Reviewer's report

Title: Validity of gout diagnosis in Swedish primary and secondary care

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Reviewer: Till Uhlig

Reviewer's report:

This study defines gout by looking at how well different classification criteria work in two general practitioners' offices and in a rheumatology clinic. The data are useful help to gather information on how well gout is discovered in clinical practice in Sweden.

Major

A major concern is that retrospective classification of gout according to the examined criteria will depend on how well patient files are kept. Some more information on this issue should be given. The better patients are assessed in the clinic the more likely it will be that they will be positive for any classification criteria set.

Following this line, when several times an ICD-code for gout was registered, this could indicate both a higher likelihood that the patient really has gout. On the other hand the patient has been seen more often by the physician for possible gout and most likely more information is gathered and documented to reach a the necessary number of characteristics and thus the threshold for classification.

The authors limit the window by only considering clinical information back to 2009. A more thorough review through the whole patient file would provide more clinical information, though that would require a lot more work.

An important piece of information is that a registration of a ICD diagnosis of gout only once was alone not valid. Do the authors have reflections on how often mere coding errors could be involved (when the ICD code did not reasonably reflect the contents of the file)?

I wonder why not exclusive categorization for ICD diagnoses was used: 1, 2, 3 or more. This would enable statistical comparisons. This and other statistics cold provide information on where there were significant differences between practices and classification for gout.

Minor

In the Methods section information should be given on the size of the general practitioners' offices and on how many patients are yearly seen in the rheumatology outpatient department.

In table 3 information on patient age could indirectly show to which degree a diagnosis of gout is related to time or to intensive care (several visits when first a diagnosis was made).
It should be stated whether comorbidities in table 2 were assess by ICD diagnoses in the files or by reading them.

New ACR/EULAR classification criteria are around the corner. They have been presented at the recent ACR congress in Boston/USA in November 2015 and are likely to be published within weeks or months. They do not specifically address chronic gout. Further some useful information on the strengths and weakness of existing classification criteria sets are given in the recent publication by Taylor et altera in Annals of the Rheumatic Diseases, online accessible October 2014.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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.