

AUTHORS' RESPONSES TO REVIEWERS' COMMENTS

The authors would like to thank the reviewers for their constructive critique to improve the manuscript. We have made every effort to address the issues raised and to respond to all comments. The revisions are indicated in red font in the revised manuscript. Please, find next a detailed, point-by-point response to the reviewers' comments. We hope that our revisions will meet the reviewers' expectations.

Reviewer 1

1.The full search strategies for each database should be provided.

Thank you for your comment. The search of "transanal OR trans anal" AND "drainage OR tube OR stent" AND "rectal cancer" was performed in all databases. Following to your comment, we have clarified this as follows.

Pages 6-7, lines 136-130;

A systematic literature search for this study was performed using the advanced search of MEDLINE/PubMed, Embase, and Cochrane Library databases from inception until December 12, 2022, without language restrictions. The following search terms were used in all database searches: "transanal OR trans anal" AND "drainage OR tube OR stent" AND "rectal cancer."

2.Because of the number of included studies is small (just 5), the result of funnel plot is not accurate. I suggest that the authors use quantitative methods for publication

bias, such as Egger and Begg's tests.

Thank you for your comments. According to your suggestion, we performed the Egger's test and the result was: coef=0.278, 95%CI -3.16 - 3.72, t=0.158, P=0.874. As you suggested, the number of the studies is small and these results also have limitations and that the possibility of publication bias cannot be ruled out. Therefore, we added this to the limitation to make the limitations of our study clear to the reader as follows.

Page 11, lines 229-230;

Additionally, the number of studies included in our review was small, and there may have been some bias.

3.The methods and rationale for conducting subgroup analyses should be spelled out in the Method section.

Thank you for your suggestion. We have added it to the Method section as follows.

Page 7, lines 138-145;

Meta-analysis

The results were synthesized using the Mantel-Haenszel random-effects model. Data were expressed as odds ratios (ORs) and 95% confidence intervals (CIs). A funnel plot was used to evaluate potential publication bias and other possible biases. A two-tailed P value > 0.05 was considered statistically significant. A sensitivity analysis detected the influence of individual studies on the pooled OR by omitting one study at a time and recalculating the pooled OR. Subgroup analyses determined the effect of TDT in

patients without a diverting stoma.

4. Did the authors reported only the positive result in the subgroup analysis? If there are other subgroup analyses performed in addition to patients without a diverting stoma, they should also be reported in this article.

Thank you for your question. In this study, we only analyzed the effect of TDT in the patients without a stoma as a subgroup analysis. Because that is our interest and also our way of selecting treatments.

5. I suggest that the authors perform sensitivity analyses for all pooled results.

Thank you for your suggestion. Following to your comment, we did the sensitivity analyses. We have amended the methods, figures and results as follows.

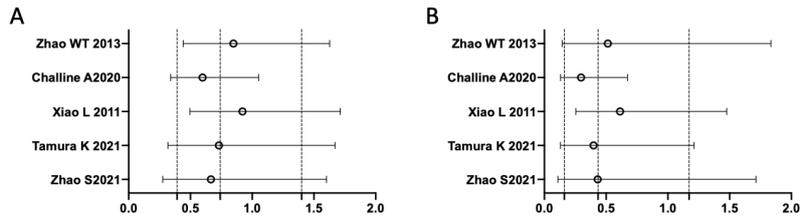
Page 7, lines 142-145;

A sensitivity analysis detected the influence of individual studies on the pooled OR by omitting one study at a time and recalculating the pooled OR.

Page 8, lines 166-167;

Sensitivity analysis showed that the pooled estimate of the effect of TDT for AL in all patients did not vary substantially (Fig 4).

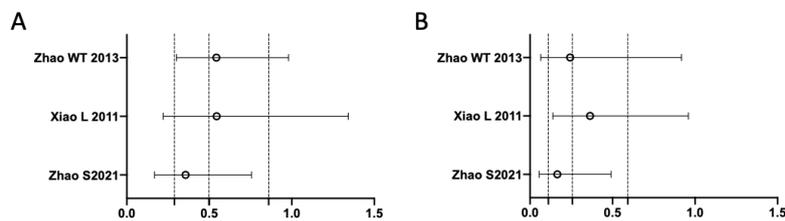
Figure 4



Page 9, lines 177-179;

Sensitivity analysis revealed that the pooled estimate of the effect of TDT for AL in patients without a diverting stoma did not vary substantially (Fig 6).

Figure 6



6. Discussion can add a section “Comparison With Other Reviews”. It focus on the comparison with other relevant meta-analysis and systematic review, for example, discussing the difference in method and results. In addition, the authors can also discuss the difference in results comparing to retrospective studies.

Thank you for your suggestion. As you suggest, the comparison with other reviews is important to clarify our findings. We have added some references of review and rewritten the discussion as follows.

Page 10, lines 207-221;

Besides, there are also some meta-analyses including tow RCTs (18, 19) reported in 2021. Xhao, et al. analyzed only 3 RCTs (18,19,23) and concluded that TDTs do not reduce the incidence of AL, but may reduce the grade C AL (28). Deng, et al. analyzed

7 studies, including retrospective studies, and concluded that TDTs do not reduce the incidence of AL in all patients (29). They also performed subgroup analyses and the AL rate was significantly low in patients without neoadjuvant therapy and diverting stoma but mentioned that TDT may be useless for those in high-risk situations. Zhang, et al analyzed 13 studies including retrospective studies and concluded that TDT reduced the incidence of AL in the patients without diverting stoma (30). Although each study was conducted in a different, separately selected group, we can conclude, as we did, that the benefit of TDT for all patients is low, but the benefit of TDT for a limited number of patients is high. Therefore, we would like to reiterate that the role of TDT would not be to avoid diverting stoma, but to steadily decrease AL in low-risk patients who were thought to be able to avoid diverting stoma.

Reference

28. Zhao S, Hu K, Tian Y, Xu Y, Tong W. Role of transanal drainage tubes in preventing anastomotic leakage after low anterior resection: a meta-analysis of randomized controlled trials. *Tech Coloproctol.* 2022;26(12):931-9.
29. Deng SY, Xing JD, Liu MX, Xu K, Tan F, Yao ZD, et al. Effect of the transanal drainage tube on preventing anastomotic leakage after laparoscopic surgery for rectal cancer: a systematic review and meta-analysis. *Int J Colorectal Dis.* 2022;37(8):1739-50.
30. Zhang YX, Jin T, Yang K. The role of transanal drainage tube in preventing the anastomotic leakage in rectal cancer surgery without a defunctioning stoma: A meta-analysis. *Surgeon.* 2022.

Reviewer 2

Would recommend authors to compare these results to other similar studies and explain the differences in results. Meta analysis done by Zhang, (PMID-36446701), looks at over 3000 patients and has different results. Also would suggest to explain how these results are significant compared to existing literature.

Thank you for your suggestion. Zhang, et al also reported that in rectal cancer patients without a diverted stoma, TDT could reduce the incidence of anastomotic leakage, reduce the reoperation rate of patients, and tend to reduce the severity of anastomotic leakage. This result is similar to our subgroup analysis (In a subgroup analysis of 955 patients without a diverting stoma, TDT reduced the rate of symptomatic AL rate (odds ratio = 0.50, 95% confidence interval = 0.29-0.86, P = 0.012)). Our analysis only includes prospective analyses, which can provide stronger evidence than retrospective analyses, and the same evidence could be shown for a smaller number of people. Therefore, we believe that this result must be true. Following your suggestion, we have added some references of review and rewritten the discussion as follows.

Page 10, lines 207-221;

Besides, there are also some meta-analyses including two RCTs (18, 19) reported in 2021. Xhao, et al. analyzed only 3 RCTs (18,19,23) and concluded that TDTs do not reduce the incidence of AL, but may reduce the grade C AL (28). Deng, et al. analyzed 7 studies, including retrospective studies, and concluded that TDTs do not reduce the incidence of AL in all patients (29). They also performed subgroup analyses and the AL rate was significantly low in patients without neoadjuvant therapy and diverting stoma but mentioned that TDT may be useless for those in high-risk situations. Zhang,

et al analyzed 13 studies including retrospective studies and concluded that TDT reduced the incidence of AL in the patients without diverting stoma (30). Although each study was conducted in a different, separately selected group, we can conclude, as we did, that the benefit of TDT for all patients is low, but the benefit of TDT for a limited number of patients is high. Therefore, we would like to reiterate that the role of TDT would not be to avoid diverting stoma, but to steadily decrease AL in low-risk patients who were thought to be able to avoid diverting stoma.

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28. Zhao S, Hu K, Tian Y, Xu Y, Tong W. Role of transanal drainage tubes in preventing anastomotic leakage after low anterior resection: a meta-analysis of randomized controlled trials. *Tech Coloproctol.* 2022;26(12):931-9.
29. Deng SY, Xing JD, Liu MX, Xu K, Tan F, Yao ZD, et al. Effect of the transanal drainage tube on preventing anastomotic leakage after laparoscopic surgery for rectal cancer: a systematic review and meta-analysis. *Int J Colorectal Dis.* 2022;37(8):1739-50.
30. Zhang YX, Jin T, Yang K. The role of transanal drainage tube in preventing the anastomotic leakage in rectal cancer surgery without a defunctioning stoma: A meta-analysis. *Surgeon.* 2022.

Revision reviewer

The revised version by authors has addressed my previous concerns.

Thank you for your suggestion.