

# Trans-anal minimally invasive surgery (TAMIS) for completion local excision of well-differentiated rectal neuroendocrine tumours

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## Background:

- Rectal NETs (R-NETs) <2cm are often amenable to endoscopic attempts at resection.
- However, initial resections are often incomplete.
- Extended monitoring or radical surgery may then be required.
- Trans-anal minimally invasive surgery (TAMIS) allows resection of rectal tumours while reducing surgical morbidity, whilst being less invasive than
- There is little data on the use of TAMIS in R-NETS – both in terms of safety and oncological outcomes.

## Aim:

- To assess the results of TAMIS for completion local excision of R-NETS following endoscopic resection.

## Methods:

- Single-institution, retrospective study
- Patients undergoing TAMIS at Sunnybrook Health Sciences Centre from 2013-2017.
- Inclusion criteria:
  - Incomplete endoscopic resection (margin  $\leq$  1mm)
  - Visible scar on repeat endoscopy
  - Localized disease on systemic imaging.
- Full-thickness resection of the endoscopic scar was performed via TAMIS. (Fig.1, Fig.2)

## Outcomes:

- Demographics
- 30-day major morbidity (Clavien-Dindo Grade III-V)
- Resection margin
- Oncological outcomes.

## Results:

- Nineteen patients included, age range 31-70, 10 male/9 female.
- All Grade 1 (WHO 2010) NET
  - 13 initially underwent R2 resections, 4 R0 with close margins (0.1mm, 0.25mm, 0.25mm, <1mm), 2 not recorded (fragments of tissue)
- Median distance from anal verge: 7cm (range 5-13)
- Median size: 5mm (range 1-12mm)
- Median operating time: 34 minutes (range 20-79)
- One case resulted in 500cc of intraoperative blood loss; there were no complications at 30 days.
- Viable tumour was found in four specimens, all Grade 1 with negative margins.
- One patient subsequently underwent low anterior resection for a persistent mesorectal lymph node, confirming Grade 1 NET (Ki67 1%)
- At 18 months median follow-up, all patients were alive and asymptomatic, with no change in sphincter function and no evidence of local recurrence.

## Discussion:

- Currently published series of TAMIS for R-NET include <10 patients, with the largest series (Lee 2014, N=9) not reporting on WHO 2010 grade.
- Attempts to gather multi-institutional data regarding the safety of TAMIS in rectal NETS are underway.
- Prospective studies may confirm the safety and oncological efficacy of TAMIS, and potentially decrease the need for intense follow-up in this population.

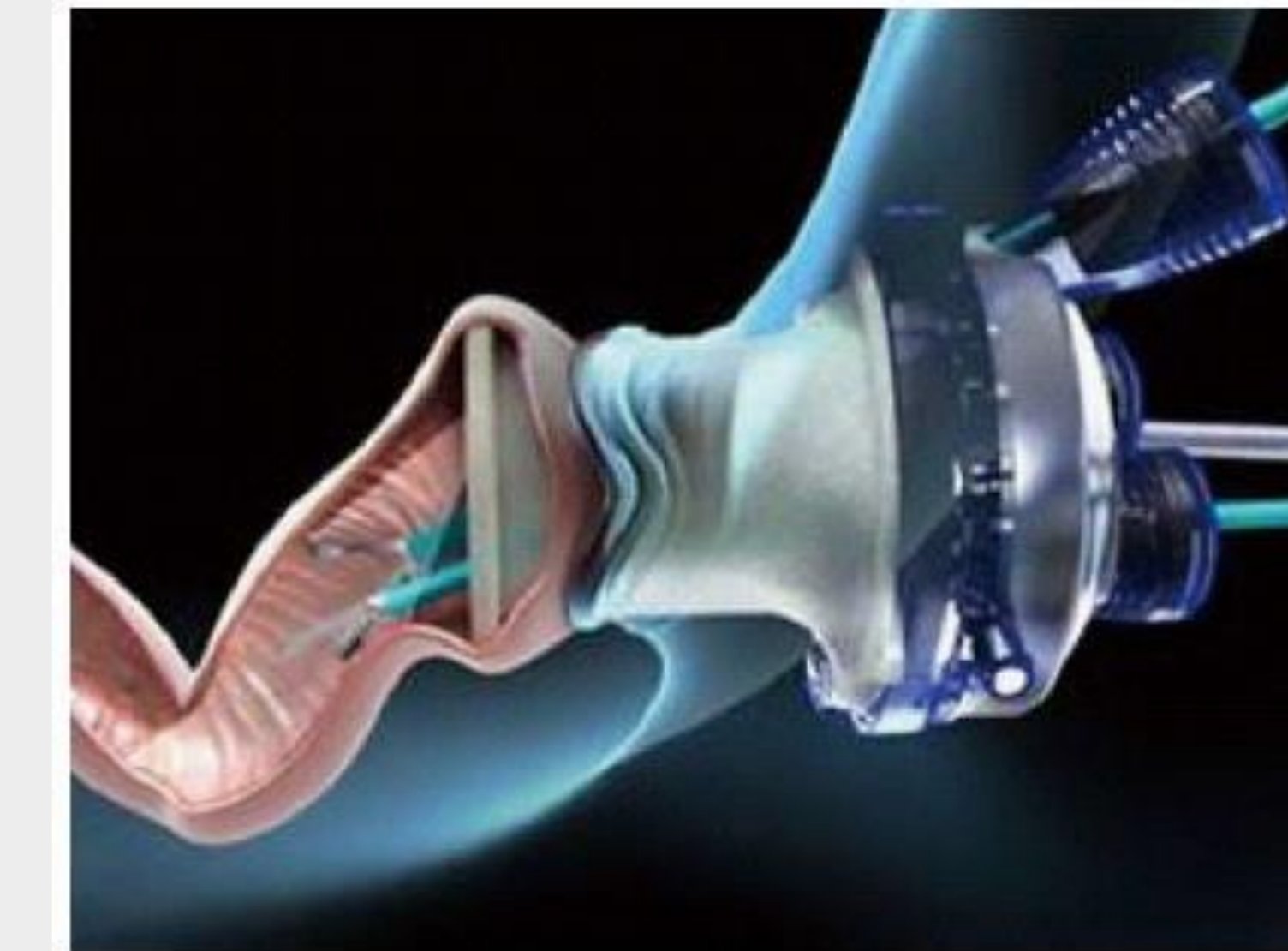


Fig 1: GelPOINT path transanal port

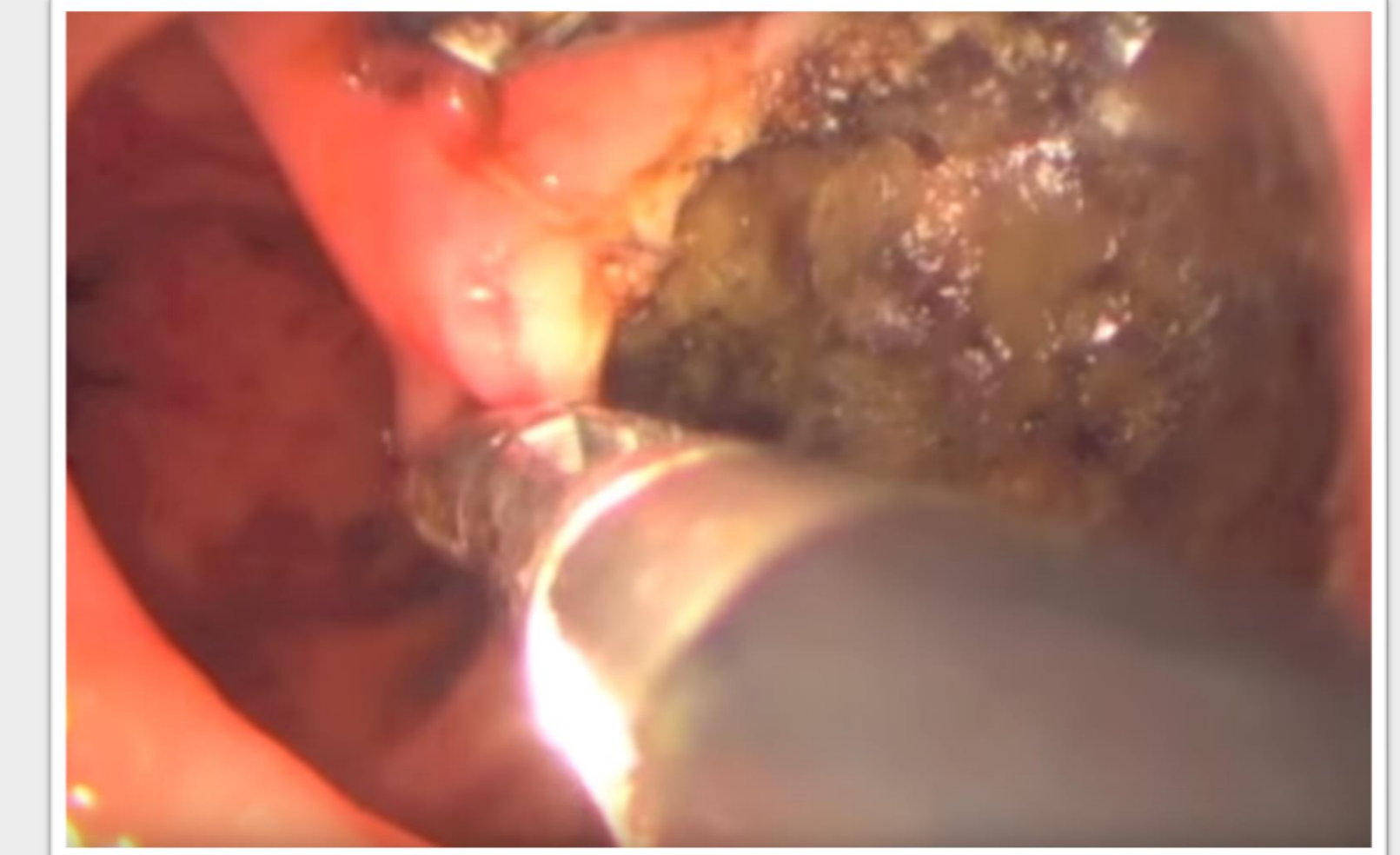


Fig 2: TAMIS for rectal NET

## Conclusions:

- TAMIS is a safe and feasible approach for well-differentiated R-NETs to clear margins following incomplete endoscopic resection.
- It limits invasiveness of intervention and avoids time-consuming monitoring after incomplete resection.
- Prospective trials of TAMIS in R-NETS are warranted.