

CASE REPORT

Application of the clip method, using thread, for duodenal endoscopic mucosal resection

Yuji Shirai, Takeshi Ohki, Masakazu Yamamoto

Department of
Gastroenterological Surgery,
Tokyo Women's Medical
University, Tokyo, Japan

Correspondence to
Dr Yuji Shirai,
shirai.yuji@twmu.ac.jp

Accepted 15 April 2016

SUMMARY

Endoscopic mucosal resection (EMR) of a duodenal tumour is associated with a risk of loss of the resected specimen resulting from air introduction, peristaltic motion of the intestines, insertion of the retrieval device or endoscopic operation, or in cases where the specimen is too large to pass the pylorus. There is a high possibility of losing the tumour if the resected tumour is passed through the second portion of the duodenum. Retrieving a specimen after EMR is essential to obtain a pathological finding. The clip method using thread has been useful for endoscopic submucosal dissection of the oesophagus and stomach. We report the effectiveness of the clip method using thread during duodenal EMR.

BACKGROUND

Recently, many studies have reported the use of the clip method for counter traction during endoscopic submucosal dissection (ESD) for oesophageal and gastric cancer.^{1–5} However, the use of the clip method during duodenal endoscopic mucosal resection (EMR) has not been reported. We report the successful use of the clip method during

duodenal EMR, using thread, for a pedunculated duodenal tumour.

CASE PRESENTATION

A 67-year-old-woman with no symptoms had been taking medication for hypertension and hyperlipidaemia. Occult blood test result was positive, and sigmoid colon cancer was detected on endoscopy at the local hospital; therefore, she was referred to our department for examination and treatment.

INVESTIGATIONS

Positron emission tomography/CT (CT) showed enhanced regions in the duodenum (figure 1A) and the sigmoid colon. On endoscopy, a pedunculated duodenal tumour was detected at the anteroinferior wall of the bulb (figure 1C). The tumour was almost the same size as the duodenal lumen and was very soft, making it easy to pass the scope through the duodenum. The surface of the tumour was regular and showed mobility; we suspected adenoma and, accordingly, performed EMR (figure 2), after taking patient consent.

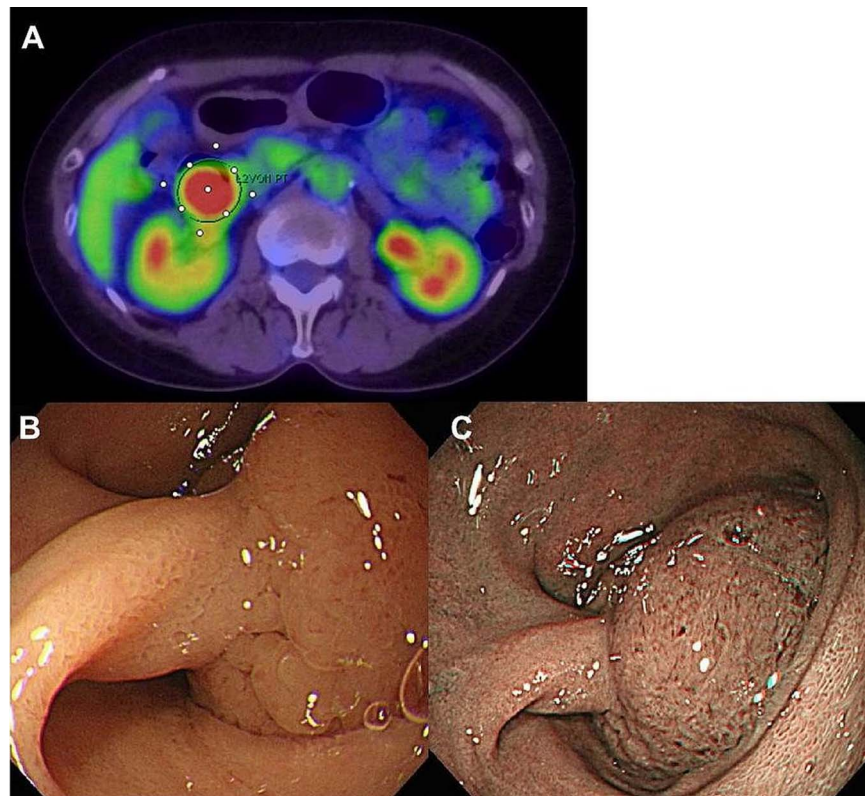
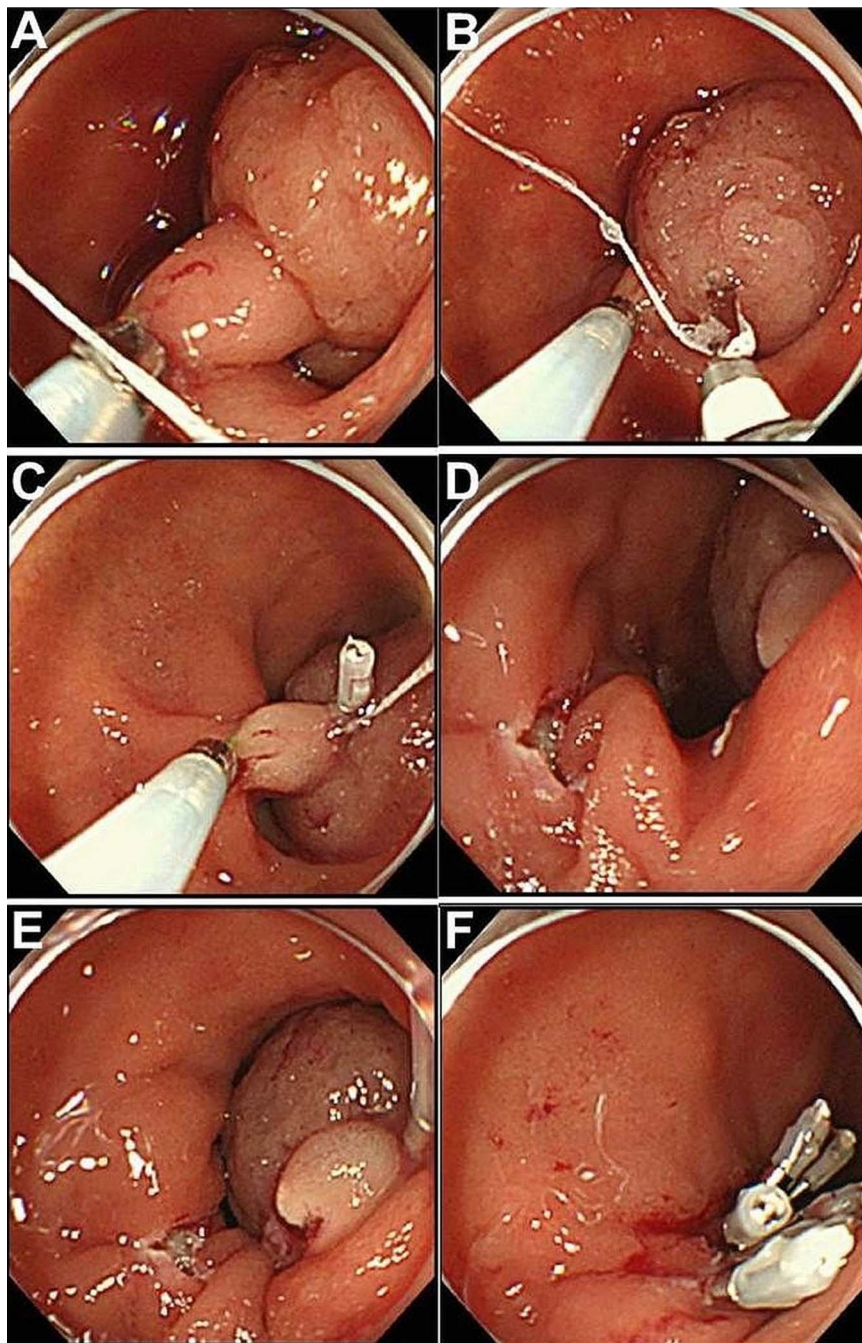


Figure 1 Images before the treatment.



To cite: Shirai Y, Ohki T, Yamamoto M. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-215677

Figure 2 Images of the endoscopic mucosal resection technique.



TREATMENT

We used a hooded 2-channel scope (OLYMPUS GIF TYPE 2T240). Before treatment, the clip was set into the forceps channel on the tumour side, and snared the tumour through the other forceps channel. The tumour was grasped using the clip and thread and the tumour was cut using the bipolar snare. The resected specimen shifted into the anal side, but was brought into the stomach by pulling the thread without inserting the collecting device. In addition, the stump was closed using the clips (figure 3).

Devices:	Endoscope:	OLYMPUS GIF TYPE 2T240
	Clip:	OLYMPUS MEDICAL SYSTEM CORP. Short Clip HX-610-090S
	Thread:	POWER PRO1.5 SHIMANO
	Snare:	XEMEX Bipolar Snare DORAGONARE ZEON MEDICAL INC.

OUTCOME AND FOLLOW-UP

Neither bleeding nor perforation was observed. The duodenal tumour was 30×20×25 mm . The pathological finding was a well-differentiated adenocarcinoma in an adenoma (pT1a, ly0, v0), with a negative surgical margin (figure 4). Laparoscopy-assisted sigmoid colon resection was performed and a 35×25×20 mm well-differentiated adenocarcinoma in an adenoma was identified pathologically; pTis, med, INF-b, ly0, v0, pPM0, pDM0, N0, pStage0.

The patient’s postoperative course was uneventful and she was discharged at postoperative day 10. She has been followed with outpatient care in our hospital and has had no recurrence.

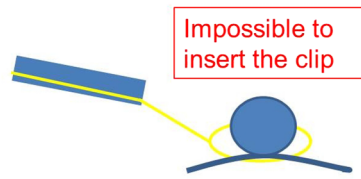
DISCUSSION

Recently, the clip method for ESD was reported to be useful as well as safe for counter traction; further, it was considered time

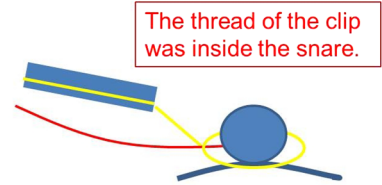
Figure 3 Schema of the method used in our case.

One-Channel Scope

•The snaring at first...

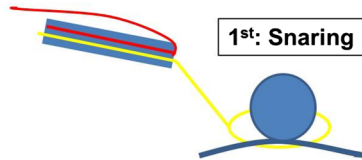


•The clip at first...

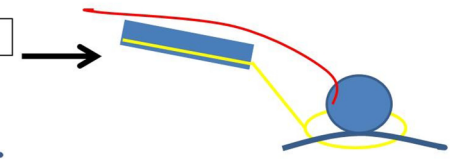


Two-Channel Scope

(Setting the clip into the scope before starting)



2nd : Grasping the tumor by the clip
3rd : Cutting by the snare



saving. We pulled the thread from outside of the scope independently from the endoscope. This is the first report describing this method for duodenal EMR. We performed EMR for a pedunculated duodenal tumour. The tumour size was almost the same as that of the duodenal lumen. We thought it would be

difficult to collect the tumour after resection because of the tumour size; therefore, we used the clip method using thread for the EMR.

We used a two-channel endoscope, and the thread used was fishing line, as in a previous report. We did not use a one-

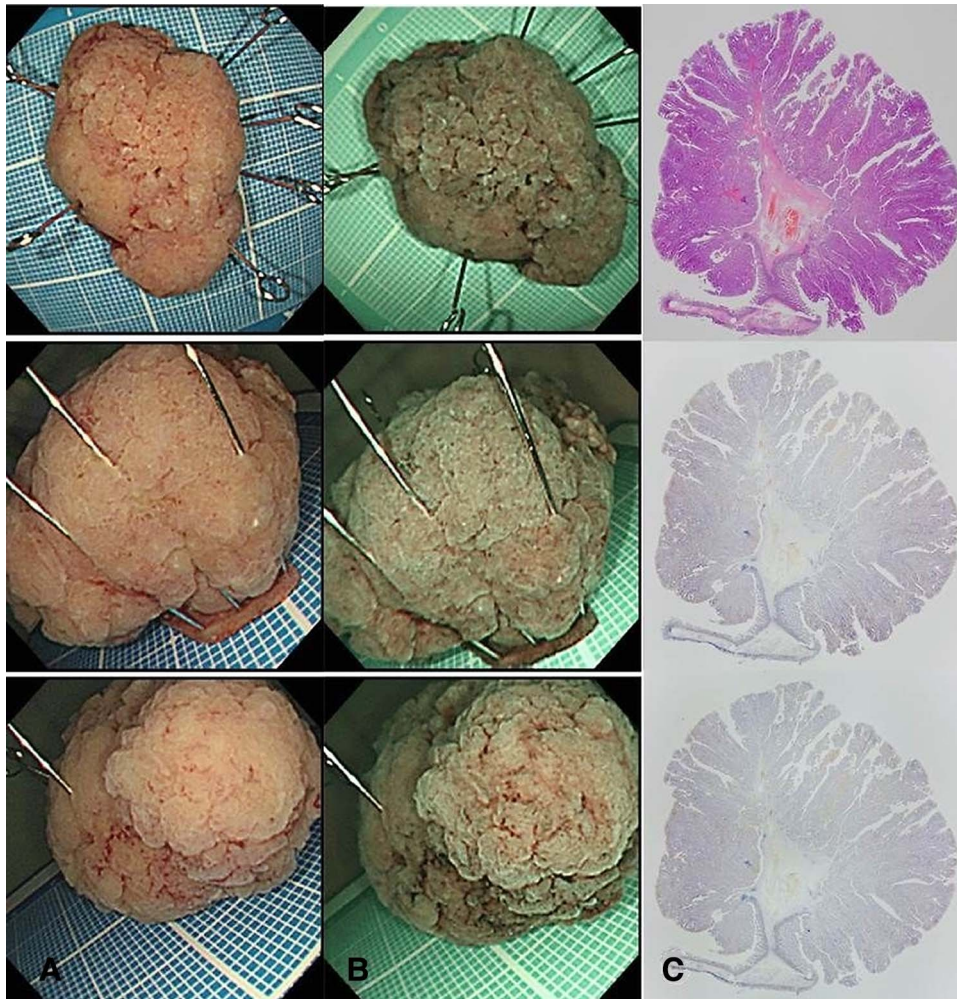


Figure 4 Images of the resected specimen.

channel endoscope because it would have been difficult to insert the clip into the forceps channel after setting the snare. If the tumour was snared after grasping with the clip, the thread was placed into the snare and was cut at the same time by the snare. The 2-channel endoscope with the clip could be used to hold the tumour after snaring. The thread was held by the clip after snaring and the clip with the thread remained with the resected specimen. Accordingly, we collected the tumour by pulling the thread into the stomach. While collecting the tumour, the tumour was pulled into the stomach to avoid spreading the collected specimen in the duodenum, where the stump existed. This treatment was used for a pedunculated tumour, which was large and could be treated by EMR, and existed where the endoscope was held in the duodenum. A long distance between the clip and snare it is an indication for use of this method.

Important points to bear in mind when using this method are setting the clip with the thread before the procedure, employing medication (such as butylscopolamine bromide, mint oil,⁶ etc) to reduce the peristaltic motion of the intestines to keep the tumour from moving off the clip and paying extra close attention while passing the tumour through the pylorus. It is necessary to use a collecting device if it is difficult to pass the tumour through the pylorus.

A bipolar snare is useful to avoid heat conduction and perforation, because the duodenal lumen is very narrow. The timing of collecting the resected tumour is not important. However, to avoid perforation, it would be important to close the stump using clips before collecting the tumour. Another concern is the tumour falling off the clip, but using both forceps channels that

are free after EMR, the collecting device can be inserted into the duodenum. It is important to hold the resected tumour where it can be collected.

In conclusion, the application of the clip method with thread is one option for duodenal EMR.

Learning points

- ▶ The effectiveness of the clip method using thread.
- ▶ Endoscopic mucosal resection of a duodenal tumour is associated with a risk of loss of the resected specimen.
- ▶ The resected specimen is very important for the diagnosis.

Contributors YS performed the literature search, wrote the manuscript and is the article guarantor. TO and MY edited the manuscript.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Oyama T, Tomori A, Hotta K, *et al*. Endoscopic submucosal dissection of early esophageal cancer. *Clin Gastroenterol Hepatol* 2005;3(Suppl 1):S67–70.
- 2 Jeon WJ, You IY, Chae HB, *et al*. A new technique for gastric endoscopic submucosal dissection: peroral traction-assisted endoscopic submucosal dissection. *Gastrointest Endosc* 2009;69:29–33.
- 3 Uesato M, Akai T, Horibe D, *et al*. Effectiveness of the clip traction method in esophageal endoscopic submucosal dissection. *Chiba medical J* 2011;87:237–43.
- 4 Ota M, Nakamura T, Hayashi K, *et al*. Usefulness of clip traction in the early phase of esophageal endoscopic submucosal dissection. *Dig Endosc* 2012;24:315–18.
- 5 Onozato Y, Iizuka H, Sohara N, *et al*. Two cases of early adenocarcinoma in the second portion of the duodenum successfully treated by the endoscopic submucosal dissection using the clip-with-line method. *Progress of Digestive Endoscopy* 2012;81:122–3.
- 6 Hiki N, Kurosaka H, Tatsutomi Y, *et al*. Peppermint oil reduces gastric spasm during upper endoscopy: a randomized, double-blind, double-dummy controlled trial. *Gastrointest Endosc* 2003;57:475–82.

Patient's perspective

I underwent the treatment with sedation and did not feel pain. It was the same as a normal endoscopic examination.

Copyright 2016 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow