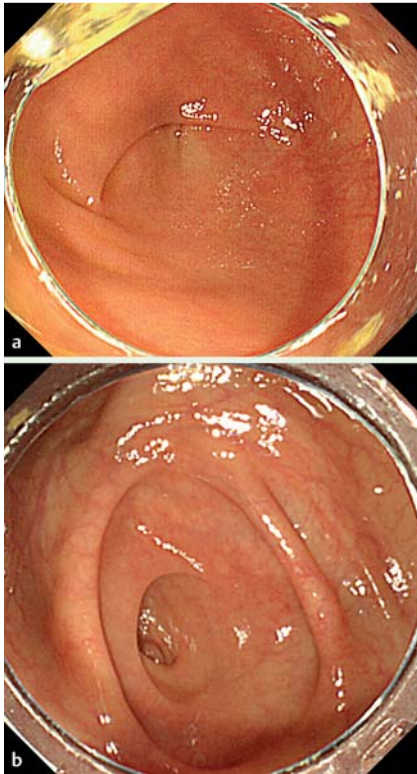
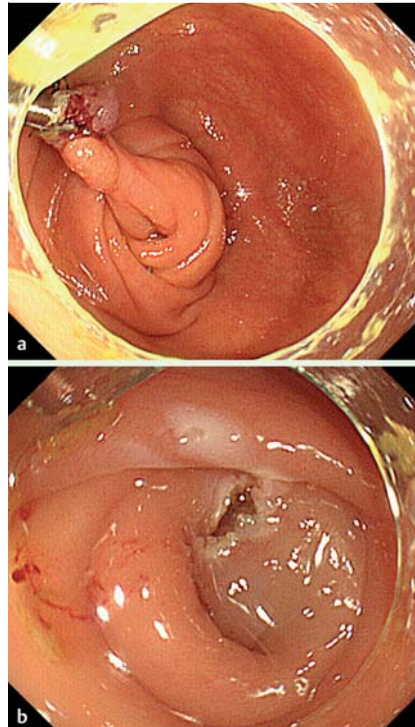


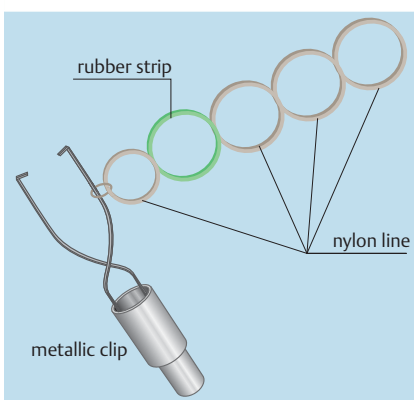
## Traction device to remove an adenoma in the appendiceal orifice by endoscopic submucosal dissection



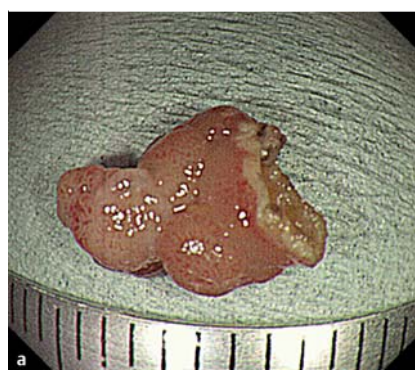
**Fig. 1** **a** Colonoscopy of appendix in a 63-year-old man with a positive fecal occult blood test. **b** The head of the polyp at the appendix is just seen.



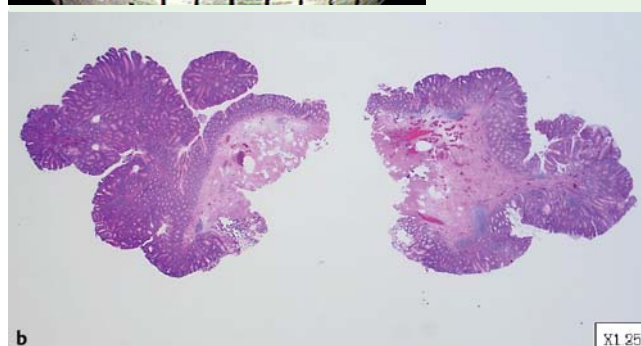
**Fig. 3** **a** A traction device was attached to the head of the polyp, and the traction applied by the clip pulled on the head of the polyp. **b** Traction device-assisted endoscopic submucosal dissection (ESD) completed without complication.



**Fig. 2** Modified S-O clip, consisting of a metallic clip attached by a nylon thread to the edge of a 5-mm rubber strip ring, which is connected to a triple nylon loop at the other end.



**Fig. 4** **a** The subpendunculated polyp with a 7 × 6 × 5 mm head. **b** Pathological examination revealed a low-grade tubular adenoma.



Adenomatous polyps of the appendix are rare [1,2]; in some cases polypectomy is unsuccessful and surgical treatment is required [3]. Appendiceal polypectomy at colonoscopy is carried out extremely rarely [4]. This is the first reported case of an adenoma of the appendix resected using a traction device during endoscopy.

A 63-year-old man attended our hospital because of a positive fecal occult blood test. Colonoscopy provided a glimpse of the head of a polyp in the appendix, but it was difficult to visualize the whole polyp (Fig. 1). We fabricated a rubber strip-based traction device (modified S-O clip) [5] (Fig. 2), which we attached to the head of the polyp. A regular clip was used to grasp the distal nylon loop attached to the traction device, which was then inserted and applied to the colon wall opposite the lesion. The traction applied by the clip pulled on the head of the polyp and made the whole polyp visible (Fig. 3a, Video 1). Traction device-assisted endoscopic submucosal dissection (ESD), employing a HookKnife (Olympus Medical Systems Co., Tokyo, Japan) and electrocautery, was accomplished without complication after injection of a glycerol solution (Fig. 3b). After ESD, the nylon loop was cut with the HookKnife. The resected specimen showed a subpendunculated polyp, 7 × 6 × 5 mm in size (Fig. 4a). Pathological examination revealed a tubular adenoma (Fig. 4b).

In this case report we described successful ESD of an appendiceal polyp with a rubber strip-based traction device. We consider

## Video 1

The distal nylon loop attached to the traction device was grasped with a regular clip. The loop was then inserted and applied to the colon wall opposite the lesion, and the traction applied by the clip on the visible portion of the polyp helped bring whole polyp into the field of vision. Following this, glycerol was injected and traction device-assisted endoscopic submucosal dissection (ESD) of the polyp was carried out successfully.

this type of traction device to be useful to resect appendiceal polyps.

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**Competing interests:** None

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## Bibliography

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