

Study Summary

Standardisation of surgical procedures to reduce risk of anastomotic leakage, reoperation, and surgical site infection in colorectal cancer surgery: a retrospective cohort study of 1,189 patients

Eto K, Urashima M, Kosuge M, et al. Int J Colorectal Dis. 2018;33(6):755-762.

Conclusion

Standardisation of colorectal surgery using a laparoscopic approach, combined with triangulating anastomosis for colon surgery, and defunctioning ileostomy for low anterior resection, lowered the risk of anastomotic leak, reoperation and surgical site infection

Study Aim

To evaluate whether standardisation of colorectal surgery methods can reduce the risk of anastomotic leak, reoperation and surgical site infection (SSIs).



Standardised procedures were performed laparoscopically with triangulating anastomosis (TA) for colon surgery, and defunctioning ileostomy (DI) for low anterior resection (LAR)

Methods

- Consecutive patients who had a diagnosis of colorectal cancer and underwent primary tumour resection between January 2008 and December 2015 at a single centre in Japan were selected
- Patients were divided into two groups based on whether they underwent tumour resection **prior** to standardisation (n=648) or **after** standardisation of procedures (n=541)



The authors conducted a multivariate analysis, which examines patterns in data by considering the influence of multiple variables (e.g. age, sex) on a given outcome (e.g. risk of anastomotic leak)

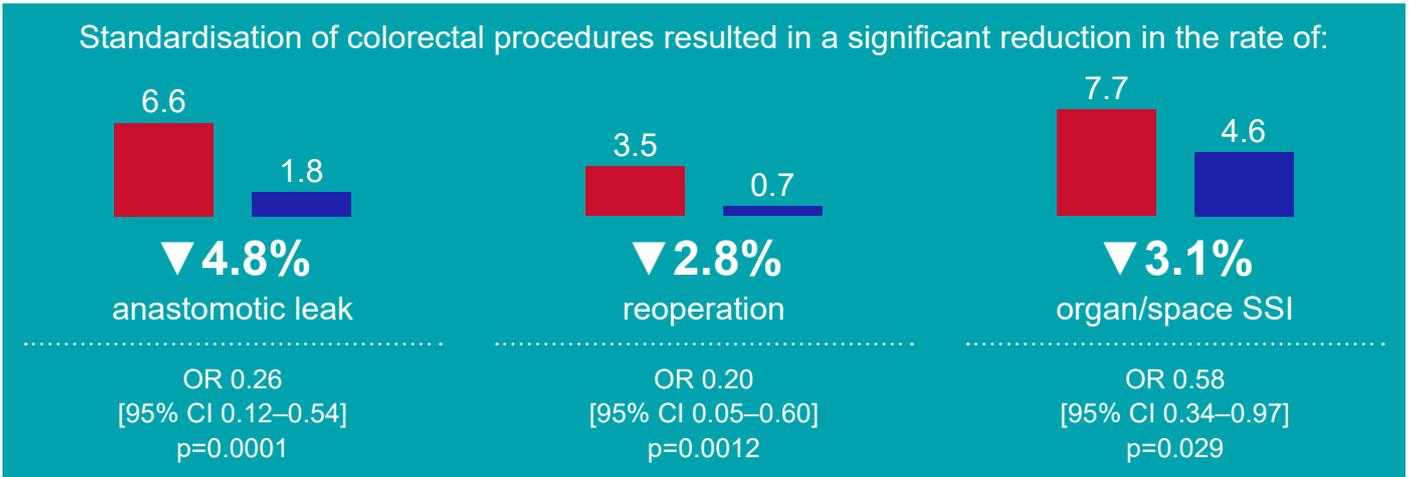
Primary Endpoint:

- Incidence of anastomotic leak

Secondary Analyses:

- SSI (incisional and organ/space)
- Reoperation within 30 days

Results



Red, before standardisation of procedures; blue, after standardisation of procedures. Abbreviations: CI, confidence interval; OR, odds ratio.

Standardisation to a laparoscopic approach (LS) significantly reduced the rate of **anastomotic leak, reoperation, incisional SSIs** and **organ/space SSIs** compared to open surgery in colorectal cancer.



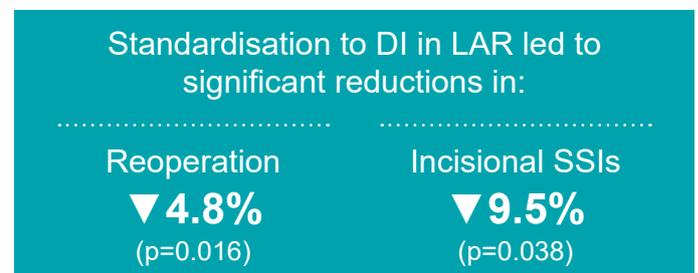
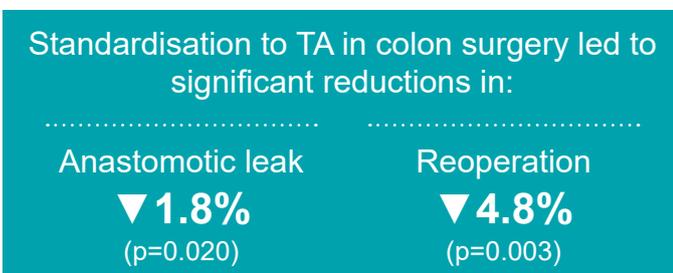
Standardisation of procedures led to significantly less intraoperative blood loss ($p < 0.001$)

▼50 mL

In a multivariate analysis, standardisation of procedures and LS effectively and independently decreased the risk of anastomotic leak for colorectal cancer procedures.

	All patients (N=1,189)	P value
AL reduction with standardisation of procedures	OR 0.29 [95% CI 0.14–0.63]	$p=0.002$
AL reduction with standardisation to a laparoscopic approach	OR 0.30 [95% CI 0.14–0.64]	$p=0.002$

Controlling factors of the multivariate analysis were age, sex, BMI, ASA, tumour node metastases (TNM) stage, operative time and intraoperative blood loss.



Additions

One death was reported in the group prior to standardisation in the 30-day postoperative period. Standardisation resulted in a significant increase in operative time (245 vs 199 minutes, $p < 0.001$).