Reviewer’s report

Title: Predictors of biologic-free disease control in patients with rheumatoid arthritis after stopping tumor necrosis factor inhibitor treatment

Version: 0 Date: 08 Jan 2019

Reviewer: Jennifer Barton

Reviewer's report:

The authors present the results of a post-hoc analysis of a pragmatic, open-label multicenter trial of patients with RA in low disease activity on a TNFi who were randomized 2:1 to either discontinue their TNFi or to continue. The present study only looks at those patients from the parent study who discontinued their TNFi to see what factors were associated with achievement of biologic-free disease control. This is a contribution to the literature in that this field of study is nascent yet important - to best determine who/when can discontinue TNFi therapy. The paper is well-written and concise however there are a few areas in need of clarification as follows:

1. In the abstract, would be helpful to know the proportion who were seropositive in the study
2. Background, page 4, line 94 - please define what is meant by "persistent remission"
3. Methods, page 5, line 125 - please specify which disease activity measure was used to define low disease activity (LDA) [comes later in paragraph that it is by DAS28 - consider mentioning with first mention of LDA, minor point]
4. Methods, page 6, line 139 - was prednisone or corticosteroid use in general captured, and if so, dose?
5. Results, page 8, line 194 - would restate the total n for the current analysis
6. Results, page 8, line 198 - does the 251 with a physician-reported flare include the 219 who restarted their TNFi (as mentioned in the first half of the sentence)? Are these two groups overlapping or does the 251 include the 219? this is not clear as written
7. Results, page 8, lines 208-2010 - consider presenting the the point estimates as opposed to just p-value
8. Table 1, page 9 - would add the values for "normal BMI" and provide the range for MBDA as well as the actual cut-point values for low and moderate MBDA scores
9. Discussion, page 12, lines 288-292 - please provide citations
10. Discussion, page 13, lines 303-304 - is there an explanation for why predictors were only measured at baseline in the parent study? Would comment on role of steroids, pattern of synthetic DMARD use in the study - and if not captured, list as limitation
11. Discussion, page 13, lines 313 - could the authors present thoughts on next steps for this area of research or where these findings should lead us - in terms of practice and/or future research
12. General comment - consider using the phrase "anti-TNF monoclonal antibodies" or monoclonal antibodies instead of TNF antibodies to describe adalimumab and others
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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