, a FU period of 12 months seems very long. Chest pain to day may not be related to a myocardial infarction after 11 or 12 months. It may be wise to do a sensitivity analysis using a FU period of thr’ee or six months as the reference.

Data collection, last line: why were they not aware of the aim of the study?

Predictive factors, last two sentences: Does this mean that you excluded all other (70-(12+4)=44) variables from the analysis. Are you sure they are not influential? Why were they collected?

Outcomes and follow-up, line 12: "CHD included....": What about other serious CV disorders, such as aneurysm of the anorta, lung embolism, ...?
Results:

Building the prediction score: Although I understand the need to report the interaction effect, it is difficult to use a combined variable (sex and age, with a different cut-point for age according to sex) in daily clinical work.

Classification of major events:

first entence: When was this myocadial infarction diagnosed: shortly after inclusion or late during the FU period?

less than 1/3 wre investigated by ECG: What do you conclude grom this (looks OK to this reviewer: no ECG during an acute chest pain episode unless you have plenty of time or a lot of help)?

Discussion:

p15, line 2-5: Although this is correctly written, it may suggest to a fast reader that teh score enables GPs to correctly discharge patients wit a low risk score. I my view this has not been proven by this study, especially not for the urgent or serious cases.

Dicretionary revisions:

Discussion p 16, last sentence: You may wish to add ... in possible heart failure patients.

Figure 2: Indicate the meaning of the dots.

Which journal?: Appropriate or potentially appropriate for BMC Medicine: an article of importance in its field

What next?: Accept for publication in BMC Medicine after minor essential revisions

Quality of written English: Acceptable

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

Declaration of competing interests:

I have no competing interests