Reviewer’s report

Title: Diagnostic procedure for idiopathic eosinophilic pleural effusion: A single-center experience

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Reviewer: Francisco Javier Gonzalez-Barcala

Reviewer's report:

The authors describe clinical characteristics, laboratory and pathology data of 11 patients with idiopathic eosinophilic pleural effusion (IEPE), and present their response to glucocorticoid treatment after a follow-up ranging from 8 to 16 months. They conclude that diagnosis of IEPE must be made only after careful exclusion of other conditions that may present with pleural eosinophilia.

COMMENTS/QUESTIONS:

1. LANGUAGE. Although most of the key messages can be read easily, a careful edition of syntax and quality of language would be needed throughout the manuscript, especially in the Discussion section. For example, on the third page of Discussion (lines 17 to 26) the authors include a phrase quoting that "Archontogeorgis K et al.[13] emphasised that pleuroscopy is mandatory in diagnosing IEPE. In this (Reviewer's comment: The sentence is confusing in its present form, and "this" should be replaced by "In a previous published") study, pleural samples were collected by using combined ultrasound-guided cutting needle biopsy and standard pleural biopsy, without thoracoscopic assessment. Enough and pleura biopsies were obtained, and the sensitivity and accuracy reached up to 88.6% and 93.8%, respectively [12]". In my opinion, this paragraph is misleading in the text, because the reader might link results that were obtained by the authors themselves in a previous work published in 2016 (reference #12) with the ones published by Archontogerogis and coworkers in 2015 (reference #13). The whole paragraph should be revised and rewritten accordingly.

2. METHODS. In the paragraph related to "Exclusive diagnosis", it is quoted that "The common etiology of EPE including malignant PE (MPE), tubercular PE (TPE), parapneumonic PE (PPE) and pleural parasitic infestation (PPI) were excluded by laboratory tests". In the context of the manuscript, I understand that pleural biopsy was taken in all the 11 patients, and this important point should be included in the Methods section too. Related to this, the first paragraph in sub-section on "Eosinophils and other pleural parameters in pleural fluid" (included in the Results section) states that "Pleural samples were acquired by combined ultrasound-guided cutting needle biopsy and standard pleural biopsy [12]", but I believe that this sentence should be moved from the above-mentioned sub-section of Results to the Methods section (including the reference #12, that refers to a previous article from the authors).

3. PARASITE-SPECIFIC IgG ANTIBODIES. This important point is referred to in several parts of the manuscript, but I could not find any description of the antibodies that were used in the present study. According to a previous article published recently (Wang et al. BMC Infectious Diseases (2019) 19:576
https://doi.org/10.1186/s12879-019-4179-9), parasitic pleural infestation was diagnosed using IgG antibodies in blood for Paragonimus westermani, Taenia solium, Clonorchis sinensis and Echinococcus granulosus. If those antibodies were actually used in the present study, this critical information should be included in the Methods section, and the results described in the corresponding text and Tables.

4. PARASITE EGG INVESTIGATION IN STOOL. According to above mentioned article (Wang et al. BMC Infectious Diseases (2019) 19:576 https://doi.org/10.1186/s12879-019-4179-9), this is another critical point for the diagnosis (or exclusion of diagnosis) in some of the parasite pleural infestations. However, in the last sentence of the paragraph corresponding to "Laboratory tests for peripheral blood cell (PBC) and serological examination" the authors mention -surprisingly and with no explanation for a prospective study like the present- that "parasite eggs in stool were not determined".

5. CITATIONS. There is a critical reference in the Discussion section (ref. #21) from the same authors that I could not find in several searches that I performed, including PubMed. Instead, I found the one that I have referred to in several parts of my review (Wang et al. BMC Infectious Diseases (2019) 19:576 https://doi.org/10.1186/s12879-019-4179-9). I wonder if the authors made a serious error when quoting an article referenced in the manuscript as "Jinlin Wang, Weizhan Luo, Panxiao Shen, Yunxiang Zeng, Jianxing He. Clinical characteristics and diagnostic approach to a type of eosinophilic pleural effusion: a retrospective study of 11 pleural parasitic infestationspatients. BMC Infectious Diseases 2019; 12879-019-4179-9", and also wonder if this article actually exists in fact.

6. TABLES. I have a few questions and some concerns related to the three tables included in the manuscript, as follows:

- TABLE 1. Pathology findings in case 4 (pleural biopsy) refers to "Noncaseating granulomas" in a female patient suspected of having a tuberculous pleural effusion. Nothing is commented about this finding (that might be related to sarcoidosis and fungal infection, among others) in the manuscript, but I believe that it might be worth including a comment on this in the Discussion section.

- TABLE 2, Column on "Parasite-specific IgG antibodies": Results on all patients are quoted as "N" (negative). However, since there is no specific information on the antibodies used in the manuscript, I am concerned if ALL the necessary IgG antibodies were actually used IN EACH CASE. If not, the diagnosis of IEPE could not be reliably established.

- TABLE 2, Column on "Parasite eggs from stool" (last column in the Table): Again, results are quoted as "N" (negative) in all patients, but -since the authors mentioned that "parasite eggs in stool were not determined" (see my comments on point 4 in this review)- I am seriously concerned about the accuracy of the results shown in the last column of Table 2.

- TABLE 3. Pathology or pleural biopsy was described on Table 1. I wonder if moving that information to Table 3 would be more adequate. If not, the terms "pleura pathology" should be removed from the title in this Table 3.
Are the methods appropriate and well described?
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No

Does the work include the necessary controls?
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