Reviewer’s report

Title: Potential immunomodulatory effects of latent toxoplasmosis in humans

Version: 1 Date: 18 February 2011

Reviewer: Rodrigo Da Silva

Reviewer’s report:

This paper presents an excellent contribution to toxoplasmosis in human beings. It can be accepted after Minor Revision.

- MINOR ESSENTIAL REVISIONS -

ABSTRACT

- substitute “About 30% of the population are infected with the protozoan parasite Toxoplasma gondii worldwide.” To “About 30% of the population are worldwide infected with the protozoan parasite Toxoplasma gondii.”
- the sentence “For example, the immunosuppression hypothesis explains the higher probability of the birth of male offspring observed in Toxoplasma-infected humans and mice by the protection of the (more immunogenic) male embryos against abortion.” is a good example for the main objective of the study but it is not necessary on the abstract, and should be excluded.
- the authors can insert the type of epidemiological study (cohort study) in the Methods section, not in Results section.
- in the first line of the Results section, change “Our cohort study” to “Our study”.
- what’s the difference between latent toxoplasmosis in male and Toxoplasma-infected female? Both are infected, but both latent infection? Need to clarify even in abstract (Methods)
- change “specific anti-Toxoplasma antibody titre” to “specific Toxoplasma antibody titer”.
- change “with normal prevalence of toxoplasmosis in 312 female” to “with normal prevalence in 312 female”.
- in the Conclusion section substitute “some classes of immunology disease” to “some infectious diseases”

BACKGROUND

- in the fourth line, the expression “anti” already express reaction against something. In this case, change “anti-Toxoplasma IgG antibodies” to “Toxoplasma IgG antibodies”.
- twenty can be expressed by number (20)
- the sentence “For example, the sex ratio of human embryos decreases from about 1.64 to 1.05 from pregnancy week 5-7 to delivery [17,18]. The prevalence
of toxoplasmosis in mothers of children with Down syndrome was 84 % compared to about 30 % in fathers of these children and in the general population [15].” can be moved to Discussion section.

- in the second paragraph, remove “, for review see”

METHODS
- in the fourth and fifth lines of Subjects subsection change “anamnestic titres of anti-Toxoplasma antibodies” to “anamnestic titers of Toxoplasma antibodies”
- the authors should insert the register number of the study in Institutional Review Board, of the Faculty of Science, Charles University.
- change the subsection “Immunological tests for toxoplasmosis” to “Serological tests for toxoplasmosis”.
- in the third line of the same subsection change remove “anti-“
- change “, which is more reliable in established (“old”) T. gondii infections, as decrease in CFT titres is more regular [23]. Toxoplasma antibody titers in the sera were measured at dilutions between 1 : 4 and 1 : 1024.” to “[23], at dilutions between 1 : 4 and 1 : 1024.”
- in the ninth line of this subsection remove “testing”

RESULTS
- in some parts of the paper (Results and Discussion sections), the authors express P value as “P” but in other parts as “p”. The authors should to standardize. The correct form is “P”.
- change “The study population” to “The studied population”.
- the authors informed that the studied population was 312 women and 228 men, totaling 540, not 440.
- in the text, the authors named the Tables as 1 and 2, but in supplement material both tables are named 1a and 1b. The authors should standardize.
- in Table 1, change “p” to “P”, “l” to “L”
- legends of tables 1 and 2 express “eta2”, but in the body of the table the authors express “eta”. The authors should to standardize, changing “eta” to “eta2” or “eta2” to “eta”.
- the space among lines should be standardized.
- in the third paragraph, second line, remove “anti-“.
- two tables were submitted in this paper but only the title of the Figure 1 is present, and registering “a)” for women and “b)” for men. Table 1 and 2 did not present any “a” or “b” that explains this. The authors should include the title of the Figure 2 too, and inform where “a” and “b” are inserted.

DISCUSSION
- in the first paragraph, second line, remove “anti-“.
- the authors need to standardize the space between the lines
- in the second paragraph, line 15, remove “anti-”
- remove “For example, in humans, the sex ratio decreases from about 2.6 in the first weeks of pregnancy to about 1.06 at the time of delivery [17,18].”
- change “The main limitation of the present study is the absence” to “The main limitation of the present study was the absence”
- in the third paragraph, line 17, change “Toxoplasma infected men” to “Toxoplasma-infected men”.
- remove “It must be stressed, however, that this potential limitation only increases the risk of missing some effects of toxoplasmosis, i.e. the risk of finding false negative but not false positive results.”

CONCLUSION
- this section is a brief sentence based on the obtained results and data discussed. The authors should exclude “Latent toxoplasmosis is a very common parasitic disease and about 30% of the population of both developed and developing countries are likely to be infected with this protozoan parasite. Given the high prevalence of latent toxoplasmosis, its possible immunosuppressive effects, although relatively weak in individual patients, might have a considerable impact on the health of the world population. Our results, i.e., the observed effects of latent toxoplasmosis on the immune cell counts,”
- change “might be a point of departure for further studies on healthy subjects to search for more specific symptoms of immunosuppression.” to “Thus, further studies on healthy subjects are necessary to search for more specific symptoms of immunosuppression.”

REFERENCES
- Authors need to standardize all references using surname and the initials of the first names. In the reference 21, change “Costa da Silva R” to “Silva RC”.

Level of interest: An exceptional article

Quality of written English: Acceptable

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.