Reviewer's report

Title: Urinary Monocyte Chemotactic Protein-1 (MCP-1) in Leprosy Patients: Increased Risk for Kidney Damage

Version: 2
Date: 27 June 2014

Reviewer: Becky Rivoire

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This study is an important step in defining tools to assess the prevalence of renal disease in leprosy patients. The authors measured urinary MCP-1 and MDA related to oxidative stress and compared the values to known biomarkers GFR, protein excretion rate, microalbuminuria in the urine and hs-CRP in the blood of untreated leprosy patients classified by clinical evaluation and bacteriological index compared to healthy controls. Their findings suggest that leprosy patients do have significantly higher concentrations of some these biomarkers, increasing with active disease, indicating that they are at higher risk of developing kidney disease.

Discretionary Revisions

1. Abstract: The first sentence describing the aim of this study needs some clarification. Is the study comparing MCP-1 levels to traditional markers where some cause tissue oxidative stress? The last paragraph of the introduction is clearer, indicating that you are evaluating MCP-1 and oxidative stress through MDA and comparing these two measurements to known, but less sensitive biomarkers for renal disease; although MDA is not mentioned in the title. The conclusion mentions “inflammatory…” which could include MDA and other traditional markers. Based on the aim, the assumption is that MCP-I and MDA are causing inflammatory and oxidative stress; however, some of the traditional markers are suggestive as well. Why were two forms (clinical and laboratory) diagnosis of leprosy patients performed?

2. Introduction: This section could be strengthened by adding a brief background on MDA and other traditional markers and their effect on inflammation and/or oxidative stress, relative to kidney disease.

3. Methods: How do you know that the leprosy patients or healthy contacts did not have renal disease? Suggest moving the description of the renal test from the results to the methods section. Clarification of classification of leprosy disease is needed, because both the Ridley Jopling and WHO classification methods use BI (Pardillo, et. al, Clin Infect Dis. 2007 Apr 15;44(8):1096-9). What approximate time after fasting was the morning urine sample taken?

4. Results: Adding a table listing the new marker MCP-1 compared to traditional biomarkers used in this study with outcome measurements and correlations should be considered for easier reference when reading the discussion.
5. Discussion: The first paragraph summarizing the findings of this study doesn’t mention MDA outcomes related to oxidative stress (or inflammation). The author has already mentioned the rarity of kidney disease and reporting of these occurrences as case reports in the introduction. It is peculiar that leprosy patients have a significantly higher urinary MCP-1 regardless of systemic inflammation, yet there are not many cases of renal disease in leprosy patients reported. Why not? How do the values for urinary MCP-1, urinary MDA, and urine albumin excretion in leprosy patients compare to non-leprosy patients with renal disease?

**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.