Endoscopic placement of jejunal feeding tubes by using the Resolution clip: report of 2 cases

Eric Frizzell, MD, Peter Darwin, MD

Washington, DC, USA

The utility of jejunal feeding in critically ill patients is well accepted.[1-4] There are multiple techniques for placing jejunal feeding tubes, including surgical jejunostomy, direct percutaneous enterojejunostomy, passing a jejunal extension through a PEG (PEG-J), and nasojejunal (NJ) placement. Inadvertent withdrawal of the tube during scope removal and other complications during the placement of a jejunal feeding tube can lead to a frustrating experience for the endoscopist. We describe our experience with a technique that may ease the endoscopic placement of either NJ or PEG-J tubes.

CASE REPORT

Case 1

A 43-year-old white man, admitted with acute necrotizing pancreatitis, presented for NJ feeding-tube placement. A 3-0 suture on a cutting needle was used to place a 2-cm loop on the end of a 8F feeding tube. A Resolution clip (Microvasive Endoscopy, Boston Scientific Corp, Natick, Mass) was evaluated to ensure the feasibility of grasping the suture before placement (Figs. 1 and 2). The feeding tube was passed via a transnasal route into the gastric body. A pediatric colonoscope was then passed into the stomach, and the Resolution clip was passed though the biopsy channel. The clip was used to grasp the suture and then was closed and withdrawn into the endoscope. The endoscope was passed to the ligament of Treitz, where the clip was advanced, opened, and deployed on the mucosa of the jejunum. The wheels of the endoscope were relaxed, and the scope was withdrawn while the feeding tube was monitored under fluoroscopy.

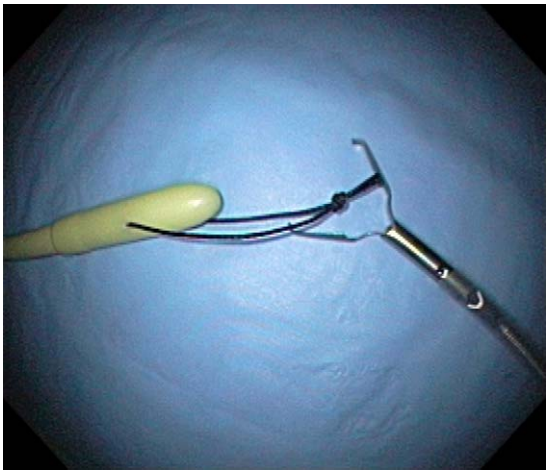

Figure 1. Evaluation of the feasibility of grasping the suture before placement.

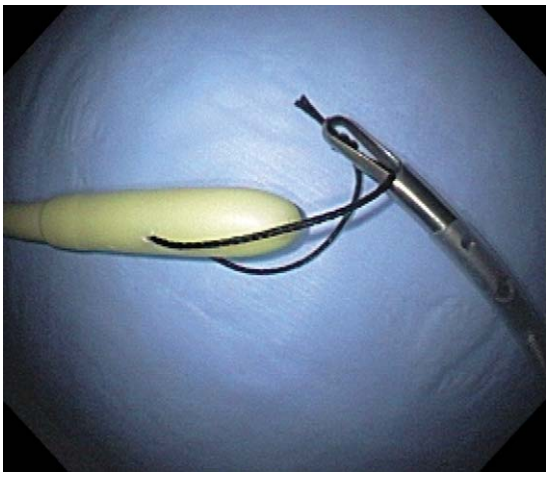

Figure 2. Evaluation of the feasibility of grasping the suture before placement.

CASE REPORT

Case 2

A 67-year-old man with acute necrotizing pancreatitis complicated by pseudocyst formation was referred for PEG-J placement. A 20F push-type PEG was placed in the usual fashion. A through-the-PEG-J tube (Microvasive) was then advanced into the gastric lumen and captured with a Resolution clip passed though a pediatric colonoscope (Fig. 3). The clip was closed and brought into the colonoscope. The colonoscope was advanced to the ligament of Treitz, where the J tube was successfully deployed (Fig. 4). The control wheels of the endoscope were relaxed, and the scope was withdrawn by using a subtle twisting motion while monitoring the J tube under fluoroscopy (Fig. 5).

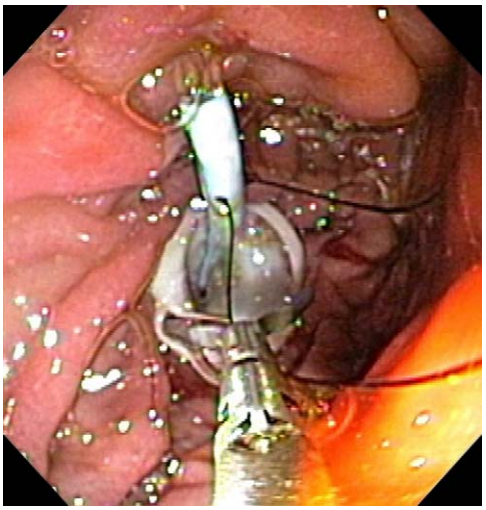

Figure 3. Through-the-PEG-J tube grasped with clip.

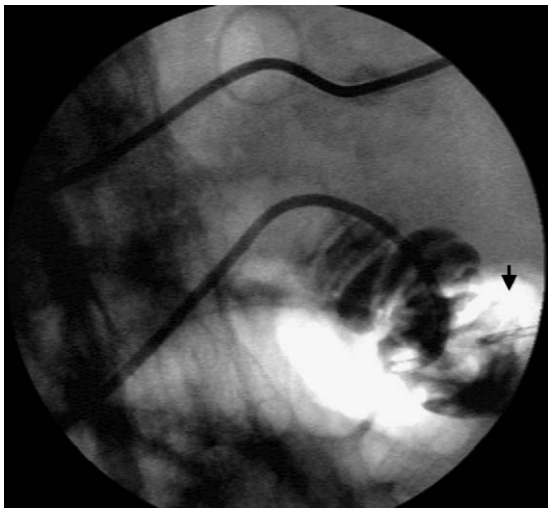

Figure 5. Feeding tube clipped (*arrow*) in jejunum.

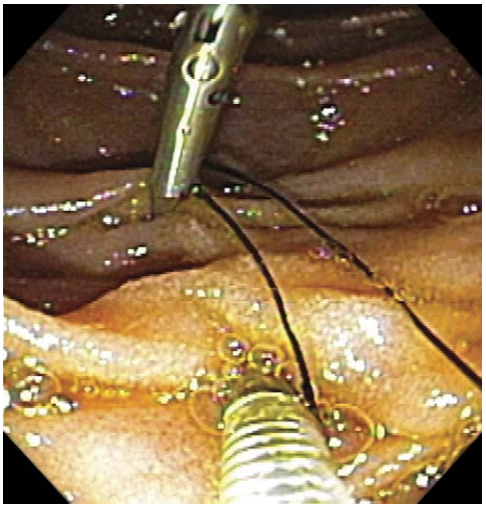

Figure 4. Clip deployed in jejunum.

DISCUSSION

Guiding feeding tubes and maintaining the position in the jejunum are often problematic. Before using the described clip technique, we typically used a biopsy forceps to grasp either the feeding tube directly or a suture placed through the feeding tube. Difficulties included tube slippage when the feeding tube was grasped directly with the biopsy forceps and, occasionally, entanglement of the jaws of the forceps in the suture. Clip-assisted endoscopic placement, as described previously,[5,6] would seem to be an ideal answer for this issue.

However, there can be problems with dislodging the clip, dropping the suture, or bending of the clip prongs before arriving at the ligament of Treitz.

Our technique takes advantage of the ability of the Resolution Clip to be opened and closed, similar to a biopsy forceps, without inadvertent deployment, allowing the clip to be brought back into the protection of the endoscope and decreasing the chances of clip dislodgement or malfunction. The use of a pediatric colonoscope allows sufficient length to ensure appropriate depth of insertion.

Two notes on the technique are worth emphasizing. First, when grabbing the suture, one should attempt to wrap a portion of the suture around a prong of the clip. Second, when withdrawing the endoscope, it is important that the control wheels be completely relaxed and the scope withdrawn by using a gently twisting motion. In our experience with other clip-assisted placements there were no problems with tube removal.

We have found this technique to be an easy and effective way to ensure the placement of jejunal feeding tubes and prevent migration back with endoscope withdrawal. Long-term results have been promising, with no migration before intentional tube removal up to 46 days after placement.

Given our early success with this technique, further studies are ongoing comparing migration rate and the time required to place jejunal feeding tubes when using biopsy forceps versus clip assisted method.

DISCLOSURE

The authors have no conflicts to disclose.

The views expressed in this article are those of the author(s) and do not reflect the official policy of the Department of Army, Department of Defense, or the U.S. government.

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Division of Gastroenterology, Department of Medicine, Walter Reed Army Medical Center, Washington, DC, USA.

Reprint requests: Eric Frizzell, MD, Gastroenterology Division, Department of Medicine, Walter Reed Army Medical Center, 6900 Georgia Ave NW, Washington, DC 20307-5001.

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Two cases of low grade gastric-mucosa–associated lymphoid tissue lymphoma treated by EMR

Jong-Chan Youn, MD, Yong Chan Lee, MD, Young Hoon Youn, MD, Jie-Hyun Kim, MD, Woo Ik Yang, MD, Jae Bock Chung, MD

Seoul, Korea

CASE REPORT

Case 1

A 30-year-old woman was admitted to our hospital because of a polypoid lesion of the stomach, which was incidentally found on an endoscopy for a routine checkup. Physical examination results were unremarkable, without palpable lymph nodes. On endoscopic examination, a 1.5 × 1.2-cm, round, elevated polypoid mass with a broad base was noted on the gastric fundus (Fig. 1A). The lesion showed a well-demarcated smooth border, and the surface was granular, without any ulcerations. EUS showed a 1.5 × 1.2-cm, multiseptated hypoechoic mass in the mucosal and the submucosal layers of the fundus (Fig. 1B). An abdominal pelvic CT demonstrated no lymphadenopathy.

The tumor was resected endoscopically with a snare, after submucosal injection of hypertonic saline solution. Results of a histopathologic examination of the tumor showed dense nodular infiltrates of small lymphoid cells replacing the mucosal and the submucosal layer with intervening thin fibrous septae (Fig. 1C); the resection margin was clear. Histologically, many *Helicobacter pylori* were also observed in the luminal side. Immunohistochemical staining on paraffin-embedded tissue sections by using monoclonal antibodies showed that these lymphoid cells originated from B cells. The monoclonality of the lymphoid cells was proved by the light chain (lambda chain) restriction on the cytoplasm of the plasma cells (Fig. 1D).

The patient was diagnosed as having a *H pylori*–positive low-grade gastric-mucosa–associated lymphoid-tissue (MALT) lymphoma (stage EI1; Ann Arbor Classification of Extranodal Lymphoma, modified by Musshoff) and then underwent anti *H pylori* treatment. The eradication was confirmed 6 weeks later. Follow-up endoscopic examination showed only scarring changes on the fundus from the previous endoscopic resection. Histologic examination of biopsy specimens from the scarring lesion and surrounding mucosa, as well as the antrum, revealed no evidence of residual MALT lymphoma. However, after the EMR, she was nervous about the necessities of regular endoscopic follow-up, as well as the chances of systemic recurrence of gastric MALT lymphoma. Even though we explained such drawbacks to the patient before the EMR and fully informed consent was made, the patient wanted to undergo a radical gastrectomy rather than regular follow-ups. She underwent a total gastrectomy with node dissection 6 months after the EMR at another hospital. The postoperative specimen revealed no evidence of MALT lymphoma in the entire stomach. She has remained well for the 6 years since then.

CASE REPORT

Case 2

A 53-year-old man was referred to our hospital because of a gastric nodule that was found during a routine medical examination. Endoscopy revealed an elevated nodule with central dimpling and indefinite margins surrounded by diffuse granular mucosa on the fundus (Fig. 2A). EUS demonstrated thickening and a hypoechoic mass in the second