

1. Please clarify the nature of the study. In most cases authors wrote they collected data in a prospective manner, however, in limitations they wrote the data collection was done retrospectively.

This study is a retrospective study. We corrected in this article as follows, We collected retrospective data of patients with rectal cancer who underwent LsISR from multicenter between January 2012 and October 2022.

2. "4.0 cm (2.0–5.0 cm)": mean (range) or mean (IQR), please indicate in methods.

"4.0 cm (2.0–5.0 cm)" mean (range).

We indicated this in this article.

The median distance between the lower edge of the tumor and the AV was 4.0 cm (range, 2.0–5.0 cm), and the median distance between the anastomosis and the AV was 2.2 cm (range, 1.0–4.0 cm).

3. "Correlation analysis was performed using the Kaplan-Meier method." Kaplan-Meier is not used for correlation analyses. Please correct.

We corrected it in article.

Correlation analysis was performed using the Chi-square or Pearson's correlation test.

4. More detailed statistical descriptions are needed. E.g., what test was used to compare continuous data? Please list all methods that were used.

We listed the statistical descriptions in methods.

The Chi-square, Fisher's exact test, or Pearson's correlation test was used to analyze differences between the primary and validation cohorts. Pearson's correlation is a measure of the linear relationship between two continuous random variables, simultaneously, categorical variables were compared with use of Chi-square analysis. Fisher's exact test is applicable to cases where sample size $n < 40$ or theoretical frequency $T < 1$. When one of the expected frequencies is greater than 5, Chi-square test is considered as a statistical method.

5. Local recurrence was low in this cohort. How did authors adjust the statistical methods? Most "traditional" test fails to give proper results if the sample size of any of the groups is low.

We used Fisher's exact test method.

Fisher's exact test is applicable to cases where sample size $n < 40$ or theoretical frequency $T < 1$.

6. In Discussion, more emphasis is needed on the novelty of the current study.

In the first paragraph, we add the following sentences.

To the best of our knowledge, this study hitherto includes the largest sample of patients who underwent LsISR performed by a single surgical team. Therefore, it can minimize the influence of surgeons on surgical quality and subsequently prognostic outcome, so as to better clarify the prognostic characteristics of this disease itself.

7. The Reviewer's opinion is that the main take home message of this article is the following: "For patients with a high risk of local recurrence (N+ or poor differentiation), extended

radical resection (such as APR instead of ISR) may be more effective." This should be repeated in the conclusion as well.

We add this opinion in the part of "conclusion" as follows.

In conclusion, this study confirmed the oncological safety of LsISR for ultralow rectal cancers. Poor differentiation, (y)pT3 stage, and lymph node metastasis are independent risk factors for treatment failure, and thus patients with these factors should be carefully managed with optimal neoadjuvant therapy, and for patients with a high risk of local recurrence (N+ or poor differentiation), extended radical resection (such as APR instead of ISR) may be more effective.

8. "Local recurrence occurred in 13 patients (3.5%). In the analyses ... and nerve invasion (P=0.012)." In this paragraph authors should give further details. E.g., in which group did the clinically worse stages occurred, etc.

We corrected this paragraph as follows.

Local recurrence occurred in 13 patients (3.5%). In the analyses of basic characteristics between the local and non-local recurrence groups, there were significant differences in the distribution of pathological TNM stage (P=0.001), lymph node status (P=0.001), and differentiation (P=0.009). Distant metastasis occurred in 42 (11.4%) patients. Compared with the patients without distant metastasis, the distant metastasis cohorts have higher serum CA 19-9 level (P=0.045), more advanced (y)pT stage (P<0.001), (y)pN stage (P<0.001), and (y)p TNM stage (P=0.001), and the distant metastasis cohorts suffered lymphovascular invasion (P=0.021) and nerve invasion (P=0.012) tested in the postoperative pathological results.

9. Figures 2-4 must be larger.

We have replaced Figures 2-4 with larger figures.