

Endoscopic muscularis excavation of a rectal duplication cyst

Rectal duplication cyst (RDC) is a rare congenital disorder of the hindgut, accounting for up to 5% of all duplications in the alimentary tract [1]. The cyst usually becomes apparent in childhood, presenting with infection, fistulization, or mass effect; clinical presentation in adulthood is uncommon. Surgical excision is a cornerstone of treatment because it relieves symptoms and prevents complications, such as perianal sepsis, bleeding, and malignant degeneration [2]. Herein, we describe what is, to the best of our knowledge, the first case of endoscopic resection of an RDC.

A 33-year old patient was admitted to our department to undergo a diagnostic work-up because of bowel disturbances. At colonoscopy, a submucosal lesion was seen in the rectum 7 cm from the anal verge (Fig. 1a). Transrectal ultrasound demonstrated a 20-mm anechogenic, well-delineated lesion extending to the

muscularis propria layer (Fig. 1b). RDC was diagnosed. The patient opted for endoscopic resection, and informed consent was obtained.

After circumferential marking and mucosal incision, a submucosal entry point was created at the distal side of the lesion by injecting 6% hydroxyethyl starch solution (500 mL) mixed with 2 mL of methylene blue dye and 1 mL of epinephrine (Fig. 2a). Submucosal dissection was done with both a DualKnife and a Hook-Knife (Olympus, Tokyo, Japan) until the edges of the cyst were circumferentially exposed. Then, muscular excavation was done to detach the dorsal edge of the cyst from the muscularis propria (Fig. 2b). Finally, the 51-mm resected specimen was removed (Fig. 2c), and the cyst was seen on the dorsal side (Fig. 2d).

Pathologic examination demonstrated a 25-mm cyst with a mucin-filled lumen. The cyst wall consisted of an epithelial

layer of columnar cells with partially hemorrhagic ulcerated colonic mucosa and granulation tissue (Fig. 3a), surrounded by two thick muscle layers (Fig. 3b).

Endoscopic resection by means of muscular excavation – as an extension of standard endoscopic submucosal dissection – was initially described for the treatment of gastric submucosal tumors and tumors of the esophagogastric junction originating from the muscularis propria [3,4]. Our case demonstrates that the same approach may be feasible in the endoscopic treatment of rectal submucosal lesions.

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Competing interests: None

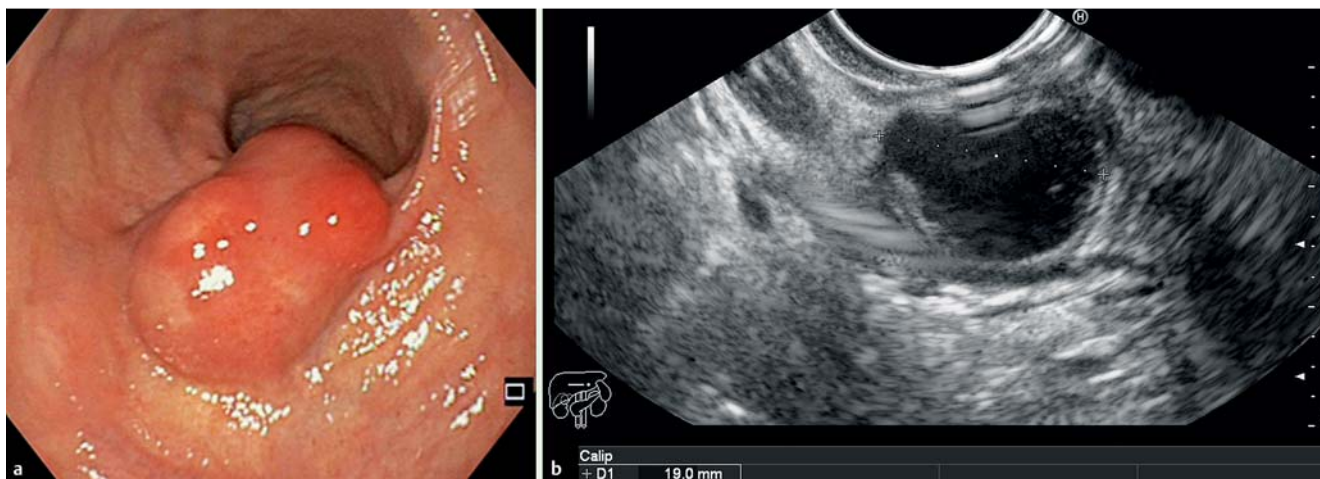


Fig. 1 Macroscopic features of a rectal duplication cyst. **a** A rectal submucosal tumor is discovered in a 33-year-old patient undergoing colonoscopy because of bowel symptoms. **b** Transrectal ultrasound demonstrates a 20-mm cystic lesion extending to the muscularis propria layer. Intracystic echoes indicate the presence of mucus.

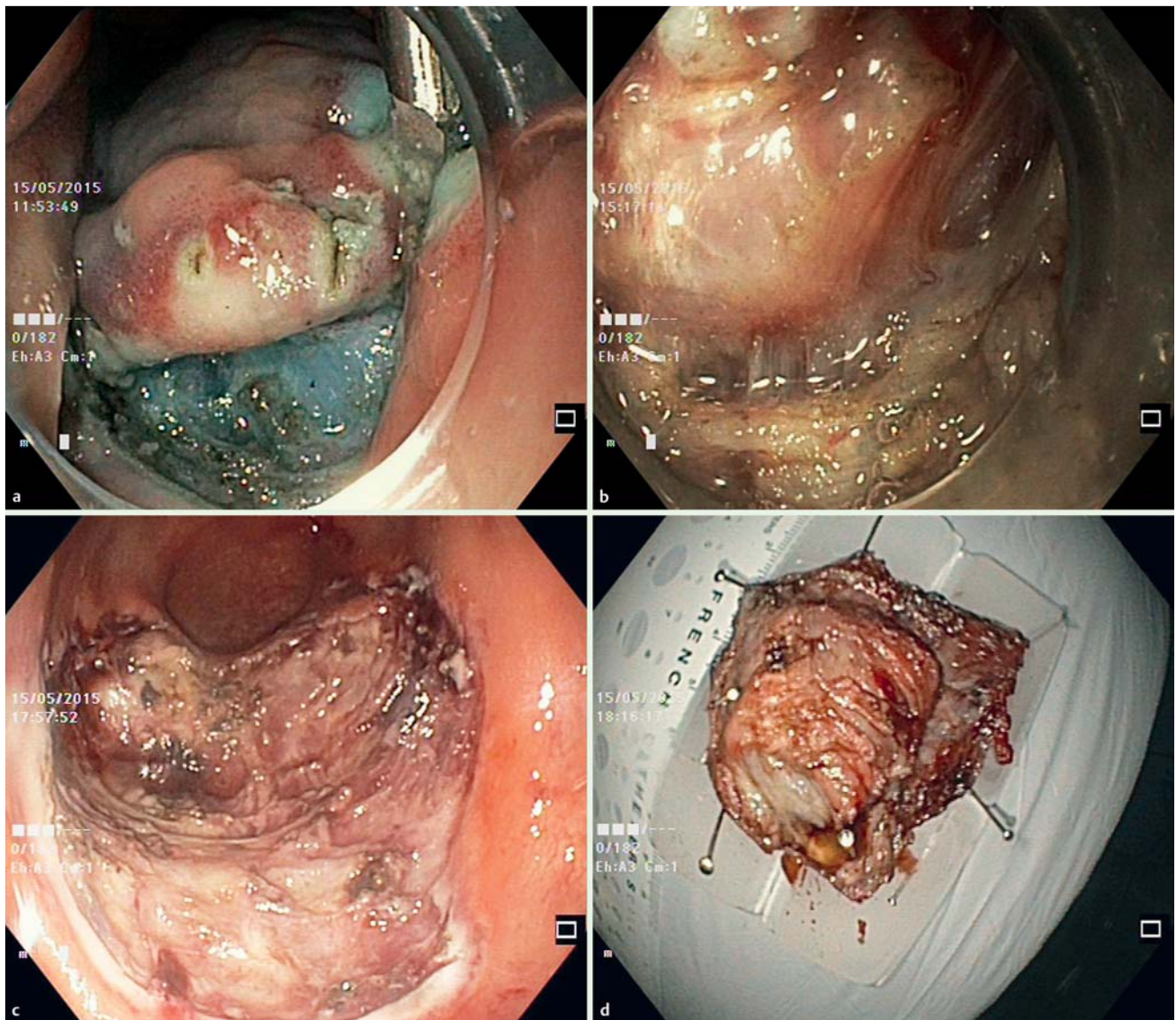


Fig. 2 Endoscopic submucosal excavation of the rectal duplication cyst. **a** Submucosal entry point at the distal side of the lesion. **b** Exposure of the cyst. **c** Post-resection mucosal defect. **d** A completely excavated cyst is seen on the dorsal side of the specimen.

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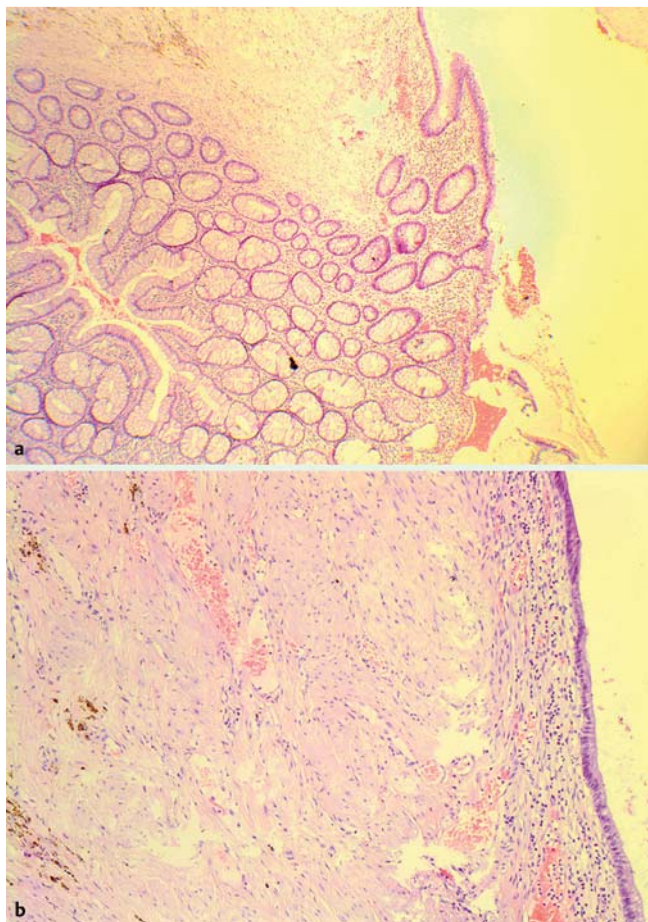


Fig. 3 Microscopic view of the cyst wall. **a** Part of the rectal duplication cyst demonstrating hemorrhagic ulcerated colonic mucosa and granulation tissue. **b** The wall of the cyst has an epithelial layer of columnar cells and an outer smooth-muscle layer.