Author’s response to reviews

Title: Tourniquet-induced tissue hypoxia characterized by near-infrared spectroscopy during ankle surgery: an observational study

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Author’s response to reviews:

April 5, 2019

Alberto Noto, PhD
BMC Anesthesiology

RE: Manuscript Revision

BANE-D-19-00078R1
Tourniquet-induced tissue hypoxia characterized by near-infrared spectroscopy during ankle surgery: an observational study
Liang Lin; Gang Li; Jinlei Li; Lingzhong Meng

Dear Prof. Noto:

We are very grateful to you and Dr. Sanfilippo for taking time assessing our manuscript again and providing us with the most valuable feedback. We appreciate the opportunity to revise our manuscript. In this round of revision, we specifically addressed the concern revolving Fig. 2. We agree that it may be misleading. Therefore, we specifically added a discussion in the section of Discussion (2nd paragraph on page 11). The responses to you and Dr. Sanfilippo and the changes made in the manuscript are highlighted in red font.
Again, we appreciate the opportunity and wish we have done a satisfactory revision based on the feedback.

Sincerely,

Lingzhong Meng

Editor Comments:

Dear Authors,

I think that the message contained in the figure 2 is interesting, but could be confounding for the reader. I suggest to better clarify in the manuscript that this transient increase in cerebral oxygen saturation is unique in your population and to comment this with possible explanation.

Best regards

Alberto Noto

Response: Thank you very much for this recommendation. We made the revision per your feedback and added the following in the 2nd paragraph on page 11.

“Although SctO2 remained stable following tourniquet deflation based on the average of all patients, the 21-year-old physically fit college student had a conspicuous increase in SctO2, a change different to most other patients (Fig. 2). It may relate to the metabolites (including carbon dioxide) generated by the ischemic tissue which were flushed into cerebral circulation and led to cerebral vasodilation following tourniquet deflation. This 21-year-old young patient may have a more robust cerebral vasoreactivity to carbon dioxide than older patients (the average age of all patients = 48 years). Nonetheless, the exact cause and the clinical significance of this outlier remain to be elucidated.”

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Reviewer reports:

Filippo Sanfilippo (Reviewer 2): Dear authors,

thank you for the efforts made in following the indications given. I confirm that Figure 2 is not needed in my opinion.

It gives a risk to draw conclusions and/or hypothesis from a single case and this should be avoided.
Response: Dear Dr. Sanfilippo:

We are very grateful to you for taking time reviewing our manuscript again. Although we would prefer to keep this figure (Fig. 2) in the manuscript, we do agree with you in that it may be misleading. In order to avoid this, we discussed this unique case and specifically elaborated on the potential causes of this unique case (2nd paragraph on page 11). We hope this effort is satisfactory to you. If it is still not as ideal, we will remove this figure. Thank you again very much!

“Although SctO2 remained stable following tourniquet deflation based on the average of all patients, the 21-year-old physically fit college student had a conspicuous increase in SctO2, a change different to most other patients (Fig. 2). It may relate to the metabolites (including carbon dioxide) generated by the ischemic tissue which were flushed into cerebral circulation and led to cerebral vasodilation following tourniquet deflation. This 21-year-old young patient may have a more robust cerebral vasoreactivity to carbon dioxide than older patients (the average age of all patients = 48 years). Nonetheless, the exact cause and the clinical significance of this outlier remain to be elucidated.”