Reviewer's report

Title: Anti-cyclic citrullinated peptide antibodies and paraoxonase-1 polymorphism in rheumatoid arthritis Hassan El-Banna and Asif Jiman Fatani* Department of Medical Microbiology and Parasitology, Faculty of Medicine, King Abdulaziz University, Jeddah Kingdom of Saudi Arabia. *Corresponding author. Asif Jiman Fatani @afatani@kau.edu.sa (Fax: 0096626400000 Ext: 20742). E mail: afatani@kau.edu.sa

Version:7 Date:19 June 2014

Reviewer:Raimon Sanmarti

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This is a study analysing the antioxidant activity (PON-1 and ARE) in the sera of patients with RA with a correlation analysis with autoantibody levels (RF and ACPA). A genetic study on polymorphisms of PON-1 was also carried out. The authors concluded that there is a reduction of antioxidant activity in patients with RA and this finding correlates with autoantibody levels.

Major concerns

1. The objective of the study is confusing. It is difficult to understand that the main objective was the correlation between antioxidant activity with the levels of serum RF or ACPA. I think that it would be most appropriate to analyse the antioxidant activity taking into account the different characteristics of the disease including not only the presence or absence of autoantibodies (rather than levels) but also the disease activity (clinical or biological) or the presence of erosions.

2. The population of RA is not well described. Data of autoantibody levels but not the percentage of seropositive disease is presented. Data about disease activity or treatment should be included. Antioxidant activity may be related with inflammatory activity?. Age at inclusion of RA patients seem to me too low taking into account a disease duration of 9 years.

3. Discussion is very large and the first part is focused on autoantibodies in RA that is not the objective of the study.

4. A control population with an inflammatory condition would be most appropriate in order to evaluate if this reduced antioxidant activity is characteristic of RA.

Minor concern

The column of RA patients in Table 1 is duplicated.

Level of interest: An article of limited interest

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'