

Complete endoscopic removal of a large appendiceal orifice polyp



► **Fig. 1** A 30-mm semipedunculated lesion extending into the appendix, seen at index colonoscopy.



► **Fig. 2** Adequate lifting of the base of the polyp at the appendiceal orifice was achieved with a mixture of saline, norepinephrine, and methylene blue.

A 51-year-old man was referred to our institution for removal of a large semipedunculated polyp (0-Isp) involving the appendiceal orifice (► **Fig. 1**). Previous biopsies showed a tubulovillous adenoma (TVA) with high grade dysplasia (HGD). Endoscopic resection under general anesthesia in the operating room was proposed and was agreed to by the patient. A 30-mm 0-Isp lesion extending into the appendix (>75% of orifice) was found, with narrowband imaging showing a regular mucosal pattern without areas suggestive of deep invasion. Different endoscopic resection techniques were discussed at this point, such as endoscopic full-thickness resection (EFTR) and endoscopic submucosal dissection (ESD). However, the size, involvement of the appendiceal orifice, and presence of identifiable margins of the lesion favored



► **Video 1** Conventional endoscopic mucosal resection using the inject-and-cut technique was performed to resect a large semipedunculated lesion involving the majority of the appendiceal orifice. En bloc resection was achieved without complications.



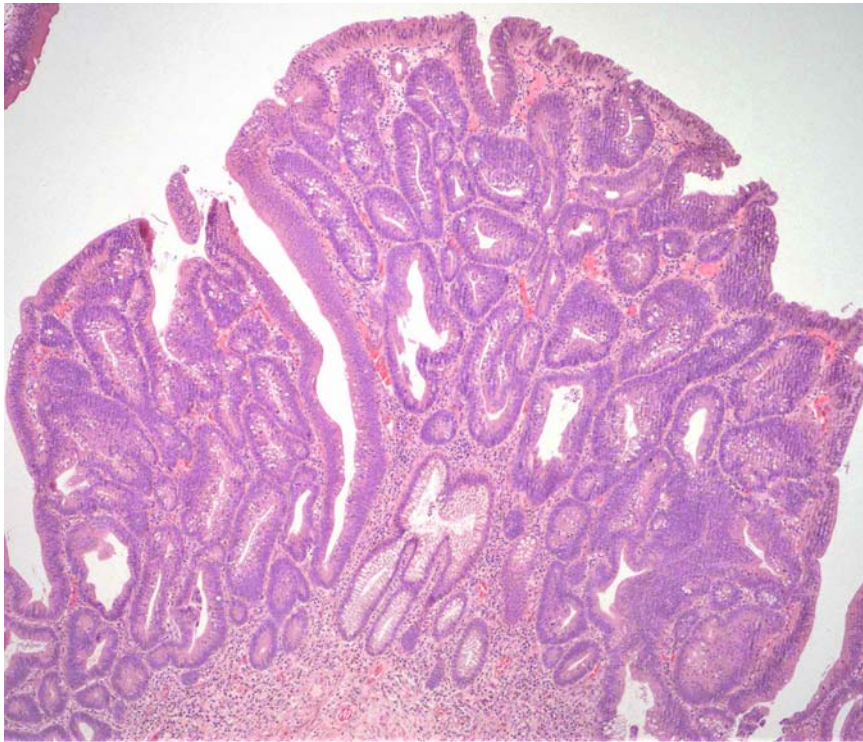
► **Fig. 3** Conventional endoscopic mucosal resection using the inject-and-cut technique was attempted and was successful, with complete en bloc snare resection achieved.

conventional endoscopic mucosal resection (EMR) (► **Video 1**). Adequate lifting of the base was achieved with a mixture of saline, epinephrine, and methylene blue (► **Fig. 2**). Conventional EMR using the inject-and-cut technique was successful, with complete en bloc snare resection achieved (► **Fig. 3**). An adjacent small 6-mm sessile polyp was also removed. After a suspected muscular wall injury, the mucosal defect was completely closed with endoscopic clips



► **Fig. 4** The mucosal defect was completely closed with endoscopic clips after a suspected muscular wall injury.

(► **Fig. 4**). Histopathology revealed a TVA with HGD, measuring 25×20×20 mm, with free margins (► **Fig. 5**). The patient was started on prophylactic antibiotics and discharged on day 3, after intra-procedural complications had been excluded. Endoscopic resection of lesions of the appendiceal orifice is technically challenging, carrying a high risk of complications and incomplete resection. Consequently, these lesions are commonly referred for surgery. Recently, conventional/underwater EMR, ESD, and EFTR



► **Fig. 5** Histopathology showed a tubulovillous adenoma with high grade dysplasia (Hematoxylin and eosin).

have been described as effective and safe treatment achieving high rates of complete resection [1,2]. The choice between them is made according to the size, degree of appendiceal orifice involvement, and characteristics of the lesion [2]. Large lesions involving the appendiceal orifice and identifiable margins are still best approached using EMR techniques which have the advantage of being readily available and inexpensive with few complications. However, lesion size above 20 mm and involvement of more than 75% of the appendiceal orifice are risk factors for piecemeal resection, perforation, and recurrence [2].

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Competing interests

The authors declare that they have no conflict of interest.

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