Reviewer's report

Title: Relationship between time-integrated disease activity estimated by DAS28-CRP and radiographic progression of anatomical damage in patients with early rheumatoid arthritis

Version: 2 Date: 18 March 2011

Reviewer: Joanna Stewart

Reviewer's report:

Minor Essential

1. There seems little point in reporting the change in SHS arbitrarily split on those that were classified as progressing and not as this split was itself formed based on the change in SHS. Particularly in the abstract it would be more useful to report the change for everyone combined.

2. Statistical methods state means will be reported as mean(sd) while on the 4th and 5th line of the results it has 56.1+/- 11.1 etc. These should be changed to 56.1 (11.1) etc.

3. It is not clear what analysis is being referred to in the last sentence of the results section 'increase of joint destruction' This sentence seems at odds with the results in the next section and it is not clear how it difference from that analysis or where it is described in the methods. The only apparent difference is the use of baseline rather than AUC DAS28-CRP. Perhaps it is reporting univariable analyses but if so then this needs inclusion in the methods and an attempt at an explanation of the change of results from univariable to multivariable results made. It may be best to delete that sentence as the more useful information is gained from the following paragraph. Baseline DAS28-CRP was the only exception as not included in the logistic regression however as the sample was selected to all have high activity at baseline there is little to be gained from examining that variable.

4. The first sentence in ‘Relationship between the cumulative inflammatory burden and joint destruction’ paragraph seems to be referring to the actual measure of progression rather than categorised into progress or not as it begins with median (IQR) and talks about a fold increase. If this is so then the phrase within the bracket (as estimated ....) should be omitted (or vice versa)

5. As the relationship of activity with progression is analysed, correctly, in the logistic regression (where activity is a continuous measure rather than split into 2 groups) no statistical test should be associated with the numbers quoted in the first sentence. This is simply a different way of presenting the same data to give the reader a feel of the effect size. It may therefore be better shifted to the end of the paragraph as a clarification of the significant relationship found between activity and progression
**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests