Author's response to reviews

Title: New evidence on the process of colonic anastomosis healing in Wistar rats

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Author's response to reviews: see over
To
The Editorial Office
«BMC Surgery»

Dear Sir,

We are submitting a copy of the brief clinical report entitled «Myofibroblasts and colonic anastomosis healing in Wistar rats», revised according to the reviewers’ comments. Thank you very much for your time and consideration.

Sincerely yours,

Christophoros Kosmidis, MD, PhD
Reviewer: Marcel Binnebёsel

Major Compulsory Revisions

1. Propylene was used as a material because it is a monofilament, nonabsorbable suture. Its advantages include high tensile strength, minimal tissue reactivity, and slipperiness (allowing easy removal from tissues). It is dyed blue, allowing for easy visibility when operating. This information has been added in the Materials and Methods, subsection of Experimental Design.

2. An intraluminal metal tube was inserted transanally at the level of the anastomosis in order to facilitate absolute apposition of the cut ends and symmetrical placement of the same number of sutures (10-12). By this method the operative time is reduced, given that the placement of sutures is expedited and accelerated, while the risk of catching the mucosa of the opposite side is nullified. What is more, the technical uniformity and perfection is ensured so that the technical factor affects the healing of the anastomosis equally. This information has also been added in the Materials and Methods, subsection of Experimental Design.

3 – 10. A new subsection has been inserted in the Materials and Methods section, entitled “Histopathological and immunohistochemical assessment”, in order to revise the manuscript according to the reviewer’s recommendations. The requested information regarding specimen type and fixation, use of paraffin, thickness of sections, use of H&E, immunohistochemical staining, microscopic examination and magnifications utilized, is provided in this new subsection.
Immunohistochemistry was only performed for α-SMA. The density of the inflammatory cell infiltrates was assessed on H&E-stained sections, because there is no single immunohistochemical stain that can highlight all inflammatory cells. Therefore, the pathologist’s experience is invaluable in semiquantitatively assessing the overall inflammatory response. The same is true for the overall vascular density in granulation tissue.

11. Adhesion formation according to Van der Ham scale score is illustrated in detail in Table 1. There was a statistically significant relationship between group of rats and adhesion formation (p=0.007).

12. We have provided the information requested in the subsection of “Histopathological and immunohistochemical assessment” (Materials and Methods).

13. We have provided the information requested in the Results section.

Minor Essential Revisions

1. The commas in case of a decimal place have been replaced by points in the revised manuscript.

2. The standard deviation has been approximated to one decimal place.

3. We cannot identify which phrase should be corrected in page 3, line 23. Please state the exact phrase that needs correction.

4. The suture material (Propylene) is now stated and the trade name (Prolene) has been put in parentheses.
The mentioned reference of Darby et al does not describe intestinal wound healing, indeed. However, the myofibroblastic response is a basic component of the wound healing process in all parts of the body. Taking into account that there are no recent data on the occurrence of $\alpha$-SMA on intestinal wound healing, we utilized knowledge from a different tissue to gain intuition to the subject of our interest, intestinal wound healing. This issue is discussed in the revised manuscript.

New pictures in appropriate resolution have now been provided.

Various cell types, such as epithelial cells and inflammatory cells provide appropriate internal controls for $\alpha$-SMA.
Reviewer: Petra Lynen Jansen

Minor Essential Revisions

1. We agree with the reviewer that our study is limited by the lack of investigation of biological events that lead to early wound failure. Therefore, we have modified the title and the conclusions according to the reviewer’s recommendations. As far as we could elicit from the literature, our references are the most current ones. However, we will be grateful if you suggest certain articles that could be useful for our discussion.

2. Discretionary Revisions

We cannot identify which phrase should be corrected in Page 2, line 7. Please state the exact phrase that needs correction.

We have improved both the legend and the resolution of Fig. 3, according to the reviewer’s recommendations.

The van der Ham adhesion score is described in brief in the revised manuscript.

We did not observe any anastomotic leakage or other complications that might correlate to the histological and immunohistological findings. This is stated out in the revised article.