Reviewer's report

Title: Interleukin-6 is Associated with Acute Concussion in Military Combat Personnel

Version: 1 Date: 11 Mar 2020

Reviewer: Breton M Asken

Reviewer's report:

I thank the authors for their thorough revisions and careful attention to initial reviews. The manuscript is significantly strengthened. I have just a few remaining comments:

1) The addition of within-group comparisons is a major strength, and these are a far more powerful set of data than the between-group analyses. I strongly encourage providing figures for readers to visualize within-participant changes (such as a line graph with individual lines per participant) rather than just having figures for the less relevant between-group data (the latter could reasonably be moved to supplemental material if there are space issues.

2) I do believe creating a table showing intra-cytokine correlations would be helpful to readers, particularly if the data can be presented not only for the overall sample, but also stratified by concussed and control groups. We often see in other areas of biomarker research (eg. aging and neurodegenerative disease) that "disease" groups differ from controls in how these biomarkers hang together, which could provide important information in and of itself, such as examining cytokine ratios as being diagnostic/prognostic.

3) I agree with another reviewer's point about the importance of examining how time from injury to serum collection might have impacted findings, and I am not sure if the authors' response of an ANOVA (a simple means comparison) comparing time since injury to IL6 concentration is best for answering this question. At a minimum, a correlation should be done looking at associations between time since injury and IL6 concentrations to see if an inverse relationship exists (eg., more time since injury associated with lower IL6 levels).

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

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I am able to assess the statistics

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