Reviewer's report

Title: Detection of human leptospirosis as a cause of acute fever by capture ELISA using a Leptospira interrogans serovar Copenhageni (M20) derived antigen.

Version: 1 Date: 21 June 2013

Reviewer: Kalimuthusamy Natarajaseenivasan

Reviewer's report:

The authors have evaluated a MAC-ELISA for the diagnosis of human leptospirosis. The manuscript was formulated well and considering the importance of the research area this may be accepted for publication. Before taking into account for publication the authors are needed to fulfill the following comments.

1. Case definition and selection of the cases followed to be described properly.
2. How may sera samples are utilized from other infections as controls.
3. The specific reason for the use of serovar Copenhageni strain M20 for the antigen preparation for MAC-ELISA. Supportive references are needed in the methods section.
4. Even though strain M20 sonicated fraction was used then why they have utilized the hyperimmune rabbit anti-Leptospira biflexa IgG antibody in the sandwich. It would be more appropriate to use the hyperimmune sera of strain M20.
5. What is the concentration of the sonicated antigen used in ELISA. Specify the percentage of Tween 20 used in PBS.
6. Did they perform triplicates of the samples in ELISA? It is not clear that either they have utilized the mean+SD as a cut-off OD in a dilution of 1:400 or used some other measurement. It is mentioned as a titre of >1:400. This part should be described properly.
7. What may be the specific reason for the low specificity of the evaluated MAC-ELISA? If it is only as a rule-out test then what may be the advantage of this ELISA with its complicated procedure rather using simple commercially available dipstick or other ELISA formats.
8. There is no significance with the incorporation of Table.1 and the heading also very broad. But the table specifies only age & gender composition with the location of the cases. This was not described in the text of the manuscript also. Instead of this table incorporation of a graph for ELISA ODs with their cut-off derived for the confirmed cases (acute, convalescent & both) along with other controls will be of much informative.
9. Throughout the manuscript the species and serovar description is improper. In most of the places it is not as per the nomenclature. The spelling of the species
and serovar names are also specified incorrectly in the manuscript in some places. So the authors have to take care of the descriptions properly.

**Level of interest:** An article of importance in its field

**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