

Dear editors and reviewers:

We would like to thank the editors and reviewers for a thorough and careful review of our manuscript entitled: "Efficacy of staple line reinforcement by barbed suture for preventing anastomotic leakage in laparoscopic rectal cancer surgery" (no:77266). Your kind suggestions substantially improve the quality and readability of our manuscript. We have made revision according to your comments.

Reviewer #1: The topic of this manuscript falls within the scope of World Journal of Gastrointestinal Surgery. Little is known about the efficacy of staple line reinforcement by barbed suture for preventing anastomotic leakage in rectal surgery. The Authors retrospectively reviewed 319 patients who underwent laparoscopic low anterior resection (LAR): 168 patients who received reinforcing sutures were compared with 151 patients who did not receive reinforcing sutures. Anastomotic leakage occurred in 7.8% with significantly higher incidence in the non-reinforcing suture group. The Authors divided all patients in two risks group by combining tumor site and tumor size (low rectal cancer, cancer tumor diameter > 4 cm). In high-risk group the anastomotic leakage incidence decreased in reinforcing sutures group. No statistically significant differences were found in the low-risk group. Although the study has limitations (a single center, retrospective, non-randomized) I believe it is a good. Introduction, Materials and Methods and Results are good. Discussion and Conclusions sound well. Complete the References. I have only question: On basis of the results the Authors believe that reinforcing suture should be reserved only for high-risk group patients or not?

Response to reviewer #1: Thank you for your support and affirmation to our manuscript. We will do our best to improve the quality of this manuscript so as to provide reliable reference for clinical practice. Based on the results of present study, we are of the opinion that reinforcing suture should only be used

in patients with high risk. It is unnecessary to reinforce anastomotic structure in patients in low-risk group. Thank you again for your kind advice.

Reviewer #2: This paper is very interesting for me. Although this research was retrospective study, the results were clinically very important. I understood that staple line reinforcement prevented anastomotic leakage in rectal cancer surgery. On the other hand, several researches said trans-anal tube reduced anastomotic leakage. I think that reinforcement added trans-anal tube may reduce more anastomotic leakage. Why didn't you place trans-anal tube? I hope you add the discussion about the trans-anal tube placement.

Response to reviewer #2: We are very grateful for your affirmation and professional advice. We have added discussion on trans-anal tube and repolished the manuscript. The modifications are in the second and last paragraphs of the discussion section, as shown in the following two pictures.

occurrence remarkably decreased in the sutured group. In addition, several studies reported that trans-anal drainage tube could effectively decrease the incidence of AL after rectal surgery^[29-32]. Among them, Xiao *et al.*^[29] retrospectively analyzed the clinical data of 398 patients undergoing LAR for rectal cancer and found that patients in transanal tube group were associated with lower AL and reoperation rates. According to their research, the potential benefits of transanal tube may be multifactorial, including promotion of gastrointestinal peristalsis, drainage, and reducing endoluminal pressure. ↵

In this study, we evaluated whether a continuous suture using a barbed

experienced surgeons and the incidence of AL in both groups did not differ from year to year. Third, patients in present study did not receive trans-anal drainage tube, which was also an effective method for preventing AL, as mentioned before. The combination of reinforcing sutures and trans-anal drainage tube may be more effective than the technique alone. However, we emphasize the efficacy and safety of reinforcing sutures for preventing AL in laparoscopic surgery for rectal cancer. Therefore, the combined effect of reinforcing sutures and trans-anal drainage tube remains unclear and deserves further investigation. ↵

The potential benefit of trans-anal tube may be multifactorial, including promotion of gastrointestinal motility, drainage, and reducing endoluminal pressure. We agree with your opinion that staple line reinforcement adds trans-anal tube may reduce more anastomotic leakage. In this study, all patients did not receive trans-anal tube for we lack knowledge of its efficacy, and this is a limitation of our study. At present, trans-anal drainage tube begins to be applied in our colorectal center and we will further evaluate the combined effect of staple line reinforcement and trans-anal tube in clinical practice. Thank you again for your valuable comments.

Response to editors: Thank you for your support and advice. We have finished the revision of this manuscript and repolished it in the professional English language editing companies you recommend. We have uploaded all of required accompanying documents *via* the F6Publishing system. Thank you again for your hard work.

Yours sincerely,

Bo Ban