Reviewer's report

Title: Serum Immunoglobulin G, M and A Response to Cryptosporidium parvum in Cryptosporidium-HIV Co-infected Patients

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Reviewer: Jeff Lennox

Reviewer's report:

Major Compulsory Revision:

There is no statement in the manuscript of whether the person performing the serologic assays was blinded to the clinical status of the patients. Please state the method whether or not this blinding was in place.

Minor Essential Revision:

It is surprising that only three out of 45 of the patients in group 4 & 5 had IgG antibodies to cryptosporidium. It is possible that the prevalence of cryptosporidium is so low that these individuals have not been recently exposed. However, one must also question the sensitivity of the assay. The optical density for a positive result may have been set too high. On page 8 the author states that the cut off was set based on absorbance from 5 negative control sera. However, they do not state how these negative controls were selected. It would be useful to report whether these sera had Western blotting performed to show that no antibodies against cryptosporidial antigens are present.

Discretionary Revision:

1. The role of antibody in protection against clinical illness is controversial. Throughout the paper the authors emphasize the potential role of antibodies, while neglecting to mention recent research that emphasizes the importance of innate factors, cell mediated immunity and tumor necrosis faction in protection. For example, on page 16, lines 8 – 11 the authors quote a human challenge study and state, “…which shows that antibodies do play an important role in protection.” However, the authors of that paper in their conclusions stated, “…this should be understood, however, that the study was not designed to examine a mechanism of action… Serum antibodies may simply be a marker of an effective secretary and/or cellular response to infection.” The authors own data show that antibody is a marker of diseases with cryptosporidiosis, but does not collate with symptoms. These results are consistent with multiple other studies in the literature, including serologic studies performed in children following the large outbreak in Milwaukee.

2. Since 100% of the HIV infected patients with cryptosporidiosis have antibodies, that utility of tables 3 & 4 is nil. These tables and the extensive discussion of them should be removed from the paper. Each table can be summarized in one brief paragraph.
**Level of interest:** An article whose findings are important to those with closely related research interests

**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.