Reviewer’s report

Title: Clinical prediction and diagnosis of neurosyphilis in HIV-negative patients: a case-control study

Version: 0 Date: 08 Dec 2018

Reviewer: Weiming Tang

Reviewer's report:

This study was to explore the influencing factors of neurosyphilis and assess their diagnostic accuracy for the diagnosis of neurosyphilis. This study reviewed socio-demographic information, clinical symptom, and laboratory indicators among 100 syphilis patients (50 neurosyphilis and 50 non-neurosyphilis) who underwent lumbar puncture at a major dermatology hospital in Guangzhou, China between April 2013 and November 2016. They found that CSF TPPA with a high sensitivity and a high specificity, which might potentially be considered as an alternative test for diagnosis of neurosyphilis.

Comments:

- Line 170: please explain why only dilute the serum TPPA titer to 1:1280? Does those results affect the diagnosis of neurosyphilis?

- Line 200: please define separately "one common unit" of CSF TPPA titer, CSF protein and CSF WBC.

- Line 242: please write clearly what is the titer of CSF TPPA to diagnose neurosyphilis is 100%?

- Line 245: please write clearly what is the titer of CSF TPPA to diagnose neurosyphilis is 100%?

- Line 252-253: whether these indicators include CSF TPPA? If so, remove the CSF TPPA results and do a sensitivity analysis again.

- Line 258: was there any standard threshold of CSF WBC used to diagnose neurosyphilis?

- In the discussion part, please indicate what the value of this study added into the existing literature

- How the multivariable analysis model was built? Which variables were adjusted? As a matched case-control study, the authors need to control for the variables that were used for matching, but the author did not control this in the multivariable model.
The author needs to mention the potential bias for the case-control designing.

"Early diagnosis and treatment of neurosyphilis is of great significance." The result cannot support this conclusion.

**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.

Yes

**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:

Needs some language corrections before being published

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