

DEN Video Article

Novel pre-incision clip and traction method for colorectal endoscopic submucosal dissection

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BRIEF EXPLANATION

ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) is widely performed as a therapeutic method for en-bloc resection of the early gastrointestinal neoplasms. However, ESD in the thin-walled colon and rectum is particularly difficult and presents a high risk for perforation. Various

traction methods and devices have been reported to make ESD safer and easier.^{1–3} The current traction methods involve pulling the clip with a line or spring after mucosal incision followed by a certain amount of submucosal dissection. However, dissection of the submucosa immediately after the mucosal incision is challenging for less-experienced endoscopists.

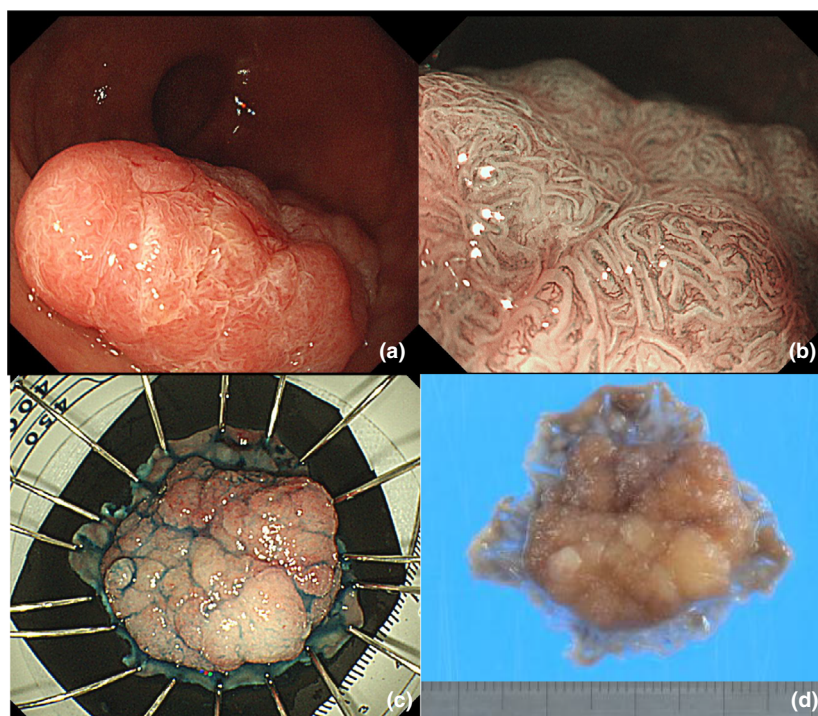


Figure 1 (a) The endoscopic white light image of the lesion. The lesion size was about 30 mm, and the macroscopic feature was classified as a 0-Is type. This lesion was expanding and felt hard. (b) Magnified endoscopy with narrow band imaging showed varied caliber vessels with uneven distribution and irregular surface pattern (JNET type 2B). We diagnosed it as cancer in adenoma, with a depth of intramucosal or slight submucosal invasion. (c) Resected specimen. (d) Formalin-fixed specimen.

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Received 3 June 2019; accepted 1 July 2019.

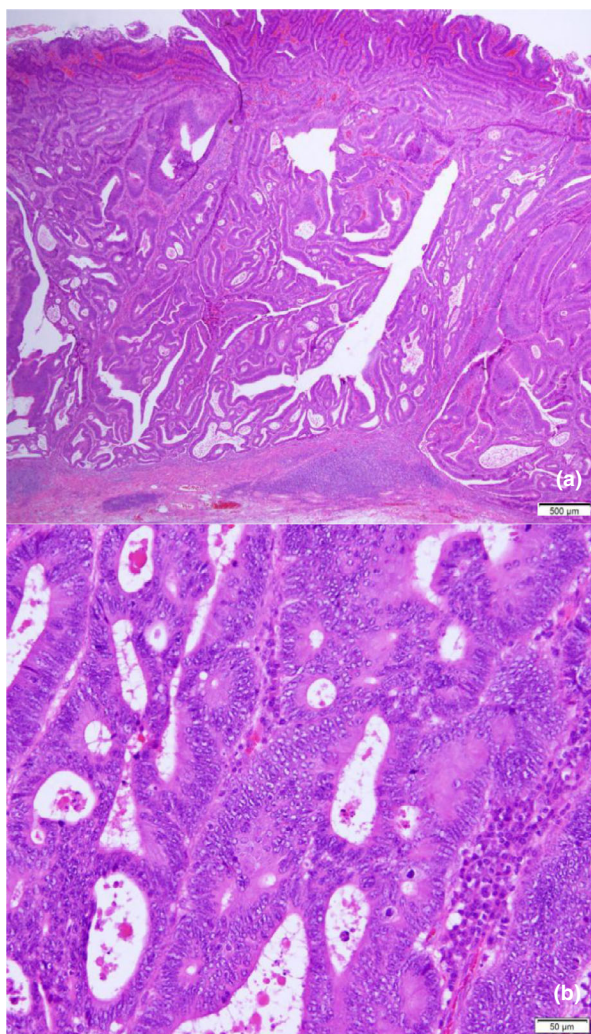


Figure 2 Pathological findings with a hematoxylin and eosin stain. Final diagnosis: well-differentiated adenocarcinoma (60%) with villous adenoma, pType 0-Is, tub1 > tub2, pTis (M), Ly0 (D2-40), V0 (VB-HE), HMO, VMO, ERO.

Therefore, we devised a novel pre-incision clip and traction method (PICT). After elevation of the colonic lesion and its surrounding mucosa with submucosal injection, we clipped the mucosa to be incised and pulled this clip with a line or spring ‘pre-incision.’ Subsequently, by cutting the mucosa at the anal side of the clip, the submucosal layer

immediately opened widely due to the traction. It is possible to dissect the submucosal layer safely while maintaining a good field of view. After that, we added mucosal incision and repeated submucosal dissection as usual. The clip-attached line or spring that tows the clip does not interfere with subsequent procedures. Compared with conventional traction, tunneling, and pocket creation method,^{4,5} PICT prevents accidentally clipping to the muscle layer and does not require a technique to create the submucosal cavity (Figs 1, 2).

Presentation case: A 72-year-old woman had a 30 mm 0-Is lesion located in the sigmoid colon. ESD with PICT was performed. In this case, we used an S-O clip (Zeon Medical, Tokyo, Japan) as a traction device. By traction from the beginning of the procedure, we were able to maintain a good field of view to perform the submucosal dissection safely and effectively. This lesion was resected en-bloc and determined intramucosal carcinoma.

Authors declare no conflicts of interest for this article.

REFERENCES

- 1 Oyama T. Counter traction makes endoscopic submucosal dissection easier. *Clin. Endosc.* 2012; **45**: 375–8.
- 2 Tsuji K, Yoshida N, Nakanishi H *et al.* Recent traction methods for endoscopic submucosal dissection. *World J. Gastroenterol.* 2016; **22**: 5917–26.
- 3 Sakamoto N, Osada T, Shibuya T *et al.* Endoscopic submucosal dissection of large colorectal tumors by using a novel spring-action S-O clip for traction (with video). *Gastrointest. Endosc.* 2009; **69**: 1370–4.
- 4 Ma M, Bourke MJ. Endoscopic submucosal dissection in the West: current status and future directions. *DEN* 2018; **30**: 310–20.
- 5 Yamasaki Y, Takeuchi Y, Uedo N *et al.* Efficacy of traction-assisted colorectal endoscopic submucosal dissection using a clip-and-thread technique: a prospective randomized study. *DEN* 2018; **30**: 467–76.

SUPPORTING INFORMATION

ADDITIONAL SUPPORTING INFORMATION may be found in the online version of this article at the publisher’s web site.

Video S1 Endoscopic submucosal dissection for colonic tumor via a pre-incision clip and traction method using S-O clip as a traction device.