Reviewer’s report

Title: Cerebrospinal fluid pleocytosis level as a diagnostic predictor? A cross-sectional study.

Version: 1 Date: 05 Apr 2017

Reviewer: Anita Koshy

Reviewer's report:

This paper has the potential to be really useful. It offers a wealth of information about pleocytosis changes in non-infectious entities (e.g. stroke, headache, malignancy). It could offer insights into LP parameters in CNS infection but they lump a number of entities into CNS infection, and like Reviewer #1- I don't think "suspicion for CNS infection" or antibiotic treatment for CNS infection without a verified diagnosis are legitimate reasons to now define a patient as "CNS infection". Which is why I suggested using definite, probably, and possible to categorize the CNS infections (see prior review). Unfortunately, the authors refuse to address this criticism made by both reviewers. I recognize this will lower your numbers in each group, but splitting up the groups in these ways would actually be the most efficacious way to actually help people who see patients. You could simply include another table or appendix that looks like table 2 (or table 3) but simply now splits up your "CNS infections" into definite, probable, and possible (which would include criteria 4 & 5). Ideally, you should also include the CSF glucose and protein in this table.

One other issue, I had raised was the "Cancer foci, elsewhere" with a mean for 500 cells, which is accounted for neutropenic fever. I believe this patient is now listed as "agranulocytosis secondary to cancer chemotherapy." As neutropenic fever is generally presumed to be secondary to an infection somewhere, and patients have antimicrobial agents dumped on them, I would argue that this patient should be in the category of "infection outside CNS" (though I would highly argue that a CSF pleocytosis of ~2000 cells/ul likely meant this patient had a CNS infection, but the physicians didn't get an organism.)

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.
No

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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