Reviewer's report

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

Version: 3 Date: 28 April 2010

Reviewer: Marcel Binnebösel

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The authors address a very important problem in colorectal surgery: anastomotic leakage/anastomotic healing. 100 Wistar rats were operated and an anastomosis was performed using polopropylene. On postoperative days 3 and seven 50 animals were sacrificed respectively, and morphological (bp) and histological examinations were performed.

Although the study is very interesting the used methods are not adequate to exhibit new findings to the academic society. The manuscript has to be improved fundamentally.

Major Compulsory Revisions:
1. Why was polypropylene used as suture material?
2. Why did you use a transanally inserted metal tube? Should be possible to re-anastomose both ends without it.
3. The methods section is inadequate. The used methods are not up to date. Currently it is state of the art to use IHC at least. Please comment on it.
4. How were the histological examinations done? Please specify. Paraffin? 3 or 6µm sections?
5. Did you use H&E specimen for your investigation?
6. How were the specimens primed?
7. Which magnification did you use?
8. How many areas of the anastomosis were investigated?
9. Have you thought about immunohistochemistry to detect neoangiogenesis? If not, please specify how the investigator was able to differentiate between neoangiogenesis and elder vessels?
10. How was the inflammatory reaction measured? Why did´nt you use IHC likewise (CD68?, CD3)?
11. You investigated a relationship between adhesion formation an postoperative days. Please specify, what was the difference between the groups?
12. Which cells were alpha-sma positive? Please specify. Fibroblasts?
13. Please specify the IHC-staining of alpha-sma in detail.

Minor Essential Revisions
1. Do not use a comma in case of a decimal place. Use points (e.g. 125.9±9 mmHg).
2. Please approximate the standard deviation to one decimal place.
3. page 3, line 23: syntax is wrong.
4. Please do not give Trade names in case of suture material etc. State the agents and materials and state the trade names in braces.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.