**Author’s response to reviews**

**Title:** Analysis of pregnancy outcome after anastomosis of oviduct and its influencing factors

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Reply to the reviewers’ comments

Reviewer 1

Yvonne Louwers (Reviewer 1): The authors Feng en Zhao and colleagues reported on pregnancy rates after laparoscopic oviduct anastomosis. They identified factors increasing the pregnancy rate after oviduct anastomosis, namely oviduct length and bilateral recanalization and duration of sterilization. Obviously this issue is actual in China since the new reform the two-child policy in 2016. Patients were included from 2014 till 2018, which is even before this new law was passed. I do have several issues comments on the manuscript.

Comments 1: Page 6 line 5. Do the authors mean that the surgery was performed on the 3-10th cycle dag, or do they mean the surgery was performed on the 3-10th day after the menstruation stopped?
Reply: It means on the 3-10th day after the menstruation stopped. We have revised it in the manuscript.

Comments 2: Did all included subject had a regular menstrual cycle?
Reply: Yes, they all had a regular menstrual cycle. We have added it in the manuscript.

Comments 3: 156 patients were included and the authors describe a patency rate of 100% of at least van oviduct. The authors checked the success of the surgery with methylene blue during surgery. Did they also investigate the accessibility of the oviduct 6 weeks after surgery using HSG for example?
Reply: All patients who underwent laparoscopic fallopian tube anastomosis underwent hysteroscopic tubal intubation during the operation, and the outflow of methylene blue from the end of the fallopian tube was observed under laparoscopic monitoring, and this is the gold standard for evaluating whether the fallopian tube is patency or not. Therefore, HSG was not performed 6 weeks after the operation.

Comments 4: Were these surgeries performed by the same surgeon?
Reply: No, the surgeries were performed by several experienced surgeons.

Comments 5: Why do the authors conclude in the abstract that 'the pregnancy rate after laparoscopic tubal ligation and anastomosis was higher than that of open tubal ligation and anastomosis' since all subjects underwent laparoscopic oviduct anastomosis?
Reply: The tubal ligation before laparoscopic oviduct anastomosis was different, one is laparoscopic and the other is open tubal ligation. We have revised the sentence to make it more clear.

Comments 6: The authors do not report data on complication rate (including blood loss, (urinary tract) infection, ectopic pregnancies).
Reply: We focused on exploring the pregnancy rate after fallopian tube anastomosis and related factors affecting pregnancy, but we did not focused on the study of postoperative complications,
which can be discussed in future studies. We have added it as a limitation of our study in the discussion section.

Comments 7: How was pregnancy-rate defined? Were these pregnancies ungoing pregnancies? Inclusion period is until October 2018 so I assume these were not.

Reply: The diagnostic criteria of pregnancy include: (1) dysmenorrhea; (2) blood test was positive for HCG and gynecological b-ultrasound indicated intrauterine pregnancy. We have added it in the method section.

Due to the long duration of pregnancy and limited trial time, the pregnancy outcomes of patients after fallopian tube anastomosis are still being followed up and no systematic data have been obtained, which can be mainly discussed in future studies. We have added it as a limitation of our study in the discussion section.

Comments 8: Obviously, fertility rates decrease with age because a decrease in ovarian reserve. How do the authors think that this would have influenced their results?

Reply: Indeed, age per se can affect fertility rates. Actually, we should compare the data in our study with the data of the patients that are at the same age range of the patients in our study, but did not do laparoscopic oviduct anastomosis, so as to eliminate the effects of age. This is a limitation of our study; we added it in the discussion.

Comments 9: Did the authors correct for confounding in their analyses, for example BMI, smoking, adhesions found during surgery?

Reply: No, we did not correct for the confounding factors.

Comments 10: The first alineas of the discussion are a description of the results, instead of a discussion putting the result in a broader perspective.

Reply: Discussion is revised.

Comments 11: The authors do not consider IVF for women who have a renewed wish to conceive.
Reply: No, we did not.

Comments 12: Do the authors have information on the cost-effectiveness of this procedure compared with IVF?
Reply: Sorry, we did not evaluate the cost-effectiveness of this procedure compared with IVF.

Comments 13: For me the conclusion (in the abstract) is not clear. The authors state that the pregnancy rate after oviduct anastomosis can be 'improved' in patients. How do they think that this can be improved? Do they mean that the counseling in these patients can be improved to a more patient-tailored approach?
Reply: Conclusion (in the abstract) is revised.

Comments 14: Some recent international literature on this subject is missing (for example an extensive systematic review by van Seeters et al Human reproduction Update 2017).
Reply: The articles are cited.

Reviewer 2
Jan J.A. Bosteels (Reviewer 2): The present manuscript does not add new evidence to what is already known but is has merit for the Chinese healthcare setting.
Overall the research is well conducted and well described.
There are no language errors.
Comments 1: In the discussion section no strengths and weaknesses of the research are presented which should be done before possible publication.
Reply: Strengths and weaknesses are added in discussion.