

Answering Reviewers letter

Dear reviewers and editors,

Thank you for your efficient work in procession of our manuscript entitled “Low Ligation has a Lower Anastomotic Leakage Rate after Rectal Cancer Surgery” (Manuscript No: 54146). We also really appreciate the dear reviewers for giving us precious advices, which are important for us to improve the quality of our work. The ligation level in rectal cancer patients has been debated for many years and yet is inconclusive. Our study aims to investigate the operative results between high and low ligation of the inferior mesenteric artery (IMA) in rectal cancer patients.

We have carefully revised our paper based on the comments of reviewers, and the point-to-point responses to the reviewers’ comments are presented below:

Reviewer #1

Comment 1: This study is good, with an abundant sampling. Nevertheless, I think the manuscript needs minor improvements. Material and methods Page 5. Patients: How many males and females? How old were the patients? These data are not given in Material and Methods, but they are given in table 1 which is called at page 8, in Results Call in Materials and Methods the table 1.

Response:

We really appreciate this advice. We added “The mean age of patients was 58.4 ± 9.0 years; 244 patients were men (52.8%) and 218 patients were women (47.2%).” in the material and methods part.

Comment 2: Results Page 8. The authors write “LL group was longer than the HL group but was not statistically significant (163.1 ± 51.3 vs 174.4 ± 49.8 , $p=0.142$)”. Give the units (min) after 163.1 ± 51.3 and 174.4 ± 49.8 .

Response:

Thank you very much for your advice. We added the units in the manuscript." The operation time of the LL group was longer than the HL group but was not statistically significant (163.1 ± 51.3 mins *vs* 174.4 ± 49.8 mins, $p=0.142$)."

Comment 3: At the same page, the authors write: "In terms of recovery, there were no significant differences in the aspects of first flatus passage and hospital stay after $p=0.177$ & $p=0.236$). Give the values in days for first flatus passage and hospital stay like they are given in table 2.

Response:

I appreciate your kindly advices. We added the value in days according to table 2 " All these complications were resolved successfully. In terms of recovery, there were no significant differences in the aspects of first flatus passage and hospital stay after the operation (2.1 ± 0.6 days *vs* 1.9 ± 0.8 days, $p=0.177$; 7.0 ± 1.2 days *vs* 6.3 ± 1.3 days, $p=0.236$)".

Thanks again for your advices!

Reviewer #2

Dear Dr. Brisinda, thank you very much for your approvment of our article, and thank you for your kindly advice.

Comment 1: I ask the authors to put more information on the surgical technique.

Response: we added this to the manuscript. "we performed laporoscopic resection for rectal cancer patients, four trocars (2×12 mm and 2×0.5 mm) were created, and a pneumoperitoneum was created at 12mmHg. The camera trocar was inserted in the umbilical region or its adjacent area " "In the high ligation group, the IMA was divided and ligated at 1cm from its origin to avoid damaging the nerves ($n=235$), and the fatty

tissue around the root of the IMA was swept to harvest maximum metastatic lymph nodes. In the low ligation group, the sheath of the IMA was carefully exposed all the way to the LCA and dissected the adipose tissue with the lymph nodes among the triangle area of the aorta, IMA and the LCA.”

Comment 2: I ask the authors to better explain the use of the transanastomotic tube.

Response: I appreciate your advices. We added this to the manuscript: ”And transanal tube was placed in some patients, due to that it may reduce postoperative anastomotic leakage rate by reducing intraluminal pressure and preventing fecal extrusion through the staple line.”

Comment 3: I ask the authors to better explain the methods of diagnosis and the definition of anastomotic dehiscence.

Response: Thank you for your kindly advices. We added this to the manuscript :” Depending on the impact of the AL on clinical management, three grade of leakage severity were defined and classified as grades A (subclinical leak, no therapy changes), B (non-surgical therapy change), C (surgery required), according to this (ISREC) criteria,[18] the total clinical AL occurred in 30 (7.1%) patients. Two patients were readmitted to the hospital because of delayed AL.”

Comment 4: I ask the authors to explain how anastomotic dehiscence was treated.

Response: Thank you for your suggestion. We add the treatment strategy to the manuscript.” the total clinical AL occurred in 30 (7.1%) patients. Two patients were readmitted to the hospital because of delayed AL. Two out of thirty patients had grade B leakage, they received conservative treatment and discharged home within three weeks. The rest twenty-eight patients suffered grade C anastomotic leakage and have received a loop ileostomy.”

Finally, we really appreciate your hard and efficient work, every piece of advice is truly precious for us to improve the quality of our work.

Best regards,

Yours sincerely

Jianan Chen

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