



Pancreatotomy-guided retrieval of a migrated pancreatic duct stent

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CASE PRESENTATION

A 26-year-old woman presented to an outside hospital with symptomatic cholelithiasis and underwent a laparoscopic cholecystectomy that was complicated by bile leak and intra-abdominal fluid collections. She underwent intra-abdominal drain placement and an ERCP with biliary sphincterotomy and biliary stent placement. The ERCP was technically challenging and required a prophylactic pancreatic duct (PD) stent that was complicated by upstream migration and was unable to be retrieved. She was referred to our center for stent retrieval.

On presentation, a CT scan demonstrated multiple rim-enhancing fluid collections as well as a PD stent in the body of the pancreas (Fig. 1). Initial ERCP at our center demonstrated a non-dilated PD and a PD stent within the body of the pancreas. A pancreatic sphincterotomy was performed and the PD was dilated with a 4-mm balloon. Unfortunately, stent extraction was unsuccessful despite multiple attempts using a balloon sweep, pediatric biopsy forceps, and SpyBite biopsy forceps (Boston Scientific, Marlborough, Mass, USA). A pancreatoscopy was attempted; however, it did not pass beyond the PD orifice. A second ERCP 5 days later demonstrated that the tip of the stent was wedged into a side branch at the genu. The PD was dilated to 4 mm and attempts with several devices including an extraction balloon, 2 snares over the wire, hot biopsy forceps, pediatric cold biopsy forceps, and an over-the-wire flower basket were unsuccessful. To facilitate pancreatoscopy at a subsequent ERCP, a 10F pancreatic wedge stent was placed alongside the migrated stent.

PROCEDURE

Five days after the second ERCP, a repeat ERCP was done (Video 1, available online at www.giejournal.org). The ventral PD was deeply cannulated with a 9-mm balloon, and a pancreatogram showed that the PD was dilated to 5 mm in the body and 3 mm in the head. An 0.025-inch angled wire was passed into the tail of the PD, and attempts at stent retrieval with an extraction balloon were unsuccessful. The main PD was dilated with a 6-mm dilator, and pancreatoscopy showed the PD stent in the downstream body and traumatic changes from the preceding dilation but no overt transmural disruption. A SpyGlass

Retrieval Snare (Boston Scientific) was advanced into the PD, where manipulation of the duodenoscope, pancreatoscope, and Spysnare (Boston Scientific) was necessary to release the stent from the side branch and ensnare the migrated PD stent. The pancreatoscope and stent were successfully removed in tandem after an initial release in the head because it was grasping the stent too close to the downstream edge of the stent. A repeat pancreatogram showed no evidence of PD leak or injury, and a 4F × 12-cm plastic stent with an external pigtail was placed into the ventral PD. Repeat imaging 2 days later demonstrated a PD stent in place with normal pancreatic parenchymal enhancement. The patient was discharged home on oral antibiotics with plans to remove both drains and stents as an outpatient. She did not have post-ERCP pancreatitis or adverse events. Repeat abdominal radiographs 2 weeks after discharge showed spontaneous passage of the PD stent.

DISCUSSION

Proximal migration of PD stents can occur in about 5% of cases.^{1,2} While endoscopic retrieval is successful in over 80%



Figure 1. CT scan showing the pancreatic duct stent that has migrated upstream into the body of pancreas.

of cases,³⁻⁶ failure of endoscopic stent retrieval is associated with a risk of pancreatitis, stent fracture, duct disruption, and occlusion⁷ and may ultimately require surgery. In this case, we demonstrate the effectiveness of staged dilation and pancreatoscopy using a Spyglass Retrieval Snare to retrieve a migrated PD stent after multiple other methods were ineffective. This permits direct visualization and improved accuracy in removing migrated PD stents. While it is approved for the capture and removal of foreign bodies in the biliary and PDs, and its use to remove migrated biliary stents has previously been described in case series,⁸⁻¹⁰ examples of real-world use in retrieving migrated PD stents are limited.

DISCLOSURE

Dr Wani is a consultant for Cernostics and Exact Sciences and receives research support from Lucid, Ambu, and CDx Diagnostics. Dr Shah is a consultant for and advisory board member of Boston Scientific, Cook Medical, and Olympus. All other authors disclosed no financial relationships.

Abbreviation: PD, pancreatic duct.

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