

Use of Loop Cutter to Successfully Retrieve a Forceps Stuck in a Self-Expandable Metal Biliary Stent

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Introduction

- Self-expanding metal stents (SEMS) occasionally migrate and occlude
- Retrieval using basket, balloon, snares, and forceps can be technically challenging
- We present a novel salvage technique with retrieval of forceps stuck on a SEMS by cutting the SEMS wire using a loop cutter

Case Presentation (Cont.)

- ERCP (GW, Cont.): A loop cutter was then used to cut the SEMS wire, allowing its release from the forceps. The forceps was retrieved, and dual-channel endoscope was switched for duodenoscope. A new fully-covered SEMS was placed within the impacted partially-covered SEMS (Fig. 1D, E).

Discussion

- Forceps can get caught on the cell structure and cross and hook wire design of SEMS
- Argon plasma coagulation has demonstrated cutting capability of SEMS; jumbo forceps and scissor forceps were unsuccessful in this case
- Loop cutter is a novel and effective salvage technique in these difficult situations

Case Presentation

- 39-year-old man with metastatic pancreatic cancer, presented with recurrent biliary obstruction due to previously-placed SEMS migration and occlusion
- Endoscopic Retrograde Pancreatography (ERCP, Outside Hospital): records unavailable
- Physical Exam: cachexia, jaundice, and epigastric abdominal tenderness
- Labs: see Table 1
- Computed Tomography (CT): SEMS with narrowing of the distal-portion concerning for tumor compression (Figure 1A)
- ERCP (GW): Duodenoscope revealed a fully-covered SEMS with distal migration removed with a 10-millimeter alligator and rat tooth forceps (Fig. 1B). This revealed another partially-covered occluded SEMS (Fig. 1C). Attempted removal with the same forceps resulted in entrapment of a SEMS cell in the hinge of the forceps. Maneuvers were unsuccessful in freeing the SEMS wire from the forceps. The forceps was cut at the handle, and duodenoscope was switched for dual-channel endoscope. Jumbo forceps and scissor forceps were also unsuccessful.

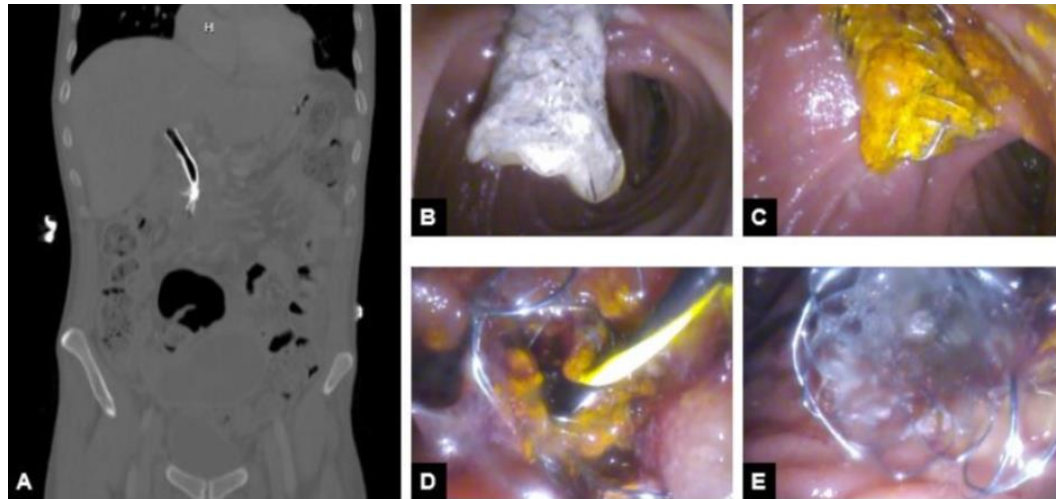


Figure 1. A, CT abdomen. B, Migrated fully-covered SEMS. C, Occluded partially-covered SEMS that became stuck on alligator and rat tooth forceps during attempted removal. D, Wire cannulation. E, Placement of a new SEMS.

Lab	24 Days Prior to ERCP	Day of ERCP	7 Days After ERCP	Reference Range
White blood cell (K/uL)	2.05	13.97	12.02	4.8-10.8
Bilirubin, total (mg/dL)	1.3	11.1	5.8	0.2-1.3
Alkaline phosphatase (U/L)	956	1490	1431	40-125
Aspartate aminotransferase (U/L)	36	139	98	10-45
Alanine aminotransferase (U/L)	18	56	50	10-45

Table 1. Laboratory values