Recalcitrant rectal stricture following circumferential endoscopic mucosal resection: novel application of endoscopic stricturotomy

A 69-year-old woman underwent endoscopic mucosal resection (EMR) of a fully circumferential large laterally spreading rectal lesion. A, B Retroflexed and forward views. C Submucosal injection commenced at the dentate line. D Resection commenced at the distal end of the lesion, at the anal verge. E, F Complete resection with margin thermal ablation of the margin, demonstrated in forward and retroflexed views.

Video 1 Successful endoscopic stricturotomy of a severe stricture, refractory to balloon dilatation, that followed circumferential endoscopic resection of a rectal large nonpedunculated colonic polyp.

Fig. 1 Endoscopic mucosal resection of a fully circumferential large laterally spreading rectal lesion. A, B Retroflexed and forward views. C Submucosal injection commenced at the dentate line. D Resection commenced at the distal end of the lesion, at the anal verge. E, F Complete resection with margin thermal ablation of the margin, demonstrated in forward and retroflexed views.

Fig. 2 Polypectomy site 3 months after endoscopic stricturotomy and 9 months after resection, demonstrating the absence of recurrent or residual adenoma and showing a widely patent lumen with no evidence of stricture recurrence.

A 69-year-old woman underwent endoscopic mucosal resection (EMR) of a fully circumferential flat, homogeneous, granular lesion, abutting the anal verge and extending proximally for 6 cm (Fig. 1). Steroid enemas were prescribed for a 6-week period. Histopathology confirmed a low-grade tubulovillous adenoma. The procedure was complicated by delayed bleeding which was treated by the patient’s local surgical team with extensive thermal coagulation.

At 6 weeks post-EMR, the patient reported obstructive symptoms and was found to have a severe stricture, 8 mm in diameter. This was treated with sequential balloon dilatation to 12 mm at 2–4-weekly intervals. After 5 sessions, minimal progress had been made, and the patient remained symptomatic. A scarred web was noted in the 6–12 o’clock position.

Endoscopic stricturotomy was performed by creating radial incisions to the web using a 4.5-mm triangle-tip electrosurgical knife (Video 1). Subsequently, balloon dilatation to 18 mm was possible. At 12 weeks after endoscopic stricturotomy the patient remained asymptomatic. There was no recurrent or residual adenoma (Fig. 2).

Larger lesions which would have until recently required surgical resection, are now removed endoscopically in centers of excellence. Our group has previously shown that the risk of post-resection stricture formation increases with the lateral extent of the resected area [1]. A post-EMR defect involving ≥90% of luminal circumference carried a 74.2% risk of stricture formation. The median number of dilatation sessions required for severe post-endoscopic resection strictures was 3. Extensive thermal therapy to treat bleeding likely played a role in the degree of scar formation in this case.

Endoscopic stricturotomy has been utilized in the management of Crohn’s and anastomotic strictures with success [2, 3]. To our knowledge, there are no published data on the management of strictures following endoscopic resection. Here we demonstrate the first case of endoscopic stricturotomy in the management of a refractory post-EMR stricture, which was safe and effective.

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Conflict of Interest

Michael J. Bourke: Research support from Olympus, Cook Medical and Boston Scientific. All other authors have no competing interests.

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