Author’s response to reviews

Title: Introduction of a standardised protocol, including systematic use of tranexamic acid, for management of severe adult trauma patients in a low-resource setting: the MSF experience from Port-au-Prince, Haiti

Authors:

Alessandro Jachetti (alessandro.jachetti@policlinico.mi.it)

Rose MASSÉNAT (msfocb-tabarre-med@brussels.msf.org)

Nathalie EDEMA (MSFOCB-Port_au_Prince-MedCo@brussels.msf.or)

Sophia WOOLLEY (MSFOCB-Port_au_Prince-Med@brussels.msf.org)

Guido BENEDETTI (guido.benedetti@luxembourg.msf.org)

Rafael VAN DEN BERG (Rafael.Van.Den.Bergh@brussels.msf.org)

Miguel TRELLES (Miguel.TRELLES@brussels.msf.org)

Version: 1 Date: 25 Jul 2019

Author’s response to reviews:

Dear reviewer and editor

Thanks for your comments and editing, we appreciate your professional advise and the time you spent on our manuscript. As you may see in our Point by point response, we took care of all your comments and request, I hope you will consider the new manuscript for publication. Concerning your last comments, we included the tables and pictures were missing, please note that table 1 was regularly cited in the second line of "results" section (page 8, line 14).

I'm at your disposal for any further request or comments.

Best regards

in behalf of the Authors, Dr. Alessandro Jachetti MD

Point-by-point response to reviewers’ comments:

Reviewer comments:
1. Why you didn't performed an alternative assessment of severity with other kind of severity scale as SOFA or APACHE II?

Response: SOFA score is expected to be used in sepsis and require blood cell count, while a severity score such as APACHE II is impossible to perform without blood tests and arterial blood gases parameters, records not obtainable in Haiti setting because our Hospital was not provided.
2. It is remarkable in the results the low rate of surgery in the "after group" that can explain the mortality rates in this group better than the use of tranexamic acid, perhaps all this related to the low severity of the patients included in this group. Can you explain this better on your conclusions?

Response: Comment appreciated. We added a paragraph in discussion to explain this limitation in our study. (page 11 – line 13: In the “after” cohort we observed a reduced surgery rate (92% versus 67%). It can lead to think that patient in the second cohort were less severe and it could explain the reduced mortality in this group, by the way according to severity score we were treating patient with the same severity and with the same probability of death. Moreover, the death rate for bleeding was similar in both groups, so we expect our cohorts to be similar in terms of population.

3. Conclusions are focus on the use of tranexamic acid, which was the main reason for the study, but certainly, authors may consider to include on this conclusions that the whole implementation of Trauma protocol of trauma patient care may have a role in these results.

Response: Our impression was that conclusion focused on the whole protocol and not only on TXA, see as example the core of our conclusion:

“Overall, the favourable outcomes of patients exposed to treatment in the “after” group should not be considered an effect of TXA alone. It was rather an effect of the implementation of the entire Massive Haemorrhage protocol (including the training of staff, an improved operational circuit, the availability of a trauma specialist, and the general standardization of the approach by the protocol). Moreover, TXA is not to be considered as a substitute of blood transfusions, which remain key to manage severe trauma. TXA is no “panacea” but an option to reduce the death toll in severe trauma. Its effect is logically more evident wherever adequate blood transfusion is not readily available, thus suggesting its relevance in low-resource settings. The implementation of this protocol was also associated with a reduced hospital stay, carrying additional benefits for patients and the hospital.”

Anyway we took care of the reviewer comment and we expressed this concept even more clearly, remodelling the first sentence of the conclusions paragraph (page 12, line 1):

This study showed how a standardized approach for the care of severe adult blunt and penetrating trauma patients, including early TXA administration, was associated with reduced mortality in consequence of bleeding in a context with poor resources and not readily available massive blood transfusions.

4. Request to add OR inside the manuscript.

Response: We calculated and inserted the OR into the manuscript (page 8, line 27 – page 9, line 1 and 3). Methods were adapted accordingly (page 8, line 6).