Resection of a large ileal lipoma exhibiting ballvalve prolapse into the cecum with a "grasp-toretract, ligate, unroof, and let-go" technique



Fig. 1 Endoscopic image of an ileal submucosal lesion with a normal overlying mucosa. The lesion has prolapsed through the ileocecal valve into the cecum.



Fig. 2 Endoscopic image showing retraction of the lipoma into the terminal ileum.



Fig. 3 Endoscopic image depicting the use of a grasping forceps to pull the lipoma toward the ascending colon, allowing placement of the endoloop.



Fig. 4 Endoscopic image revealing the extrusion of fat – the "naked fat" sign – after endoloop ligation.

A 51-year-old woman was referred to our

department for endoscopic resection of a

symptomatic ileal lipoma, which had

been detected during a previous colonos-

copy performed to investigate a 6-month

history of intermittent episodes of abdom-

inal pain and diarrhea. Colonoscopy re-

vealed a large, yellowish, pseudo-pedun-

culated ileal lesion with normal overlying

mucosa that was prolapsed through the

Because of retraction of the lipoma into

the terminal ileum with manipulation

ileocecal valve into the cecum (> Fig. 1).



Fig. 5 Endoscopic image showing unroofing after snare resection of the top of the tumor for tissue sampling.

(**•** Fig. 2, **•** Video 1), a two-channel therapeutic colonoscope (CF-2T160I; Olympus America, Center Valley, Pennsylvania, USA) was used. The lipoma was pulled toward the ascending colon with a grasping forceps while an endoloop (MAJ-254; Olympus), previously placed over the forceps, was positioned and tightened around its base (**•** Fig. 3, **•** Video 1). Endoloop ligation resulted in congestion of the mucosa and the extrusion of fat – the "naked fat" sign (**•** Fig. 4, **•** Video 1). Subsequently, unroofing was accomplished



Fig. 6 Narrow-band imaging and electronic zoom to 1.2 × magnification reveal a scar with no residual lesion.

by snare resection of the top of the tumor (**© Fig. 5**, **© Video 1**), histopathologic examination of which confirmed the clinical diagnosis. At follow-up colonoscopy 2 months later, the patient was asymptomatic, and a scar with no residual lesion was found (**© Fig. 6**).

Lipomas account for 21.4% of all benign small-bowel tumors and are located

Video 1

Management of a large ileal lipoma by applying the "grasp-to-retract, ligate, unroof, and let-go" technique with a double-channel therapeutic colonoscope. mainly in the terminal ileum [1]. Larger lipomas may result in abdominal pain, constipation, and diarrhea and require resection to avoid complications [1-3]. Although surgical resection has been used traditionally, the endoscopic removal of lipomas is increasingly being reported [1,3]. Unlike endoscopic snare cautery of large subepithelial tumors, endoloop has a negligible risk of bowel perforation because it involves the slow mechanical transection of large pedunculated lipomas [2-4]. Its main pitfalls are the lack of a specimen for examination and the eventual need for additional ligation procedures to complete resection of the lipoma [2,4,5]. Nevertheless, the unroofing technique allows spontaneous enucleation of the lesion and tissue sampling [5]. This "grasp-to-retract, ligate, unroof, and letgo" technique constitutes a safe and successful approach to the management of prolapsing ileal lipomas.

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Competing interests: None

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