

Responses to Reviewers

Dear reviewers,

Thanks for your comments concerning our manuscript entitled “Development and future perspectives of natural orifice specimen extraction surgery for gastric cancer” (No. 78848). Those comments are valuable and very helpful. We have read through comments carefully and have made corrections. The responses to the reviewers’ comments are presented as follows.

Reviewer #03998130:

Q1. It actually describes the history of this procedure, while few statements are not entirely sustained by the literature. For example, NOSES is better than traditional laparoscopy, etc.

Response: In terms of minimally invasive surgery and aesthetics, natural orifice specimen extraction surgery (NOSES) has the advantages of combined traditional laparoscopic techniques and minimally invasive surgery, including minimal cutaneous trauma and post-operative pain, fast post-operative recovery, short hospital stay, and a positive psychological impact^[6].

Tang et al found that the NOSES group had advantages in terms of reducing postoperative complications and postoperative pain, faster recovery of gastrointestinal function and shorter postoperative hospital stay. Most notably, the physical function, role function, emotional function and overall health status in the NOSES group were significantly better than those in the conventional laparoscopic surgery group. In addition, body image scores were significantly higher in the NOSES group. However, there was no significant difference in long-term survival between the two groups^[16]. This operation may lead to the leakage of digestive fluid, abdominal infection, as well as local, rectal and vaginal incision recurrence^[17-20].

Q2. Potential drawbacks of such a procedure:

Response: GC-NOSES related complications deserve further investigation, such as abdominal infection, natural orifice injury, tumor implantation metastasis, anastomotic leakage, prognosis and recurrence in patients, and its long-term efficacy. And there is still a lack of standardization in this novel minimally invasive surgery.

Q3. Details of surgical techniques:

Response: In general, there are seven steps in the NOSES procedure: (1) preoperative course; (2) positioning and placement of trocars; (3) localization of the tumor; (4) laparoscopic subtotal gastrectomy; (5) trans-natural cavity (mouth, rectum, vagina) specimen extraction; (6) digestive tract reconstruction; and (7) postoperative course. More significantly, the resection range of gastrectomy cannot be intentionally reduced due to specimen extraction through a narrow orifice. Based on different tumor locations, the methods of gastrectomy and reconstruction should be carefully selected to preserve gastrointestinal function. In addition, the anastomosis should be provided with a sufficient blood supply, no tension or stenosis^[31].

Q4. The Conclusion part is too long. Maybe a few paragraphs should be moved to the previous chapter.

Response: We had made modifications and moved parts of the conclusions to the previous chapter.

Q5. The manuscript should be revised for English fluency and to improve clarity, spelling, grammar, and punctuation.

Response: Our manuscript has been edited for English language by a native English speaking medical editor at MedE Medical Editing Group. The edited paper has reached grade A in language evaluation for SCI journals.

Reviewer #03475120:

Q1. Technical key points:

Response: In general, there are seven steps in the NOSES procedure: (1) preoperative course; (2) positioning and placement of trocars; (3) localization of the tumor; (4) laparoscopic subtotal gastrectomy; (5) trans-natural cavity (mouth, rectum, vagina) specimen extraction; (6) digestive tract reconstruction; and (7) postoperative course. More significantly, the resection range of gastrectomy cannot be intentionally reduced due to specimen extraction through a narrow orifice. Based on different tumor locations, the methods of gastrectomy and reconstruction should be carefully selected to preserve gastrointestinal function. In addition, the anastomosis should be provided with a sufficient blood supply, no tension or stenosis^[31].

Q2. About the pitfalls:

Response: GC-NOSES related complications deserve further investigation and there is still a lack of standardization in this novel minimally invasive surgery.

Reviewer 03998130:

Q1. There is no point-by-point response to the reviewers' comments. Furthermore, the modifications of the original manuscript are not highlighted.

Response: The modifications of the original manuscript have been highlighted in the revised manuscript.