Reviewer's report

Title: Potential immunomodulatory effects of latent toxoplasmosis in humans

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Reviewer: Louis Weiss

Reviewer's report:

Overall a straightforward paper that describes the analysis of data collected at an allergy clinic using the filter of T. gondii seropositivity. It is intriguing that only 6% of men in the clinic were seropositive compared to the expected 20 to 30% seropositivity in the general population which fit that of women in the clinic (24% seropositive). The theory that this represents immune suppression that limits allergy symptoms in men is intriguing.

Major issues: none

Minor issues (Essential):

1. Methods. Why do you expect that WBC would not affect cell counts in peripheral blood. CD4 and CD8 are obtained as a percentage of total cells, so if the total falls the absolute number will fall, even if the percentages remain the same.

2. Results: The sample of men who are seropositive is small (14) and statistically this limits the data. This should be discussed.

3. Ideally a control of non allergy clinic T. gondii positive patients and negative patients should be examined; however, I understand that the data is not available on that group (as they have no reason to have immune profiles done)

4. While testosterone can explain differences between men and women on cell counts in general; what is the data (in animal models) that this has an effect on the immune changes caused by T. gondii (or other immune stimuli). A more detailed discussion of this would strengthen this paper.

5. The data on return of counts is weak and given the number of comparisons made I do not think it is well supported by the data set presented. The discussion of this point in the manuscript, however, is very reasonable.

6. I agree that a major limitation is the lack of data on immune cell subpopulations. I also think the limitations of the data should be discussed in the abstract as it is in the last paragraph of this manuscript.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests