Author’s response to reviews

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

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Author’s response to reviews:

April 29, 2020
Dear Dr. Byrne,

We are greatly appreciative of the recent review for the article titled: “Interleukin-6 is Associated with Acute Concussion in Military Combat Personnel,” and the opportunity to respond to these essential revisions. Enclosed is a point-by-point response and manuscript line edits as well as a clean copy of the manuscript.

Here we report novel findings that concussion in a deployed military population is associated with elevated interleukin (IL-6) concentrations in peripheral blood within 8 hours after injury. Military personnel experienced concussion, diagnosed by provider, with high rates of blast exposure, and were deployed in the same environment as healthy control participants without concussion. Peripheral blood samples were collected for cytokine analysis using ultrasensitive single-molecule enzyme-linked immunosorbent assay within 8 hours following injury, and again at 24 hours after initial blood collection. Our findings provide unique insight into IL-6 dysregulation following acute concussion in a combat setting and make key contributions to our current understanding of cytokine changes that may be related to neurological processes. We feel that our findings would be of great interest to the readers of BMC Neurology.
Any consideration of this manuscript for publication in BMC Neurology would be greatly appreciated.

Sincerely,
Katie A. Edwards, PhD, RN

Issue 1

“1. In both the Methods and the Ethics approval and consent to participate section, please confirm whether the consent was written or verbal. If verbal, please confirm that your ethics committee formally approved this consent and how the verbal consent was documented. For more information regarding our ethics policy, please go to: https://www.biomedcentral.com/getpublished/editorial-policies#ethics+and+consent”

Response: The consent to participate was written. This information is now included in the manuscript as follows:

Methods section, page 7, lines 207-208: “Each study participant provided written informed consent for participation.”

Ethics Approval and Consent to Participate section, page 17, lines 458-459: “Each study participant provided written informed consent for participation.”

Issue 2

“2. Please also state the role of each funding body in the design of the study, collection, analysis, interpretation of data, and in writing the manuscript, in the Funding section.”

Response: The funding section is updated, to include the role of the funding bodies:

Funding section, pages 18-19, lines 481-485: “This work was supported by the National Institute of Nursing Research (NINR) Intramural Program and the US Army Medical Research and Development Command (USAMRDC). NINR support was responsible for analysis, interpretation of data, and writing the manuscript. USAMRDC support was responsible for all aspects of this work, design of the study, collection, analysis, interpretation of data, and writing the manuscript.”

Issue 3

“3. Please proofread and ensure that when you upload your revised submission it is in the final form for publication. Please remove any tracked changes or highlighting and include only a single clean copy of the manuscript. Should you wish to respond to these revision requests, please include the information in the designated input box only.”
Response: A clean copy of the manuscript is included with minor grammatical edits. Minor edits have been made to Tables 1 and 2, and a higher resolution image of Figure 4 is also included.

Methods section, page 9, lines 298-299: “…at the first time point and at the second time point…”

Results section, page 11, lines 341-342: “Change in IL-6 between time points 1 and 2 in the concussed group…”

Results section, page 11, line 343: “…increase in IL-6 from time point 1 to time point 2…”

Results section, page 12, line 351: “…concussed sample values at time point 1…”

Results section, page 12, line 353: “…the healthy control group at time point 1…”

Results section, page 12, line 356: “…concussed and healthy control groupings at time point 1…”

Discussion section, page 14, lines 409-411: “The previous report studied military personnel in a well-controlled training environment, with no reported incidences of blunt injuries and no medical diagnosis (34)…”

Discussion section, page 14, line 415: “…a finding that replicated these previous findings (34).”