



Exposed endoscopic full-thickness resection and overstretch suture after incomplete nonexposed endoscopic full-thickness resection

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Endoscopic full-thickness resection (EFTR) has been shown to be a feasible, safe, and rapidly spreading technique since the introduction of the full-thickness resection device (FTRD) (Ovesco Endoscopy, Tübingen, Germany). This technique, which can remove lesions up to 30 to 40 mm, is considered an “unexposed” method because of a dedicated device that combines a full-thickness snare resection and a nitinol clip-based defect closure. This 1-step procedure has minimal risk of exposure of the peritoneal/extraperitoneal cavity compared to perforation during endoscopic submucosal dissection (“exposed technique”). Moreover, R0 resections have been reported up to 80%.¹⁻³ However, in approximately 15% of cases, clip removal is required for patient pain, discomfort, or clinical indications. The nitinol clip (over-the-scope clip [OTSC] and FTRD) removal techniques include (1) grasping forceps, (2) the neodymium-doped yttrium aluminum garnet laser, (3) argon plasma coagulation, (4) the remOVE system (Ovesco Endoscopy), (5) endoscopic resection/dissection, and (6) ice-cold saline solution, each of them with different costs and procedural risks. The choice of the technique is based on device availability, costs, operator’s confidence, type of lesions, and patient’s history.⁴

Here we describe the case of a 84-year-old woman with relevant comorbidities affected by a 20-mm adenocarcinoma of the distal rectum (Fig. 1). Magnetic resonance imaging showed no perirectal satellite lymphadenopathy (T1sm3-N0). After discussion, a surgical intervention was proposed to the patient, but she refused. Instead, she was offered a conservative endoscopic treatment. An FTRD resection was performed, with reported difficulties in pulling the lesion into the device cap and doubtful R0

resection (Fig. 2). On histological examination, lateral/depth margins of the lesion confirmed the persistence of neoplastic glands (R1) (Fig. 3), which was also proven at

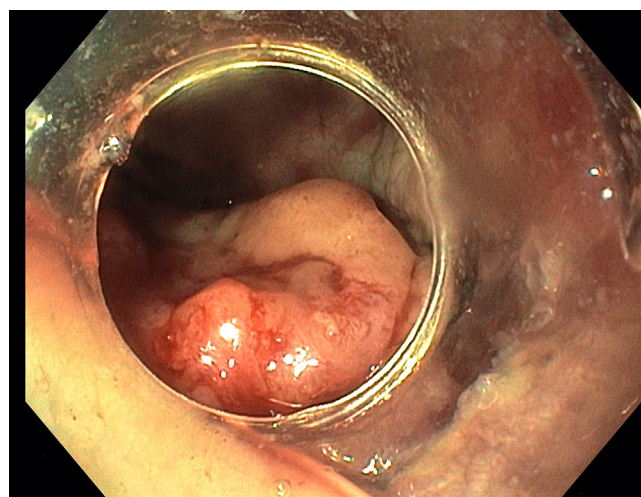


Figure 1. Endoscopic view of small rectal polyp with central depression showing invasive neoplastic gland at bioptic examination.

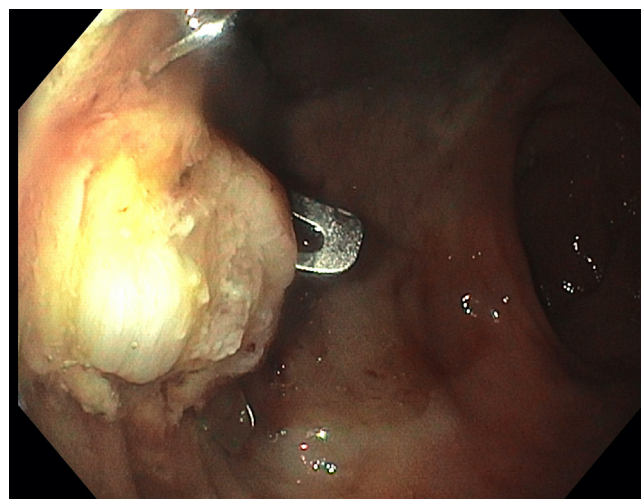


Figure 2. First treatment with full-thickness resection devices.

Abbreviations: EFTR, endoscopic full-thickness resection; FTRD, full-thickness resection device; OTSC, over-the-scope clip.

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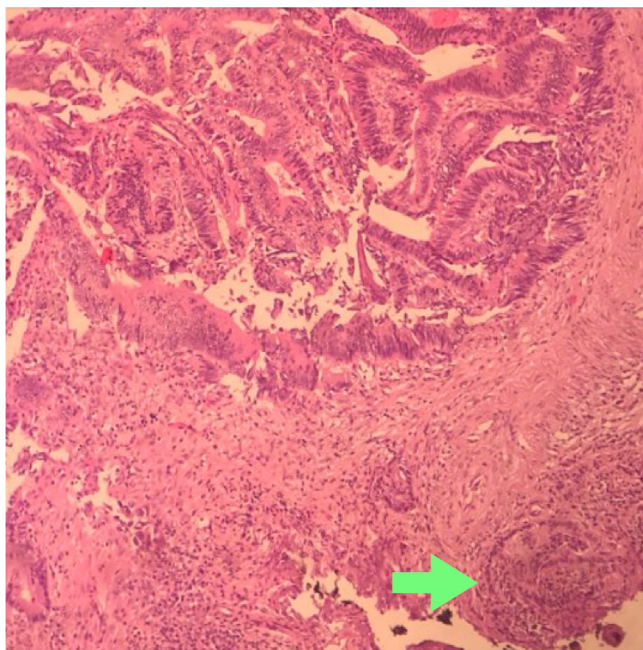


Figure 3. Microscopic examination (H&E, orig. mag. $\times 100$) showed neoplastic gland persistence (green arrow) on the resection plane (R1 margin).

endoscopic follow-up. Then, an attempt of endoscopic exposed full-thickness resection was planned.

The patient underwent an EFTR of the clip and residual rectal lesion using the Dual Knife 1.5 mm and Hook Knife 4.5 mm (Olympus Endoscopy, Hamburg, Germany), extending the resection beyond the muscular layer with exposure of mesorectum tissue. After the dissection, a large wall defect, quantified at about 4×5 cm, was sutured using Apollo Overstitch SX (Apollo Endosurgery, Austin, Tex, USA) mounted on a diagnostic 2.8-mm gastroscope with a single charge and passage of 5 continuous "running" stitches. Total procedural time was 65 minutes, and the suture phases took 20 minutes (Video 1, available online at www.videogie.org). The "running" suture pattern, instead of a purse-string or figure-8 pattern, was chosen to ensure a tight closure, avoiding the bridge effect among mucosa and the perirectal tissues beneath.

After 3 days, the patient was uneventfully discharged. The histological examination showed a moderately differentiated adenocarcinoma, T1Sm3, R0, without lymphovascular invasion but with evidence of tumor budding. Given the histological report, the patient was recommended for adjuvant radiotherapy and subsequent close follow-up.

The introduction of a dedicated device for FTRD has certainly increased the rate of 1-step en bloc resection for difficult lesions, avoiding leakage of the luminal fluids and infectious spread; however, sometimes the position,

size, and features of the lesion do not allow its "perfect" pulling into the cap, resulting in incomplete resection.²

The "freehand" full-thickness resection represents an effective method for EFTR and OTSC removal, extending the cutting plane beyond the muscular layer through the perirectal fat, especially if R0 resection is needed. Nevertheless, a tight closure technique of the resulting larger and deep defect is mandatory.⁴⁻⁷ Although rectal location is the most suitable, other selected left colonic lesions may also benefit from full-thickness resection and suture, depending on the lesion size, colonic features, and operator confidence with the suture device.

The key point of our clinical case is the combination of an exposed full-thickness resection (for the nitinol clip and residual cancer entrapped inside it) and a tight suture of the large defect in the rectal wall that ensures transmural stitches on the healthy edges of the rectal wall.^{5,7-9}

As reported in the literature, in expert hands, the over-stitch suture is effective in up to 100% of patients, drastically reducing all types of adverse events and the need for hospitalization.^{6,7,9}

DISCLOSURE

The authors disclosed no financial relationships.

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