

Application of Endoscopic Powered Resection (EPR) in Pancreatic Necrosectomy Post-Cystogastrostomy

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Learning Objectives

- Patients with severe pancreatitis routinely develop walled off necrotic collections that require a procedure known as a Cystogastrostomy.
- This procedure creates an opening between the necrotic collection and the stomach to help facilitate removal of necrotic tissue.
- Serial endoscopic necrosectomies are often required to remove all the necrotic debris.
- Endoscopic powered resection (EPR) is a procedure used to perform mechanical mucosectomies of polyps within the gastrointestinal tract.
- This method of mechanical resection has recently been applied to endoscopic pancreatic necrosectomy and debridement.
- The following case highlights a novel application of EPR in performing pancreatic necrosectomies following cystogastrostomy to help decrease the number of repeat procedures.

Patient Presentation

A 47-year-old patient with past medical history of asthma, hyperlipidemia, breast cancer, recent hypertriglyceridemia-induced acute pancreatitis initially presented with fevers, chills and abdominal pain. Patient was found to have large area of infected peripancreatic walled off necrosis on imaging.

Physical Exam:

Vitals: T 101.3 F, BP 160/94, HR 105, RR 22, 96% on RA

General: AAOx3, Uncomfortable appearing

HEENT: NCAT, conjunctival pallor, anicteric conjunctivae

Skin: Warm, dry, no jaundice

Cardio: Tachycardia, Normal S1/S2

Respiratory: Tachypnea, CTAB

GI: Soft, diffusely tender to palpation in all quadrants, no guarding or rebound tenderness, bowel sounds present in all quadrants

MSK: Normal range of motion, all compartments compressible

Lab Values

142	101	24
3.8	28	1.2

12.4	240
19.7	40

ALT/AST: 60/40

Tbili: 1.0

Dbili: 0.3

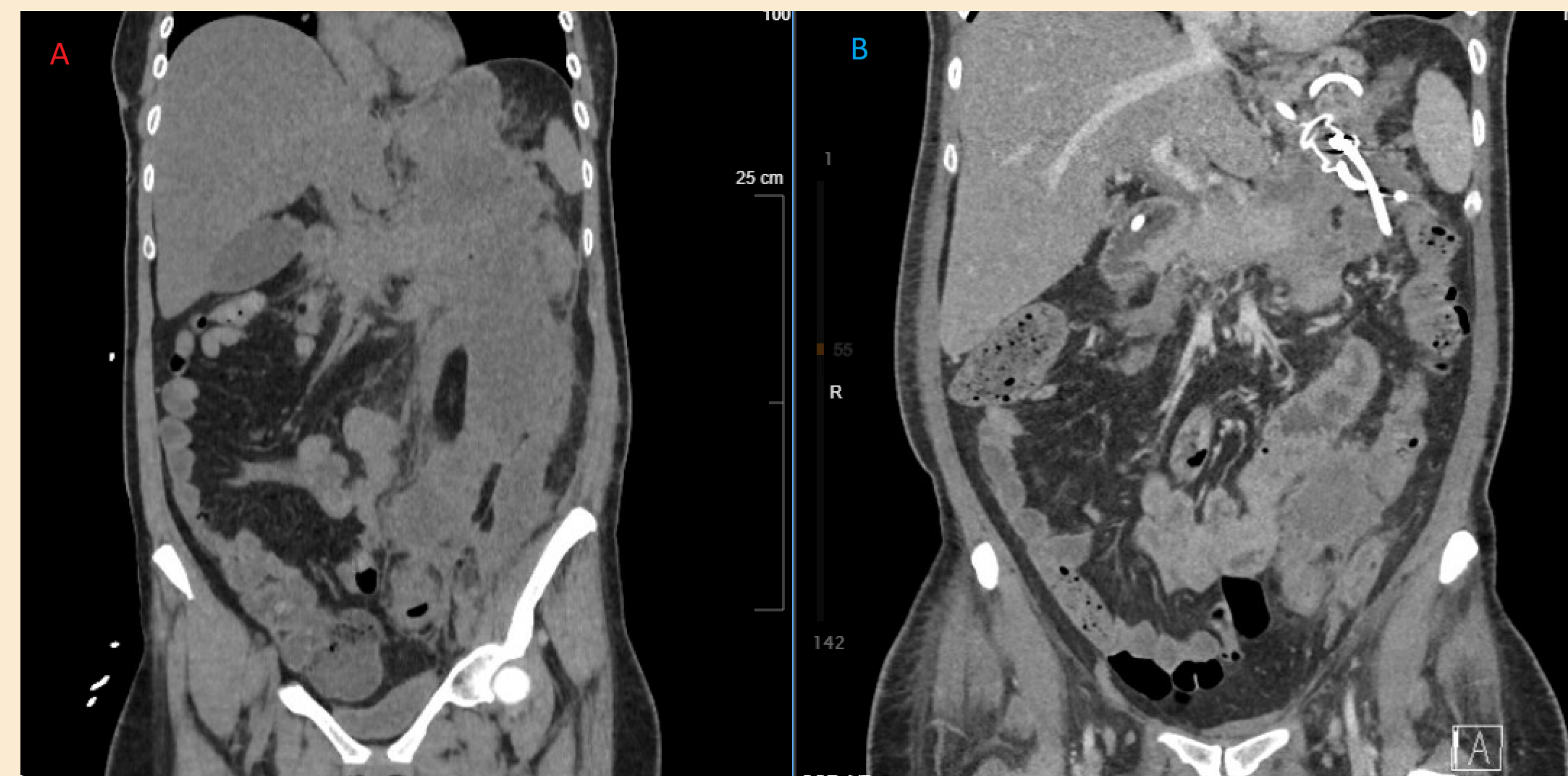
ALP 80

Lipase 2805

Coronal CT Abdomen and Pelvis

- Initial CT scan showed concern for new infected peripancreatic necrotic fluid collection measuring 9.5 x 6.0 cm extending inferiorly along the left paracolic gutter.
- CT scan completed two days after EPR necrosectomy showed marked interval decrease in the multiloculated peripherally enhancing peripancreatic air and fluid collection now measuring 7.3 x 4.0 cm.

Coronal CT Imaging Pre- and Post-Necrosectomy



A. Coronal CT Pre-Necrosectomy

B. Coronal CT Post-Necrosectomy

Clinical Course

- An EUS with cystogastrostomy and endoluminal stent placement was performed to facilitate drainage of the necrotic collection.
- Repeat EGD with both EPR and snare necrosectomy was performed the following week.
- CT scan completed two days later showed marked interval decrease in the multiloculated peripherally enhancing peripancreatic air and fluid collection now measuring 7.3 x 4.0 cm.
- The patient underwent second necrosectomy one week later with EPR and snare mechanical debridement which revealed an 18 cm cyst cavity.
- Significant amount of necrotic tissue removed at that time and patient scheduled for repeat EGD in 3 weeks with endoluminal stent retreatment.
- Endoluminal stent ultimately removed and repeat imaging showed resolution of walled off necrotic collection

Take Home Points

- Endoscopic pancreatic necrosectomy is often performed 4 weeks after the initial episode of pancreatitis to allow formation of a true, walled off necrotic collection.
- When performing endoscopic necrosectomy of large collections, at least 5 procedures are often required to completely removal all necrotic tissue.
- As shown in this case, implementation of EPR with traditional endoscopic snare necrosectomy can facilitate efficient removal of debris and help decrease the number of repeat necrosectomies.
- This could ultimately improve resource utilization and have major implications on overall patient morbidity and mortality.

References

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