

Safe colorectal anastomosis: a new concept of surgical procedure standardization and trans-anal evaluation resulted in a low leak and a diversion rate

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INTRODUCTION

Dehiscence of colorectal anastomosis is a serious complication that is associated with increased mortality (1), impaired functional and oncological outcomes (3). The hypothesis was that anastomosis reinforcement and vacuum trans-anal drainage could eliminate some risk factors, such as mechanically stapled anastomosis instability and local infection.

MATERIAL AND METHOD

Patients with rectal cancer within 10 cm of the anal verge and low anterior resection with double-stapled technique were included consecutively. A stapler anastomosis was supplemented by trans-anal reinforcement and vacuum drainage using a povidone-iodine-soaked sponge. Modified reinforcement using a circular mucosa plication was developed and used. Patients were followed up by postoperative endoscopy and outcomes were acute leak rate, morbidity, and diversion rate.

RESULTS

The procedure was successfully completed in 52 from 54 patients during time period January 2019-October 2020. The mean age of patients was 61 years (lower-upper quartiles 54–69 years). There were 38/52 (73%) males and 14/52 (27%) females; the neoadjuvant radiotherapy was indicated in a group of patients in 24/52 (46%). The mean level of anastomosis was

3.8 cm (lower-upper quartiles 3.00–4.88 cm). The overall morbidity was 32.6% (17/52) and Clavien-Dindo complications ≥ 3 grade appeared in 3/52 (5.7%) patients. No loss of anastomosis was recorded and no patient died postoperatively. The symptomatic anastomotic leak was recorded in 2 (3.8%) patients and asymptomatic blind fistula was recorded in one patient 1/52 (1.9%). Diversion ileostomy was created in 1/52 patient (1.9%).

CONCLUSION

Reinforcement of double-stapled anastomosis using a circular mucosa plication with combination of vacuum povidone-iodine-soaked sponge drainage led to a low acute leak and diversion rate. This pilot study requires further investigation.

References

1. Smith JD, Butte JM, Weiser MR, D'Angelica MI, Paty PB, Temple LK, et al. Anastomotic leak following low anterior resection in stage IV rectal cancer is associated with poor survival. *Ann Surg Oncol*. 2013;20:2641–2646. doi: 10.1245/s10434-012-2854-9. - DOI - PubMed
2. Hain E, Maggiori L, Manceau G, Mongin C, Prost ADJ, Panis Y. Oncological impact of anastomotic leakage after laparoscopic mesorectal excision. *Br J Surg*. 2017;104:288–295. doi: 10.1002/bjs.10332. - DOI - PubMed
3. Karim A, Cubas V, Zaman S, Khan S, Patel H, Waterland P. Anastomotic leak and cancer-specific outcomes after curative rectal cancer surgery: a systematic review and meta-analysis. *Tech Coloproctol*. 2020;24:513–525. doi: 10.1007/s10151-020-02153-5. - DOI - PubMed