Reviewer's report

Title: Changes of the T cells-related cytokines on post-infectious irritable bowel syndrome mouse model

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Reviewer: Patrick A Hughes

Reviewer's report:

The authors investigated whether acute inflammation induced by Trichinella has long term implications on immune and nerve function after the infection has cleared. The results show that there is an increase in Th1 type cytokines (but not IL-1b) and a decrease in IL-10 in regional segments of the small intestine but not the colon, and there is an increase response to balloon distension in post-infected mice but compared to healthy mice. This work is potentially very interesting, but suffers from several major issues:

Major Revisions:

1: Trich. spiralis infection is recognised as causing a mainly TH2 type response from the immune system. The interesting findings here indicate this may switch to a TH1 type response after clearance. While the authors show that histology is cleared, these findings would be much stronger if TH1 and Th2 type cytokines were evaluated during infection to provide an indication of the immune phenotype of the infection.

2: Previous work investigating Trich. spiralis infection was not adequately discussed in the introduction or the discussion.

3: T cells were not specifically investigated as part of this study, and other immune cell types are capable of secreting cytokines. Therefore the title gives the wrong impression and needs to be changed.

4: Histology is presented as evidence of inflammation, but individual regions of the small intestine and colon were not scored so there is no indication of the severity of the inflammation caused.

5: AWR scores were altered during low / mid pressures, but did not significantly differ from healthy mice at high pressures. This indicates low/medium threshold nerves but not high threshold nerves are altered, but this is not discussed adequately.

6: The standard of English needs improvement and proof reading.

There are no minor essential revisions or discresionary revisions.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: None