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CASE REPORT

Attempted Endoscopic Closure of a Pancreaticocolonic Fistula with an Over-The-Scope Clip

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ABSTRACT

Context Spontaneous development of fistulae is an uncommon complication of acute pancreatitis. Until recently, surgical management has been the standard of care. Endoscopic treatment has been described with hemoclips and glue. **Case report** We report a case of a gentleman with a history of recurrent episodes of acute pancreatitis who presented with symptoms correlating with the development of a pancreatic-colonic fistula. Closure of the fistula was attempted with an over-the-scope clip. **Conclusion** More evidence is needed to determine criteria for use of over-the-scope clip in closure of GI and pancreatic fistulae.

INTRODUCTION

Spontaneous fistulae from the pancreas to neighboring organs are a well-established consequence of acute and chronic pancreatitis. The formation of a pancreatic-colonic fistula is a potentially life-threatening, yet infrequent complication. Traditional management has been surgical repair, as spontaneous closure is rare and persistent infection can be lethal [1, 2, 3]; however, various endoscopic techniques, including hemoclips and application of fibrin glue, have been successfully utilized in fistula closure [4, 5]. The over-the-scope clip has recently been evaluated as an alternative endoscopic treatment for GI fistula [6, 7], but has not been reported in the closure of a spontaneous pancreatic-colonic fistula. We report a case of a patient who was found to have a pancreatic-colonic fistula for which closure with an over-the-scope clip was attempted.

CASE REPORT

A 47-year-old man with recurrent acute on chronic alcohol-induced pancreatitis presented to the emergency department with sharp, left side abdominal pain radiating to the back, nonbilious emesis, and anorexia reminiscent of prior episodes of acute pancreatitis. Physical examination on admission was significant for hypoactive bowel sounds and left upper quadrant tenderness without peritoneal signs. Contrast-enhanced computed tomography (CECT) scan revealed a fluid collection extending from the pancreatic tail with communication to splenic flexure of the colon consistent with a pancreatic-colonic fistula.

Endoscopic retrograde cholangiopancreatography (ERCP) was performed. The pancreatogram revealed

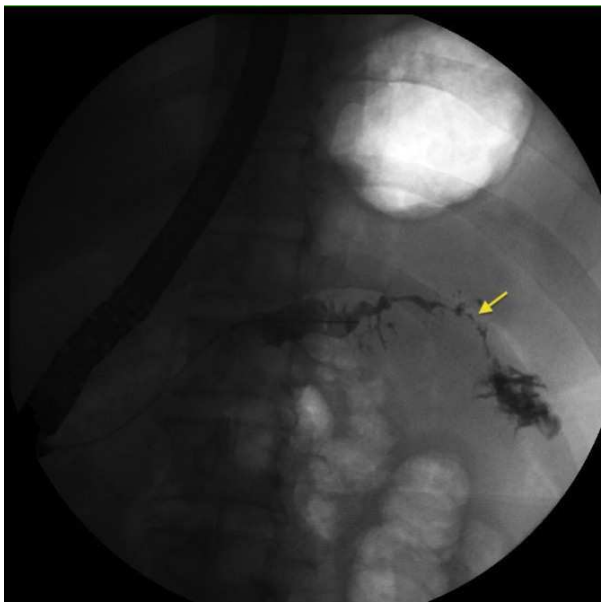

Figure 1. A pancreatogram showing extravasation of contrast from the pancreatic tail and into the colon (arrow), confirming the diagnosis of a pancreatic-colonic fistula.

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Keywords Cholangiopancreatography, Endoscopic Retrograde; Colon; Pancreatic Fistula; Pancreatitis

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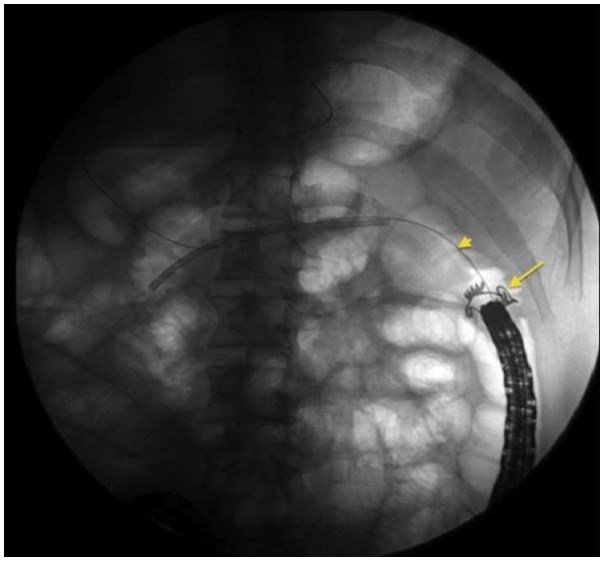

Figure 2. A fluoroscopic view of the over-the-scope clip (arrow) at the level of the splenic flexure and the angled guidewire (arrowhead) advanced across the fistula and into the colon.

extravasation of contrast from the tail of the pancreas into the colon, confirming the diagnosis of pancreatico-colonic fistula (Figure 1). A pancreatic sphincterotomy was performed and a 10 Fr by 12 cm pancreatic duct stent was placed to the mid pancreatic body to facilitate drainage. Following stent placement, there was purulent drainage from the pancreatic duct. Repeat ERCP 6 weeks later demonstrated persistence of the fistula and re-accumulation of purulent debris within the pancreatic duct. The pancreatic duct stent was replaced, but on follow-up physical examination and ERCP 6 weeks later, the patient had persistent abdominal pain and the fistula had not resolved.

Because pancreatic sphincterotomy and pancreatic duct stenting was unsuccessful, we attempted endoscopic clip closure of the fistula. A 0.025" angled guidewire was advanced into the pancreatic duct, across the fistula, and into the colon. The duodenoscope was removed, leaving the wire in place. An over-the-scope clip (Ovesco, Campbell, CA, USA) was attached to the end of a colonoscope which was advanced to the splenic flexure (Figure 2). The fistula was identified by the wire protruding from it (Figure 3). The cap was positioned en face to the fistula and the wire slowly withdrawn. Using a grasper, tissue was pulled into the cap and suction applied. The clip was deployed and in good position (Figure 4).

Following the procedure, the patient did well. At ERCP 3 months later, he was asymptomatic. No clip was visualized fluoroscopically consistent with spontaneous migration. No purulence or debris was found within the pancreatic duct. However, the pancreatogram revealed a persistent fistula, though markedly smaller. Since he was asymptomatic and there no longer appeared to be flow from the colon into the pancreatic duct, the stent was not replaced. At 3-month follow-up, he remains well and asymptomatic.

DISCUSSION

Spontaneous fistulae from the pancreas to neighboring organs are a well-established consequence of acute and chronic pancreatitis. Formation of a pancreatic-colonic fistula is a potentially life-threatening, yet infrequent complication. Traditional management has been surgical repair, as spontaneous closure is rare and persistent infection can be lethal [1, 2, 3]. In a recent retrospective study by Kochhar *et al.*, the investigators found that all patients admitted to their unit over a 4-year period with acute pancreatitis and fistulization to the colon underwent surgery [8].

Successful nonsurgical treatments for pancreatico-enteric fistula include ERCP with pancreatic sphincterotomy and pancreatic duct stenting [9, 10, 11], application of fibrin glue [12], and endoscopic clipping [4, 5]. Standard hemoclips are limited in size by the working channel and only close the mucosal

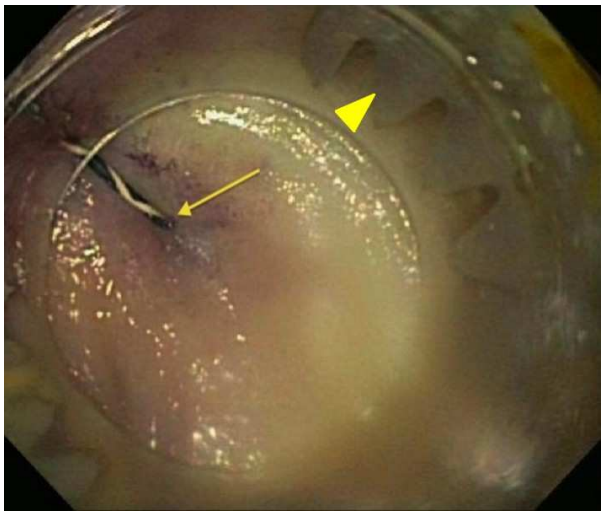

Figure 3. An endoscopic view of the angled guidewire protruding through the fistula (arrow) and the over-the-scope clip (arrowhead).

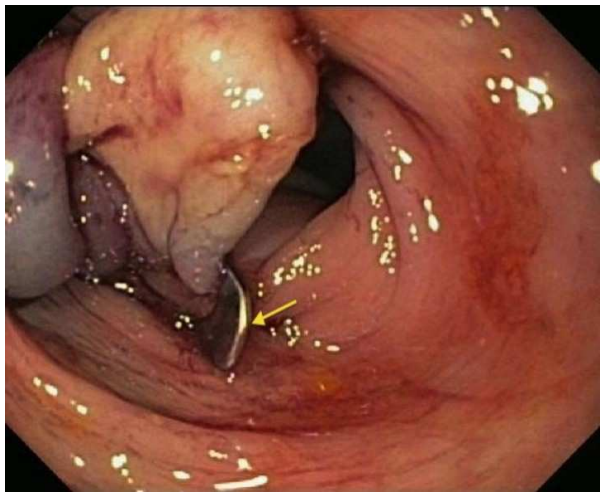

Figure 4. An endoscopic view of the deployed over-the-scope clip and closure of the fistula from the colonic side (arrow).

defect. Conversely, the over-the-scope clip achieves full-thickness closure. Recently, the over-the-scope clip has been evaluated as a treatment for GI fistulae with mixed results. Challenges to fistula closure have been fibrosis, acute inflammation, and edema [6, 7]. We report a case of patient who was treated with an over-the-scope clip for management of a pancreatic-colonic fistula.

In our patient, given the lack of clinical and endoscopic response to pancreatic sphincterotomy, serial pancreatic duct stenting, and the presence of persistent infection, we thought that the use of an over-the-scope clip was a feasible option. We suspect that the persistence of a small fistula in our patient is secondary to the short duration of clip retention and fibrosis of the fistulous tract preventing adhesion. We also did not use a cytology brush or argon plasma coagulation to "roughen" the tract, which is sometimes used in endoscopic fistulae closure to maximize adhesion.

To our knowledge, this is the first description of use of an over-the-scope clip for attempted closure of a spontaneous pancreatic-colonic fistula. More evidence is needed to determine criteria for use of over-the-scope clip in closure of GI and pancreatic fistulae.

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Disclosures None

Conflicts of interest None

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