Author’s response to reviews

Title: Negative Pressure Wound Therapy versus modified Barker Vacuum Pack as temporary abdominal closure technique for open abdomen management: a four-year experience.

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Author’s response to reviews:

Dear Prof. Guangde Tu,

We thank the reviewers and all the editorial staff for the precious and constructive comments. We have addressed the comments, amending the contents of the article. We report a brief rationale and the corrected part of the article below.

1- The nature of the current study is a retrospective; the data were extracted from an institutional Database on Open Abdomen. The World Society of Emergency Surgery (WSES) promoted the International Register of Open Abdomen (IROA) -ClinicalTrials.gov Identifier: NCT02382770- and our Centre is actively participating in the data input.
For the purposes of the current study, we performed a retrospective analysis of all patients who were managed with OA for intra-abdominal sepsis or abdominal trauma from January 2012 to December 2015 at Papa Giovanni XXIII Hospital (Bergamo, Italy). The study was conducted in concordance with the principles of the Declaration of Helsinki. The data were extracted from the institutional Database of Open Abdomen, which is constantly updated at our Centre; the creation of the Database was approved by the Hospital Ethics Committee.

2- Patients were treated with different approaches depending on the choice of the on-call surgeon and on the availability of the different devices at our Centre.

'The indication to NPWT or mBVP was based on the preference of the on-call surgeon at our Centre and on the availability of the devices'

3-Fistula rate:

'Atema et al (4), in their analysis on non-traumatized patients, found that Negative Pressure Wound Therapy (NPWT) had the highest fascial closure rates, especially when performed with continuous mesh or suture-mediated fascial traction and dynamic retention sutures; this approach was also related to a low incidence of fistula, which resulted to be equal to 5.7% for patients with fascial closure and NPWT'

4- The application of Negative Pressure Techniques is current practice for the management of Open Abdomen. NPT (either BVT or NPWT designed) have shown a better profile of safety and efficacy, when compared to simple approximation of the wound edges or Bogota Bag.

Our results showed a in-hospital mortality rate of 32.5%, which is acceptable if one considers that mortality in this peculiar group of patients can be as high as 68%. Our results are comparable to the Trial conducted by Kirkpatrick et colleague and to the Meta-analysis by Cirocchi et al.

'The most important differences between NPWT and mBVP groups were seen in the survival-related outcomes. Overall in-hospital mortality in our study was equal to 32.5% and this is in line with previous studies, were this result ranged from 0 to 68% (4). At multivariate analysis mBVP, as compared to NPWT, showed a significant association with in-hospital and overall mortality (OR 3.8 and 4.2 at multivariate analysis, respectively). Our results are similar to those reported by Kirkpatrick et al. (12) and Cirocchi et al. (14): in both studies, the Authors demonstrated the superiority of the NPWT systems in terms of reduced 90-day mortality and post-operative mortality (12, 14)'
