

Case Series: Stapled Resection in Transanal Minimally Invasive Surgery

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Objective

Our objective is to provide evidence of the feasibility and safety of a stapled resection in TAMIS for the removal of rectal lesions.

Background

- Resection of rectal polyps or early staged rectal cancers is an active challenge in colorectal surgery
- Lesions are traditionally removed endoscopically, via transanal minimally invasive surgery (TAMIS), or surgical resection
 - TAMIS is a novel surgical approach used for local excisions of rectal lesions

Potential benefits of TAMIS resection:

- Potentially a feasible treatment option for early cancers and precancerous polyps
- Fast recovery time
- Avoid unnecessary segmental resections
- “Big Biopsy” to stratify patients who do need surgical resection

Potential limitations of TAMIS resection:

- Risk for conversion to abdominal approach for peritoneal entry
- Learning curve and specialized training needed given port placement

Question: Is there another easy, effective, and safe way to resect lesions in TAMIS?

Methods

- **Study design:** Retrospective observational study
- **Data collection:** Patient chart and pathology reports review
- **Participants:** Patients with pelvic malignancy undergoing Stapled TAMIS from December 2017 to December 2025 by a single surgeon based in Vancouver, Canada (14 females and 11 males)
- **Ethics approval:** Approved by the Fraser Health Ethics Research Board

Preliminary Results (n = 6)

Lesion characteristics:

- Anterior 66% (4)
- Posterior 16% (1)
- Lateral 16% (1)
- Largest dimension of an excised lesion ranged from 2 to 5.5 cm
- Distance to the anal verge ranged from 9 to 15 cm

Pre-Operative Pathology:

- High-grade dysplasia 50% (3)
- Benign non neoplastic 16% (1)
- Known malignancies 16% (1)
- Discordant or suspected neoplastic 16% (1)

Operative Details:

- Procedure averaged of 49 minutes
- All lesions removed without fragmentation
- No peritoneal entry occurred

Post-Surgery:

- All patients were discharged the same-day
- No patients required readmission within 30 days
- No patients experienced intraoperative or postoperative complications

Conclusion:

- Stapled resection in TAMIS is a safe procedure for the removal of some rectal lesions
- Select lesions can be removed with stapling as a means of avoiding peritoneal entry during resection
- Operative times, hospital length of stay, and complications are comparable to standard resection

Further/Ongoing Work (n=25)

Lesion characteristics:

- Anterior 64% (16)
- Posterior 24% (6)
- Lateral 8% (2)
- Largest dimension of an excised lesion ranged from 1.5 to 5.5 cm
- Distance to the anal verge ranged from 6 to 15 cm

Pre-Operative Pathology:

- Benign neoplasms 24% (6)
- Known malignancies 20% (5)
- Missing or undocumented preoperative indication 16% [4]
- Discordant or suspected cancer 12% (3)
- High-grade dysplasia 12% (3)
- Not biopsied 12% (3)
- Benign non neoplastic 4% (1)

Operative Details:

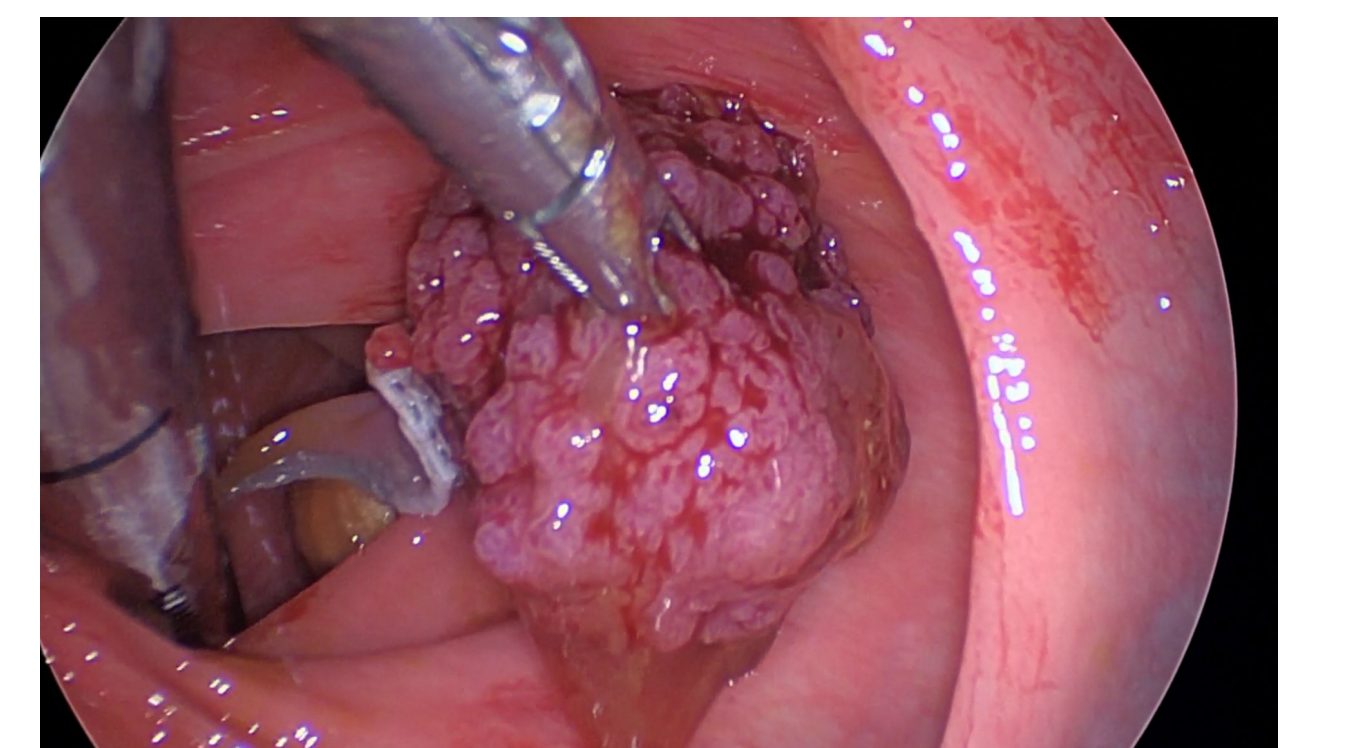
- Procedures averaged 42 minutes

Post-Surgery:

- 92% patients were discharged the same-day (23/25)
- No patients required readmission within 30 days

Next Steps/Future Work:

- In-depth pathologic review of resection lesions including margin status - ONGOING
- Determine criteria for patient eligibility
- Determine lesion characteristics which make polyps most amenable to this approach
- Review long-term oncologic outcomes



CITATIONS:

- (1) Badaoui, R., Rausa, E., Bianco, F., Amodio, A., Dekel, N., Lefevre, J. H., Zoccali, M., & Spinelli, A. (2021). Short-term outcomes of transanal minimally invasive surgery (TAMIS): A systematic review of the literature. *Annals of Medicine and Surgery*, 72, 102996. <https://doi.org/10.1016/j.amsu.2021.102996>
- (2) Dufresne, A.-M., Withers, R., Ramkumar, J., Mackenzie, S., Melich, G., & Vikis, E. (2018). Trans-anal minimally invasive surgery: A new technique to avoid peritoneal entry. *International Journal of Surgery Case Reports*, 52, 11–15. <https://doi.org/10.1016/j.ijscr.2018.09.029>