



Endoscopic rescue therapy of a distally perforated, retroperitoneal stent after EUS-guided pancreaticogastrostomy

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Endoscopic therapeutic, transgastric, pancreatic duct access is gaining increasing popularity for a variety of reasons. We recently reported a case of a transgastric per-oral pancreatoscopy with electrohydraulic lithotripsy, and other groups have also described their experience.^{1,2} Given the increased interest in these procedures, reports of potential adverse events are crucial to improve standard techniques and to decrease the learning curves of other practitioners. In this case report, we describe the management of the perforation of a plastic stent to the retroperitoneum after a previous EUS-guided pancreaticogastrostomy (PGS).

A 42-year-old woman was admitted with recurrent acute abdominal pain related to alcohol-induced chronic pancreatitis. A CT scan (Fig. 1) showed typical features of chronic inflammation and a significantly dilated pancreatic duct (PD). Given expected PD stones, ERCP was performed to relieve the acute symptoms, but failed twice. We then performed EUS, which confirmed intraductal sludge (Fig. 2) causing an obstruction with consecutive PD dilatation up to 8 mm. Surgical interventions were declined because of severe malnourishment and advanced liver disease with significant portal hypertension and ascites. Given the increasing symptomatic pressure of the patient, we opted for EUS-PGS using a straight 7F, 5-cm Advanix plastic stent (Boston Scientific, Natick, Mass, USA) (Figs. 3 and 4). This stent offers 2 advantages. First, in case of difficult placement

during the initial procedure, these stents can be easily repositioned, given their tight fixture to the pusher. Second, wire cannulation of the straight stent allows an

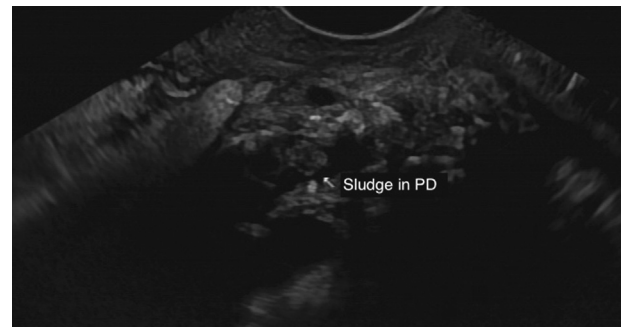


Figure 2. EUS view showing additional prestenotic intraductal sludge in pancreatic duct (PD).

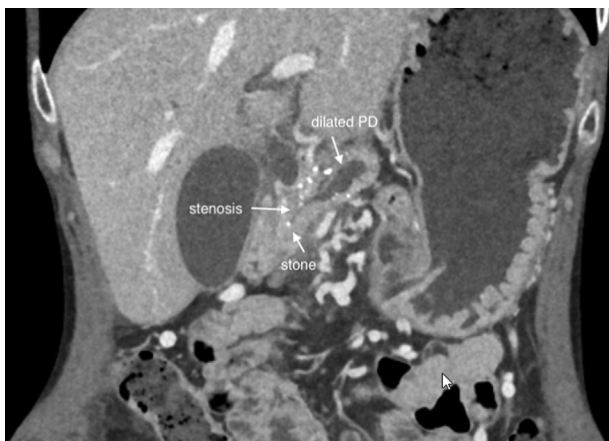


Figure 1. CT scan showing dilated distal pancreatic duct (PD) secondary to a combination of ductal stenosis and intraductal stones in the pancreatic head.

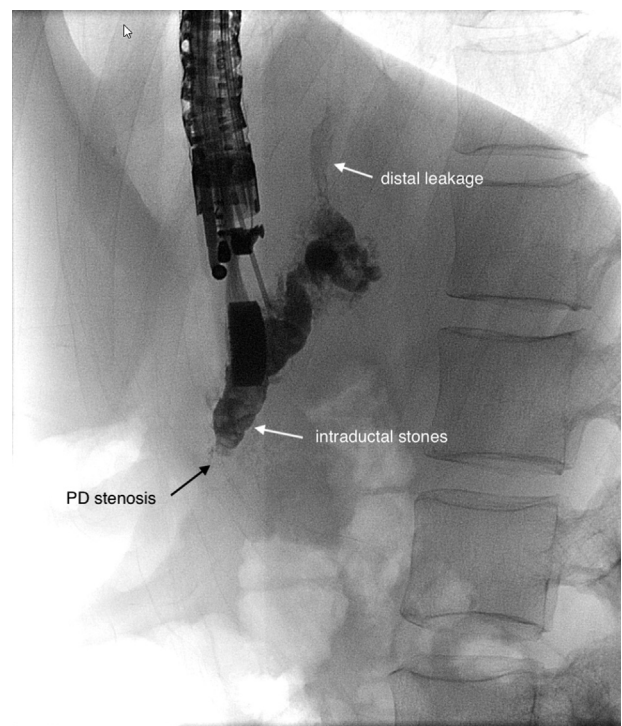


Figure 3. Puncture of pancreatic duct (PD) with injection of contrast material confirming ductal stenosis with intraductal sludge and also showing distal duct leakage.



Figure 4. Transgastric pancreaticogastrostomy (PGS) stent in situ.

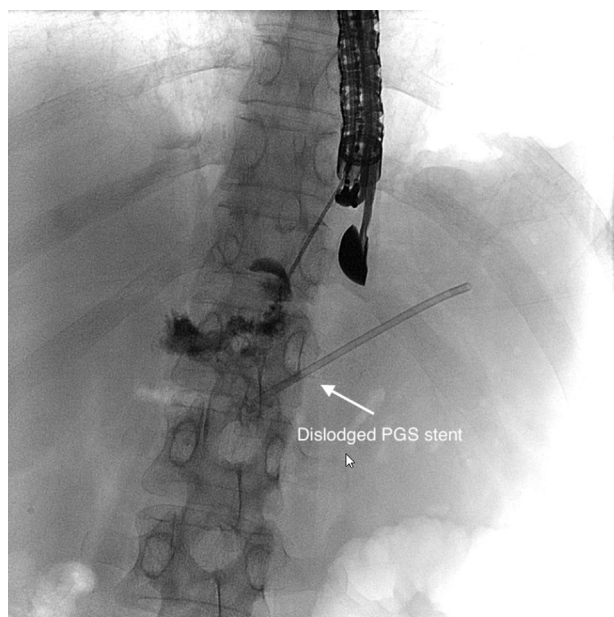


Figure 5. Transgastric puncture of the fluid collection and injection of contrast material revealing a sealed abscess. *PGS*, Pancreaticogastrostomy.

unproblematic stent extraction by use of a stent retriever and consecutive PD access during follow-up procedures. This procedure was well tolerated by the patient without deterioration of her liver disease.

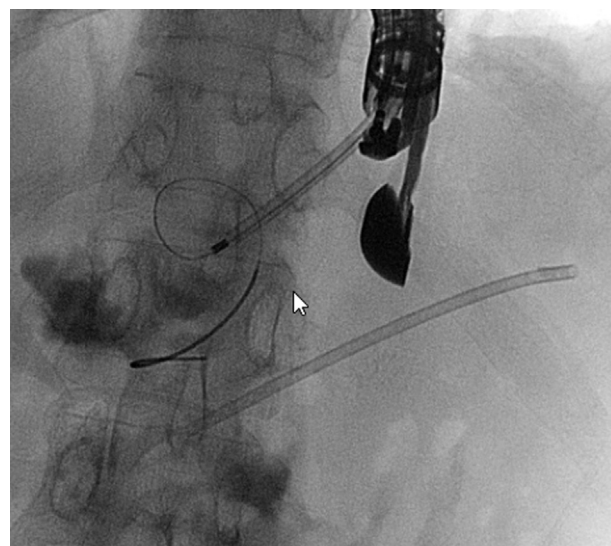


Figure 6. Difficult wire insertion into the semilunar-shaped abscess.

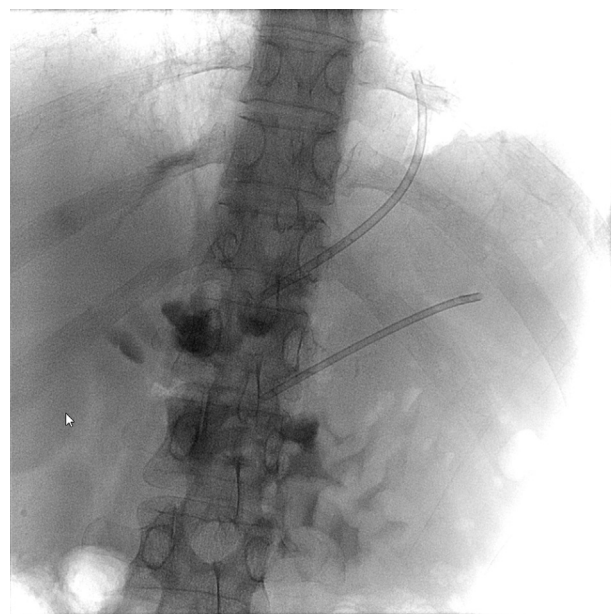


Figure 7. Tip of an 8.5F stent inserted into the retroperitoneal abscess.

The patient missed her regular 3-month follow-up appointment, which is routinely used for repeated endoscopy. She then presented with acute abdominal pain 5 months later. CT scan showed a distally perforated transpancreatic position of the PGS stent, causing a fluid collection of 5 cm ([Supplementary Fig. 1](#), available online at www.VideoGIE.org). This collection was drained by a transgastric 8.5F plastic stent to improve the acute symptoms ([Figs. 5 to 7](#)). Wire cannulation of the dislodged PGS stent failed, and the stent was therefore extracted by a

snare. After careful insertion of a 3.9F papillotome into the gastrostomy site, wire access of the PD was gained with a 0.025-inch Visiglide (Olympus, Hamburg, Germany). The wire was advanced into the duodenum, passing the stones and the stenosis by use of a combination of cumbersome drilling maneuvers with a 5F stent retriever (Cook Medical, Winston, NC, USA) and the cystotome. Afterward, a 6-mm balloon dilation of the stenosed tract was feasible (Hurricane; Boston Scientific) and a 7F 9-cm Advanix stent was placed, creating a gastropancreaticoduodenostomy (Supplementary Fig. 2; Video 1, available online at www.VideoGIE.org). In addition, we inserted a second, short 7F 5-cm stent securing the pancreaticogastrostomy site, allowing pancreatoscopy within 6 weeks. This confirmed complete resolution of the PD stones and partial regression of the ductal stenosis. Using a 10F biliary bougie, we inserted a second guidewire at this point, and two 7F 9-cm stents were placed after repeated balloon dilation up to 8 mm. Further management consists of stent exchange for at least 12 months according to international guidelines and cessation of alcohol abuse.

Retroperitoneal perforation of a PGS stent is a rare adverse event, but in view of generally poor surgical candidates, an endoscopic strategy is definitely preferable over a surgical intervention. In this video, we show that a minimally invasive rescue therapy is feasible. Interventional endoscopists who are dealing with this kind of EUS procedure should be aware of this adverse event and have the necessary repertoire and skills for solving challenging problems. Because we assume that the prolonged time period between initial EUS-PGS

and the first stent exchange was responsible for the perforation in this case, future studies have to address best treatment strategies for transgastric pancreatic interventions with special emphasis on interventional timing in regard to tract maturation already providing stable access.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Abbreviations: PD, pancreatic duct; PGS, pancreaticogastrostomy.

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