Author’s response to reviews

Title: Predictors of the development of myocarditis and acute renal failure in patients with leptospirosis: An observational study

Authors:

Dinesh L B Dassanayake (dlbdassanayake@gmail.com)
Harith Wimalaratna (harithlc@sltnet.lk)
Damith Nandadewa (d.nandadeva@gmail.com)
Asanka Nugaliyadda (asankanuga@yahoo.com)
Champa N Ratnatunga (Champa26@gmail.com)
Suneth B Agampodi (sunethagampodi@yahoo.com)

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Author’s response to reviews:

Dr D.L.B.Dassanayake,
Registrar in medicine,
Teaching Hospital,
Kandy,
Sri Lanka.
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The Editor,
BMC Infectious Disease

Dear Sir

Submitting the revisions to the manuscript “Predictors of the development of myocarditis or acute renal failure in patients with leptospirosis: An observational study “for publication in BMC Infectious Disease

Many thanks for reviewing our manuscript. I have gone through the comments and made the necessary amendments to the manuscript. Here are the changes made in point form.

As suggested by Alan R Katz

Major comments:

1. There was a typing error in the results section saying that there were only six
patients with acute renal failure. This statement in page 2 results section as well as page 8 results section was changed to “Seven patients (11.3%) developed acute renal failure and five (8.1%) developed myocarditis while three (4.8%) had acute renal failure and myocarditis together.” So the results sections are compatible with Table 1.

2. In page 12 limitation of study section was rewritten and an explanation was included why serotyping was not done. In the conclusion sections on page 3 and 12, the last sentence was changed to “This study shows that out of seventeen variables, only oliguria, jaundice and arrhythmia are strong predictors of development of acute renal failure or myocarditis and none of the laboratory variables could predict these complications in patients presented to Teaching Hospital of Kandy, Sri Lanka,” so that the results would not be generalized beyond the target population.

3. Thanks for pointing out the problem in table 1 about Fishers test. We corrected it in the table. In the table 3, regarding Hb and Bilirubin, our data were correct. But those were not distributed normally and using t test assuming normal distribution was incorrect. In the revised manuscript we used Mann-Whitney U test (not t test). The table was also revised showing median (as suggested) and interquartile range.

4. As clearly pointed out there appears to be a confusion in the wording of complications “myocarditis and acute renal failure” It should be “acute renal failure or myocarditis”. Therefore this mistake was corrected throughout the manuscript in pages 1,2,3,5,8,9,12 including the title. Furthermore in page 11, 2nd paragraph (was page 10 in previous version) was rewritten as “As oliguria, jaundice and arrhythmia point towards involvement of three distinct organ systems, it is possible that all three clinical features herald multi organ involvement in severe disease with different organs involved in different severity” to avert the confusion.

5. We have gone through the data in table 2 which are correct but we have presented the median and interquartile range for clarity. So the table 2 was redrawn.

Minor essential comments

6. As pointed out percentages in results section of abstract as well as text and discussion section was changed to single decimal point to look consistent throughout the article.

“Seven patients (11.3%) developed acute renal failure and five (8.1%) developed myocarditis while three (4.8%) had acute renal failure and myocarditis together.”

7. Misspelled Students’ t test was anyway removed as Mann-Whitney U test had to be used instead. This was corrected in methods section of abstract as well as the main text to read as “Chi-square statistics, Fisher’s exact test and
Mann-Whitney U test were used to compare patients with and without complications. Verb was also changed to “were” in the same sentence and the following sentence.

8. Spelling of myocarditis was corrected in several pages.

9. In page 4 second paragraph second sentence was changed from “several studies” to “one study”.

10. In page 7 statistics section, 2nd sentence - verb “was” was changed to “were”.

11. Table 1 title was changed to “Table 1 – Distribution of confirmed cases of leptospirosis by clinical features and complications (acute renal failure or myocarditis)” and heading of column 2 was changed to “Complications (acute renal failure or myocarditis)”.

12. Table 2 title was changed to “Table 2 – Distribution of confirmed cases of leptospirosis by laboratory measure and complications (acute renal failure or myocarditis)” and heading of column 2 was changed to “Complications (acute renal failure or myocarditis)”. Heading of column 1 was changed to laboratory measures.

13. The description of table 2 in page 8 was changed to “Table 2 shows distribution of confirmed cases of leptospirosis by laboratory measures and complications (acute renal failure or myocarditis).” The last paragraph of same page was changed to “Those clinical features and laboratory measures were then entered into a logistic regression model to assess the predictor values of each variable.”

As suggested by Vedat Turhan

Major revision

First paragraph in page 4 was rewritten to say “Leptospirosis can vary from a mild non-specific influenza-like infection to a severe disease, where serious complications like acute renal failure, myocarditis and pulmonary haemorrhage can occur” so that the reader will not feel that severe leptospirosis is equal to Weil's disease. To support the concept that anicteric leptospirosis can be predominant and severe, a statement was inserted saying “Although jaundice was found to be a predictor of complications in our study, a study done in Turkey has shown that majority of their patients had anicteric leptospirosis which could also lead to severe disease [19]” to 1st paragraph of page 10. The reference 19 was included as evidence. Turhan V, Polat E, Murat Atasoyu E, Ozmen N, Kucukardali Y, Cavuslu S. Leptospirosis in Istanbul, Turkey: A wide spectrum in clinical course and complications. Scandinavian Journal of Infectious Diseases 2006 38:10, 845-852.
In addition to the above changes, order of the names of the authors has been changed.

I greatly appreciate if you could go through the corrections.

Thank you.

Dr D L B Dassanayake,(Corresponding author)
Registrar in medicine,

dlbdassanayake@gmail.com