Reviewer's report

Title: Serum markers in interstitial pneumonia with and without Pneumocystis jirovecii colonization: A prospective study

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Reviewer: Cristina Prat

Reviewer's report:

This is an interesting article that explores prevalence of Pneumocystis jirovecii colonization in patients with interstitial pneumonia, and explores if serum markers may be useful to distinguish infection from colonization, since the detection of P.jirovecii DNA is possible in both cases, and clinical and radiological features are similar.

The question is in general well defined, the methods are appropriate and well described and the results are sound.

The markers chosen are KL-6, surfactant protein A and D as markers of active interstitial pneumonia, and beta-D-glucan as marker of PCP. The main findings are that colonization is higher in patients receiving oral corticosteroids, and that levels of serum markers were not higher in patients with colonization respect to those without. Only beta-D-glucan was higher in patients with PCP, but not during colonization.

Discretionary Revisions

1. The results seem to be logical since beta-D-glucan is a component of P.jirovecii cyst wall, so an antigen of the microorganism. It should be better explained why we should expect the other markers to be elevated. Previous studies are cited in the introduction but the role of these biomarkers in the pathogenesis of interstitial pneumonia, with or without the presence of P.jirovecii is not explained and that would be necessary to better understand the rationale of the study. This explanation is also important to justify the results in the discussion, although it is shortly stated that they play a role in host defenses against P.jirovecii.

2. The finding of a lower peripheral lymphocyte count in patients with PCP is also quite logical since it is a risk factor for infection, and that should be also stated.

3. Limitations of the work are clearly stated, except the the number of patients with PCP is very low, since it is only 7.

4. It would be more visual if the name of the marker appears on the figures 2 and 3, and not only on the figure legends, together with the measurement units.

Minor essential revisions:
- There are some abbreviations used in the abstract that should appear between brackets when the complete words are used for the first time (IPF and CVD). These abbreviations also appear in figure legends, and maybe it would be better to write the total words, since figures should be self explanatory without the text.

- In the abstract is written "Methos" instead of "Methods"

- Page 6, statistics, P.jirovecii is written with capital letter (P.Jirovecii instead of P.jirovecii)

- Discussion first paragraph line 7 and 8, the word “patients” appears two times referred to the same group.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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