EUS-guided transmural pancreatic duct interventions for relief of pain in patients with chronic pancreatitis and failed ERCP

Dear Editor,

In 3%–10% of patients with chronic pancreatitis (CP), ERCP may not be possible due to the presence of various anatomical factors.[1] EUS-guided pancreatic duct (PD) interventions have recently evolved as an alternative therapeutic option in patients with failed ERCP.[1-4] EUS-guided PD interventions are categorized as either rendezvous-assisted ERCP (RAE) or anterograde PD drainage (A-PDD).[2] In this letter, we report our center's experience with various EUS-guided PD interventions.

The endoscopic database was retrospectively searched to identify patients with CP who underwent an attempted EUS-guided PD intervention. After puncturing PD from either stomach or duodenum, RAE was attempted in all patients. If RAE was unsuccessful, a guidewire was secured in PD and the transmural tract was dilated using a 6 Fr cystotome. At the endoscopist's discretion, the transmural tract was further dilated using either a wire-guided dilating balloon or a bougie dilator. Thereafter, a 5 or 7 Fr stent was placed to establish a gastro-pancreatic or duodeno-pancreatic drainage. Contrast-enhanced computed tomography was performed after 2 months of the procedure to ascertain the position of the transmural stent [Figure 1]. The endoscopic treatment was repeated if there was recurrence of abdominal pain along with dilatation of the main PD on imaging. Using a duodenoscope, the transmural fistula tract was dilated after cannulating it alongside the previously placed stent, followed by replacement of the stent.

Twenty-one patients underwent EUS-guided PD intervention. EUS pancreatogram could be obtained in all patients, but RAE could be successfully completed in nine (43%) patients. Hence, 12 patients (all males: mean age: 39.2 ± 7.2 years) underwent A-PDD [Table 1]. The mean maximum main PD diameter was 8.2 ± 2.0 mm. A transgastric approach was used in 11 (91.7%) patients. The procedure was technically successful in all the 12 patients, and a 5 Fr stent was placed in nine patients and a 7 Fr stent in three patients. Straight stent was used in seven patients and pigtail stent in five patients. Three (25%) patients

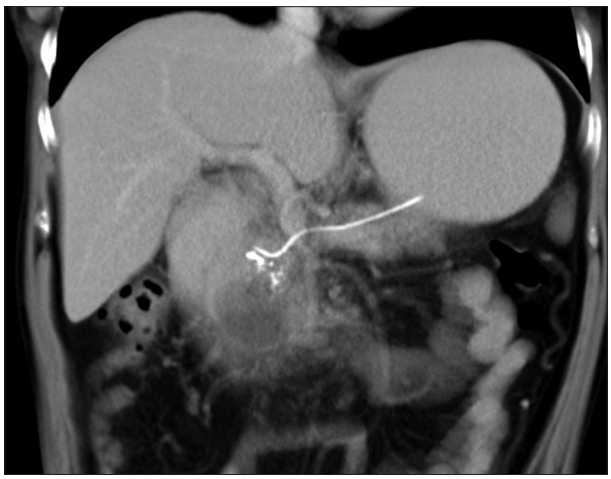

Figure 1. Computed tomography abdomen: pancreatico-gastrostomy stent seen *in situ* with decompressed main pancreatic duct. The stones at the neck of the pancreas can be seen adjacent to the distal end of the stent

Table 1. Baseline characteristics of the study patients

Characteristics	*n* (%)
Age (mean±SD) years	39.25±7.25
Male	12 (100)
Etiology	
Alcohol related	10 (83.3)
Idiopathic	2 (16.7)
Characteristic of CP	
Noncalcific	2 (16.7)
Calcific	10 (83.3)
Calcification in HOP	10 (83.3)
Mean main PD diameter	8.25±2.0 mm

SD: Standard deviation, PD: Pancreatic duct, CP: Chronic pancreatitis; HOP: Head of the pancreas

had mild self-limiting abdominal pain that required intravenous analgesics and one patient had minor self-limiting bleed. All patients had complete relief of pain at 4 weeks after the procedure.

Over a mean follow-up period of 27.3 ± 16.9 months, seven (58.3%) patients presented with recurrence of abdominal pain. In 5/7 patients (three patients with 5 Fr and two patients with 7 Fr stents; all straight stents), transmural PD stents had externally migrated and hence fistulous opening could not be identified. Three of these patients underwent surgery and two patients underwent EUS-guided celiac plexus neurolysis. In two patients, the fistulous tract was cannulated alongside the 5 Fr stent followed by its replacement with a 7 Fr stent. The remaining five patients with stent *in situ* are pain free till the last follow-up. In conclusion, EUS-guided PD drainage seems to be a safe and effective treatment option for patients with painful CP and failed ERCP. Stents with improvised design to prevent spontaneous migration are needed.

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Conflicts of interest

There are no conflicts of interest.

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