Reviewer's report

Title: Hyperuricaemia: a marker of increased cardiovascular risk in rheumatic patients: analysis of the ACT-CVD cohort

Version: 1 Date: 2 February 2014

Reviewer: Byron Hoogwerf

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Summary This is a revision of a prior manuscript on the same cohort. In the revision the authors have appropriately evaluated the effects of inflammatory disorders (GA, RA, OA), uric acid and associated risk factors on CV events in the ACT-CVD cohort.

Minor essential revisions

1. Background: The comment: “In modern times GA has become the most prevalent form of inflammatory arthritis….” needs to be referenced. In the authors’ own data RA is the most common in this study cohort.

2. Results: The authors’ do not describe the exact cohort used for the KM analyses. The Results section has the following sentence: “…were excluded because of previous CV events.” This reviewer interprets this to mean that patients with prior CV events were not included in the KM analyses.
   a. If this is true, then the authors need to make this clear in the methods.
   b. Also, it is not clear why the authors chose to exclude patients with prior CVD events from the analyses, as this is a very high risk cohort for subsequent events and this information might have been a useful consideration (either combined with current KM curves or as a separate analysis).

3. Why have the authors’ not given us actual lipid values. There are a couple of concerns:
   a. The use of statin therapy seems very low for a data base of high risk patients established in 2009 at a time when statin therapy was the standard of care in such patients. (Authors. own data show annual event rates in GA patients >2% annually—or >20% 10 year event rates)
   b. The use of ratios may be better for predicting CV risk than individual values with some notable exceptions including the use of glucocorticoids.
      i. Were HDL-C levels higher in the RA group?
      ii. How many RA patients were taking systemic glucocorticoids?
      iii. Including any differences in lipids in the RA group should be considered in the “Limitations”

4. The authors’ have not commented on some gender issues. In general men are at increased risk for CVD; Men are 89% of the GA cohort and < 30% of the RA and OA cohorts. In the cross-sectional data, male gender is less common in the
GA “Event” vs. “Non Event” group—somewhat unexpected in this reviewer’s experience—while in the non-GA group, men are more likely to be represented in the “Event” Group. Can the authors’ clarify for the readers why women with GA would be more likely to have an event?

5. This is no discussion of gender differences for uric acid—generally not a problem in a large study except for the observations under item 4 above.

6. There are multiple spelling and grammatical errors

**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:**

Unchanged from original submission