Reviewer’s report

Title: Bacteriologically confirmed extra pulmonary tuberculosis and treatment outcome of patients consulted and treated under program conditions in the littoral region of Cameroon

Version: 1 Date: 20 Sep 2018

Reviewer: Giuseppina De Iaco

Reviewer’s report:

General considerations

This article addresses an interesting topic such as extrapulmonary tuberculosis (EPTB) and its treatment outcome in a littoral region in Cameroon.

Compared with other published material its originality relies on the fact that its focus on prevalence of bacteriologically confirmed EPTB and it specifically address limits and opportunities of available diagnostic tools in this setting under programme condition. The result found shown that EPTB is surprisingly high in these population and the authors repeat and underline this result several times but not always addressing the possible reason for this finding. (high HIV prevalence?, late diagnosis? difficult access to centres?).

Another aim of this study is to describe and analyze the treatment outcome of EPTB. The author could better emphasize the originality of this issue by citing and discussing other articles addressing epidemiological TB topics in Cameroon. I suggest, for example to look at another article that has been published in relevant journal. The lecture could rise some useful points for the discussion section. [Int J Tuberc Lung Dis. 2016 Nov; 20(11):1489-1494. Epidemiology of tuberculosis in Cameroon as mirrored in notification data, 2006-2014- J. Nose, A. Nana Yakam, J-L. Abena Foe].

In general the article is well written but not always easy to read especially in the abstract and the result section. English grammar, punctuation, use of capital letters and acronyms should be addressed carefully (for example, in abstract section, method: "confirmed EPTB cases were administer.." instead of "administered with").

Reading carefully the manuscript I could identify two major limits.

A) The issue of HIV and TB co-infection is not clearly addressed. HIV testing and prevalence in the population study is not well described nor in the method neither in the results. It is only mentioned in the final part of the result section when the authors describe that treatment outcomes is worse among HIV positive patients. Only by reading the tables we really have a picture of the burden of HIV in this cohort of patients. More over Table 1 and 2 do not really aid understanding the topic and in some parts are redundant. For this reason the conclusions in the abstract and the conclusion in the full text look different and are not fully consistent with the evidence and arguments
presented. I think this can be addressed by introducing in the method few sentences about how and if HIV test was offered and accepted and better describing the immune-status of the HIV patients. (late diagnosis? HIV/AIDS late presenter? Any information about CD4 cell count, CPT HAART therapy?)

B) The second limit is the evaluation on performance test of two diagnostic tools for the diagnosis of EPTB: standard culture and GeneXpert-MTB/RIF. The results of positive concordance or negative discordance are not clearly defined and need to be better clarified both in the abstract section, and in the result section. The concordance test used may be questionable and require, in my opinion, statistical review on the opportunity of using other performance-test instead. Table 3 need also to be revised in a manner that it become easier to understand what are the relevant finding (using bolt?, underline with grey/white frame according to the editorial style of the journal? Using Venn diagram? (Diagnostic performance of Gene Xpert against culture).

Here, as follow, I will number my comments and refer to section, page and line numbers in the manuscript.

Background

1) Line 13 tuberculosis is the second cause of death related to….: please specify if worldwide and add a reference for this sentence.

2) line 19 extra pulmonary TB is already used as abbreviation in line15, d no repeat extended form

3) line 22 "bacterium from the lung"

Methods

1) Line 30-31: here you write that 145 non sputum specimens were collected: it is not clear if are all from EPTB? From all form of TB?

2) Line 35: revise punctuation in the sentence, may be divided the sentence in two parts. Second part concerning the participants younger than 15 ys.

3) In this section you should add the policy followed for HIV testing.

4) Line 1 (following page of method section): "specimens obtained …were ….: It is not clear if are all specimen (pulmonary and extra pulmonary sites?

5) Line 6: "the other half..: it is not clear to me what half does it means? Half of specimens?
6) Line 10-11: "participants were declared positive for TB…" Please try to better clarify: the meaning is ambiguous to me.

7) Line 12: "Confirmed EPTB were administered with…"

8) Line 14: Rifampicin (R)

9) Line 18: please write treatment outcome in a fully clear manner.

10) Harmonise fonts and capital letters in this section

Results

1) Line 34: characteristics

2) Line 34: median could be used instead of mean age because of not homogeneous population

3) Line 36: please specify if are microbiologically confirmed EPTB or just EPTB

4) Line 38: it not correct to say "the most infected age group.." May I suggest to say "the most represented…"

5) Line 39 please correct 318-34 years with 18-34

6) Line 1(following page): it not correct to say "those who had no retreatment history were more infected .." May I suggest to say "represented the 66.6%….."

7) Line 11: I think there is not significant difference in treatment outcome among males and females (22/26 among males and 16/19 among females give very similar percentage)

8) Line 12 : here the author mention HIV for the firs time (see previous comment in the general recommendation of my revision

9) It should be mentioned at this point that all patients died were HIV positive and it could be important to verify if the one with heart involvement was HIV Ab positive or not (it looks like this reading table 4).

Discussion

Line 2: please revise English

Line 6-7 and Line 8-9 are redundant
Line 7: at this point you could add some comments about HIV status, percentage of known HIV status and refer to Table 2 where one patient is lacking (refusal?)

Line 19-23: same comment than before. I may suggest to write «male gender was more represented than female gender». It could be interesting to address possible explanation for this. More limited access to health services for women?..

Conclusion

Line 39: it is still unclear to me if 45 (41.3%) is a prevalence of bacteriologically confirmed EPTB among suspected cases? Clinically diagnosed and then microbiologically confirmed?

References

I suggest to exhaustively check the reference section for accuracy and format and also to mention more recent studies (for instance: WHO Global TB report edited in 2017 or 2018 instead of the one listed as Ref. N°1 edited in 2015, articles on GenXpert vs Standard culture recently published instead of Ref N° 12 which focus on Imaging and TB..).

Finally, I hope my comments can be considered useful and constructive by the authors and taken in account in order to improve the quality of the manuscript. The topic addressed can be inspiring for the Cameroon National TB program to revise national guidelines and allocate available resources on GeneXpert implementation especially in EPTB TB where diagnosis and treatment can be really challenging.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

No

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 recommend additional statistical review

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Needs some language corrections before being published

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