

## ENDOSCOPY VIDEO FORUM

S346

**Gallbladder to the Rescue: Transcystic Endoscopic Ultrasound-Guided Rendezvous**

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**Introduction:** ERCP is the standard of care for preoperative biliary drainage in patients with distal malignant biliary obstruction. Unsuccessful ERCP is higher in malignant obstruction compared to benign. Traditional EUS-guided rendezvous (EUS-RV) via bile duct access may overcome this, however, may result in adverse events such as biliary leakage if unsuccessful. We present a case of failed ERCP and failed EUS-RV resulting in bile leakage, salvaged with transcystic rendezvous via gallbladder (GB) drainage.

**Case Description/Methods:** A 62-year-old female presented with painless jaundice (serum bilirubin=20mg/dL). CT revealed a large hypoechoic pancreatic head mass. EUS-FNA confirmed pancreatic adenocarcinoma. ERCP was unsuccessful despite advanced cannulation techniques (double wire & precut). A 5fr x 5cm plastic pancreatic stent was placed. EUS-RV was performed by puncturing the common bile duct (CBD) using a 19G FNA needle and passing a 0.025" guidewire through it which was then retrieved via the working channel of a duodenoscope after scope exchange. A catheter was passed over the guidewire into the distal CBD, the wire was removed, and the catheter advanced into what was thought to be the proximal CBD. Contrast injection revealed large extravasation from the false passage of the hard end of the wire and catheter. Repeat attempts at intra- and extrahepatic EUS-RV were unsuccessful due to air artifact and duct decompression. A distended GB was imaged from the duodenum. Therefore, a cholecystoenterostomy was created using a 15 x 10mm lumen apposing metal stent (LAMS). After dilating the LAMS, an upper endoscope was advanced into the gallbladder. The cystic duct orifice was identified and cannulated with a catheter preloaded with a 0.035" guidewire. The wire traversed the CBD into the duodenum where it was coiled. The endoscope was exchanged for a duodenoscope, and the guidewire retrieved. A second wire was advanced in parallel before removing the EUS-RV wire into the CBD across the stricture. Cholangiography confirmed access, a large leak in the mid CBD, and a distal CBD stricture. A 10x60-mm fully covered self-expandable metal stent was placed across stricture and leak. The patient recovered uneventfully and is expected to undergo neoadjuvant therapy followed by pancreaticoduodenectomy.

**Discussion:** The GB serves as an important salvage organ for failed EUS-RV, especially when EUS-RV is complicated by biliary leakage preventing further EUS-guided puncture of the bile duct. Watch the video at <https://tinyurl.com/ACGAbstractS346>

S347

**Endoscopic Suture Repair of a Transmural Esophageal Perforation**

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**Introduction:** Iatrogenic esophageal perforations during endoscopic procedures are associated with considerable morbidity and mortality. Traditional management of large esophageal perforations included an aggressive approach involving surgery, but despite advances in techniques, postoperative complications remain high. Conservative management with endoscopic suturing and stenting has drastically improved patient outcomes. Herein, we present a patient with a guidewire associated 12 cm full thickness esophageal perforation that was successfully repaired by endoscopic suturing and stent placement.

**Case Description/Methods:** A 60-year-old female with pmhx of GERD and chronic dysphagia presented s/p outpatient EGD empiric guidewire assisted dilation to 54Fr that was complicated by an approximately 12cm full thickness esophageal tear/perforation and pneumomediastinum. On endoscopic evaluation a large esophageal perforation was found 40 cm from incisors. A total of 4 endoscopic sutures were used to approximate the edges of the perforation in an interrupted fashion. A 15 cm fully covered stent was then endoscopically deployed over the defect with 2 sutures used for stent fixation. Following the procedure, CT esophagram showed absence of an esophageal leak. She underwent repeat EGD 2 weeks later for stent removal which showed adequate healing of the esophagus and no evidence of ongoing defect or perforation.

**Discussion:** Endoscopic suturing was first approved by the USDA in 1998 and its uses have expanded to the repair of fistulas, perforations and anastomotic leaks. The closure technique involves approximating the defect edges using continuous and interrupted sutures, via an endoscopic suturing device. The size of the perforation limits other endoscopic interventions including over the scope clips (OTSC) which are effective in closing perforations up to 1-2 cm in size. Shariha et al. reported the successful closure of esophageal perforations in 13 patients using endoscopic suturing. However, the defect size ranged from 25 to 50 mm in length, much smaller than the case we present which included a 12 cm transmural defect. Further, endoscopic suturing alone is not as effective in perforation closure when compared to the addition of stent placement. Watch the video at <https://tinyurl.com/ACGAbstractS347>

S348

**Creating Your Own Paths: EUS-Guided Transjejunal Gallbladder Drainage and ERCP, Cholecystoscopy, and Electrohydraulic Lithotripsy for Choledocholithiasis and Cholelithiasis in a Patient With Roux-en-Y Gastric Bypass**

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**Introduction:** Treating choledocholithiasis and cholelithiasis in patients with altered gastrointestinal anatomy is a challenge given the difficulty in accessing the biliary tract using conventional endoscopic techniques. Endoscopic ultrasound (EUS) directed transgastric ERCP (EDGE) represents a novel solution to this challenge. It allows access to the excluded stomach allowing safe performance of ERCP and interventional EUS procedures including gallbladder drainage.

**Case Description/Methods:** A 61-year-old man with a history of morbid obesity, Roux-en-Y gastric bypass, and bowel perforation complicated by extensive resection and short gut syndrome, as well as rheumatoid arthritis and chronic kidney disease, presented to clinic for intermittent right upper quadrant pain, nausea, and vomiting. Imaging revealed large cholelithiasis, choledocholithiasis, and biliary dilatation with gallbladder distention. Given his high surgical risk and symptomatic biliary disease, EDGE and EUS-guided management of the large gallstone was planned. The first step was to create a jejunogastrostomy (JG) which was performed using EUS-guided 15mmx10mm lumen-apposing metal stent (LAMS) deployment through the Roux limb into the excluded stomach. ERCP was performed 4 weeks later finding choledocholithiasis, and complete removal of two stones was accomplished. This was followed by EUS-guided gallbladder drainage via JG and successful creation of a cholecystoduodenostomy (CDS) using the 15mmx10mm AXIOS stent system. Direct cholecystoscopy, electrohydraulic lithotripsy and removal of a large gallstone were then performed. Both LAMS from JG and CDS were removed at the end of the procedure. Follow-up upper GI series at 6 weeks showed complete closure of the jejunogastrostomy fistula.

**Discussion:** The EDGE approach provides access to the excluded remnant stomach enabling ERCP and interventional EUS procedures such as gall bladder drainage. In this case, we demonstrate the utility of this procedure in enabling access to the gallbladder and permitting direct cholecystoscopy, electrohydraulic lithotripsy, and removal of a large symptomatic gallstone, thus avoiding long-term percutaneous drains and recurrent symptoms, in addition to the risk of cholecystitis or Mirizzi syndrome from a large gallstone. Watch the video at <https://tinyurl.com/ACGAbstractS348>

S349

**Cholangioscopic Recanalization of a Completely Obstructed Post-Transplant Anastomotic Stricture**

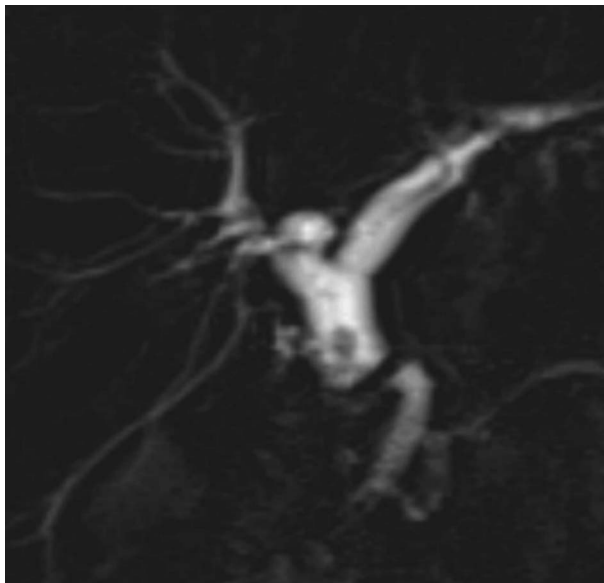
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**Introduction:** Liver transplant (LT) is standard of care for patients with end-stage liver disease. However, there is a high rate of biliary complications, especially biliary stenosis. We report a case of a patient presenting with complete biliary obstruction of a duct-to-duct anastomosis successfully managed endoscopically.

**Case Description/Methods:** A 51-year-old woman underwent orthotopic liver transplantation (OLT) for primary biliary cholangitis. Two months postoperatively she presented with pancreatitis and jaundice. ERCP demonstrated an indwelling surgical biliary "stent" and an anastomotic stricture. The surgical stent was removed, a sphincterotomy was performed, and a 10 mm X 8 cm fully covered stent was placed. Three months later the stent was removed. Five months after stent removal the patient presented with fatigue, nausea, abdominal pain and abnormal liver function tests. MRCP showed a severe anastomotic stricture and an upstream stone (Figure). ERCP was undertaken. Cholangiography showed a severe anastomotic stricture. Unfortunately, the stricture could not be traversed with 0.025"-0.035" angled hydrophilic guidewires. EUS-guided hepaticogastrostomy was performed and the patient was discharged home. A follow-up ERCP with cholangioscopy was performed 4 weeks later. At this time contrast would not pass antegrade or retrograde across the anastomosis. Again, guidewires would not traverse the anastomotic stricture with and without cholangioscopic visualization. No lumen could be identified by

cholangioscopy. Mini-forceps were used under cholangioscopic direction to recanalize the lumen using a bite-on-bite technique until a lumen was identified. This allowed cholangioscopic guidewire placement for balloon dilation and placement of a 10mm X 10 cm fully covered metal stent.

**Discussion:** The mainstay of treatment is endoscopic balloon dilation and biliary stent placement of one covered metal stent or multiple side-by-side plastic stents. However, management is often challenging, with high failure rates. The rate-limiting step for successful therapy is guidewire passage across the stricture. In this case, there was complete obliteration of the lumen by fibrosis such that guidewire passage was not possible. ERCP with cholangioscopy and mini forceps was used to successfully recanalize the complete anastomotic obstruction and allow for stent placement. Watch the video at <https://tinyurl.com/ACGAbstractS349>



[0349] **Figure 1.** MRCP showing severe anastomotic biliary stricture with an upstream stone.

S350

#### Successful Endoscopic Drainage of Acute Duodenal Diverticulitis Complicated by Abscess

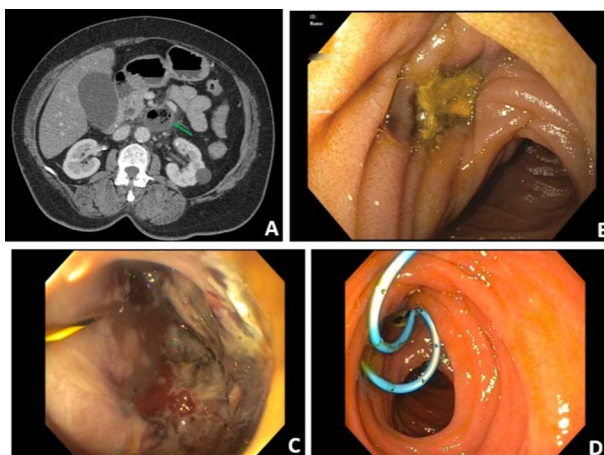
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**Introduction:** Duodenal diverticulitis complicated by abscess formation is a rare clinical entity, usually requiring surgical intervention with high morbidity and mortality. We present a unique case that elucidates the success of endoscopic management of duodenal diverticulitis complicated by an abscess in the 3rd part of the duodenum, via forward-viewing endoscopy. Whereas surgery has been the primary treatment modality, endoscopy is shown more recently to be a safe and effective alternative for this uncommon disease process.

**Case Description/Methods:** Our patient is a 64-year-old female with history of peptic ulcer disease who presented with severe abdominal pain, along with persistent nausea and non-bloodily emesis. She was febrile and her exam was notable for a soft abdomen with tenderness in the epigastric area and left upper quadrant. Labs were notable for a leukocytosis of 24.8k. Abdominal CT was significant for revealing duodenal diverticulitis complicated by adjacent abscess measuring up to 4.3cm, without intraperitoneal free air (A). The patient had persistent pain with fevers. General surgery was initially consulted and determined she did not require urgent surgical intervention. Gastroenterology was consulted with plan for endoscopy. Endoscopic visualization demonstrated a diverticulum in the 3rd portion of the duodenum with impacted debris and purulent drainage (B). Subsequent endoscopic lavage and debridement were successful with complete cavity evacuation. Intra-procedural contrast evaluation of the diverticulum was performed without extravasation to suggest perforation, followed by placement of two 7Fr x 5cm double pigtail plastic stents (C, D). Over the next day, her abdominal pain and fever subsided. At an 8-week outpatient follow-up, she was without symptom recurrence and abdominal radiograph showed interval stent passage. (Figure)

**Discussion:** Duodenal diverticulitis is a rare complication with significant morbidity and mortality. We describe a unique case where endoscopic drainage is a viable and effective management modality in the clinically stable patient with complicated acute duodenal diverticulitis. Previous endoscopic interventions described in the literature were localized to the 2nd part of the duodenum, for which a duodenoscope was used. In this case, a unique approach was successful via the use of forward-viewing endoscopic techniques. This case highlights a multi-disciplinary approach to evaluating duodenal diverticulitis and the effectiveness and safety of its endoscopic management. Watch the video at <https://tinyurl.com/ACGAbstractS350>



[0350] **Figure 1.** A) Computed tomography (axial view) showing 4.3cm abscess from complicated duodenal diverticulitis in D3 (green arrow) B) Endoscopic visualization of duodenal diverticulum in

D3, impacted by debris C) Endoscopic view of the guidewire inserted into the duodenal diverticular cavity D) Final endoscopic image showing successful placement of 2 double pigtail stents (7Fr x 5cm) within the diverticular cavity

S351

#### Peroral Endoscopic Myotomy in the Presence of Esophageal Varices

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**Introduction:** Peroral Endoscopic Myotomy (POEM) is an endoscopic technique used in the treatment of achalasia. This technique involves the creation of a submucosal tunnel in the esophagus to facilitate myotomy of the circular muscular fibers. In patients with cirrhosis, esophageal varices can form within the submucosal space posing major bleeding risk during submucosal tunnel and myotomy. We present a case of a patient with rare co-existence of achalasia with esophageal varices undergoing POEM.

**Case Description/Methods:** A 58-year-old male with Child-Pugh B7 cirrhosis secondary to non-alcoholic steatohepatitis, history of variceal bleed with grade 1 esophageal varices seen on pre-POEM endoscopy, and portal vein thrombosis on warfarin. He was recently diagnosed with type 2 achalasia with Eckardt score of 6. He was having episodes of aspiration of esophageal contents. He was treated with endoscopic botulinum toxin injection with CRE balloon dilation with only temporary symptom relief. After discussing different therapy modalities with the patient and his hepatology team, decision was made to undergo POEM. The procedure was completed under general anesthesia after holding the patient's warfarin 5 days pre-operatively. Octreotide 50mcg IV was given just prior to the endoscopy. Luminal assessment confirmed grade 1 esophageal varices with portal hypertensive gastropathy. Mucosal entry was made at 14 cm from gastroesophageal junction (GEJ) with triangular tip knife. Submucosal tunnel was created 2cm past the GEJ. Throughout the procedure varices were noted in the submucosal space and extra care was taken to avoid incision of varices (Fig. 1). Selective myotomy of circular muscle fibers was successfully performed from 8 cm proximal to the GEJ and ending 2 cm distal to the GEJ without significant bleeding. The mucosal entry was closed with clips. The patient tolerated the procedure well. The patient was discharged after monitoring overnight with no complications. At 1-month follow-up, he had Eckardt score of 0 with no delayed complications.

**Discussion:** POEM is an effective endoscopic technique for management of achalasia. However, intraprocedural risks associated with general anesthesia and bleeding remains a major drawback. In patients with cirrhosis and esophageal varices, it represents an especially challenging therapeutic dilemma. Extra attention should be given during POEM to avoid varices to minimize bleeding risks. This case demonstrates a successful POEM in presence of esophageal varices without complications. Watch the video at <https://tinyurl.com/ACGAbstractS351>



[0351] **Figure 1.** Grade 1 esophageal varix in submucosal space during myotomy.

#### S352 Presidential Poster Award

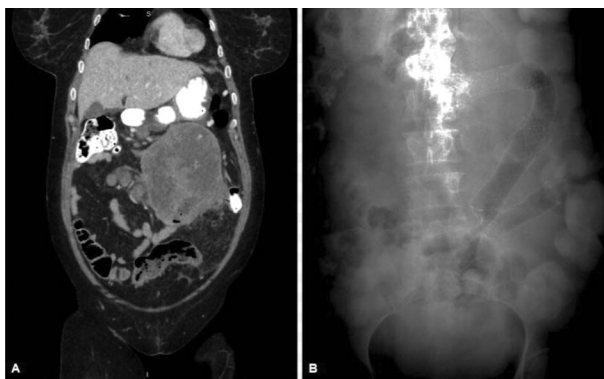
##### Light at the End of the Tunnel: Pipeline to the Jejunum

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**Introduction:** Small intestinal strictures that are distal to the duodenum, particularly the jejunum, are uniquely complicated to manage. Adult endoscopes are often too short or too rigid to reach this region of the small bowel. Furthermore, duodenal stents are not flexible enough and are uncovered. In this case, we were able to place several esophageal stents in the proximal jejunum using a pediatric colonoscope that could not be placed previously.

**Case Description/Methods:** A 56 year-old woman with hypertension, obstructive lung disease, and a prior ischemic stroke presented to the hospital for four days of postprandial emesis, abdominal distention, epigastric pain, and constipation. She previously underwent appendectomy and hysterectomy, and had no prior endoscopic studies. Computed tomography (CT) was performed demonstrating mural thickening of the distal duodenum and partial occlusion of the small bowel with regional lymphadenopathy, and a large left adrenal mass. Esophagogastroduodenoscopy (EGD) showed an intrinsic severe stenosis in the distal duodenum. After biopsies were taken, the tissue was found to be a primitive neuroectodermal tumor. Because of the presence of mesenteric adhesion and extensive stenosis, it was decided to correct the stricture endoscopically rather than with surgical intervention. Using a pediatric colonoscope and fluoroscopic guidance, three stents were placed sequentially and telescoping each other from the proximal jejunum to the distal duodenum: a fully covered 20 mm x 120 mm esophageal stent, a partially covered 18 mm x 97 mm esophageal stent, and a fully covered 20 mm x 60 mm esophageal stent (Figure). There were no immediate complications with the procedure and repeat imaging demonstrated luminal patency. Due to the expansion of the stents through a tight stricture, the abdominal pain and pressure was present despite no evidence of perforation on CT.

**Discussion:** This demonstrates the feasibility of utilizing multiple esophageal stents to help relieve more distal gastrointestinal obstructions that were not feasible in the past. The covered esophageal stents are extremely useful when there is discontinuity in the lumen of the small bowel to keep the natural flow of food and help prevent surgical interventions. Watch the video at <https://tinyurl.com/ACGAbstractS352>



[O352] **Figure 1.** (A) Coronal CT image of a large abdominal mass involving loops of bowel and jejunum. (B) Abdominal x-ray showing interval placement of stents from the distal duodenum to the proximal jejunum.

#### S353 Presidential Poster Award

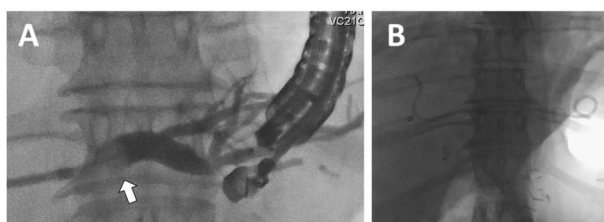
##### With a Little Help From My Friends: Percutaneously-Assisted Biliary Drain Internalization

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**Introduction:** Endoscopic ultrasound (EUS)-guided hepaticogastrostomy (HG) provides endoscopic biliary drainage when conventional techniques are not feasible. Access to the biliary tree can be obtained under EUS-guided puncture of the gastric wall into the left intrahepatic ducts. In the absence of dilation, the procedure can be technically challenging.

**Case Description/Methods:** We present the case of a 43-year-old female with a history of total pancreatectomy for chronic pancreatitis followed by surgical revision including Roux-en-Y reconstruction and hepaticojejunostomy (HJ). The patient developed recurrent episodes of ascending cholangitis in the setting of diffuse biliary strictures and afferent limb dysmotility. She underwent placement of a percutaneous transhepatic biliary drain (PTBD) which was complicated by repeated hospitalizations for dehydration in the setting of high drain output (1-2L/day) and progressive malnutrition with marked deficiency in fat soluble vitamins. After a multidisciplinary discussion, it was felt that internalizing drainage would address these issues by promoting physiologic flow of bile. An EUS-guided HG was performed using the existing percutaneous drain tract to aid in identification and access of the left biliary tree (Video). The biliary drain was exchanged over a wire to a sheath with balloon catheter. Under fluoroscopic guidance, the percutaneous balloon catheter was advanced into the left hepatic duct and an occlusion cholangiogram was performed to opacify and distend the target ducts. The left hepatic duct was punctured under EUS-guidance with a 19-gauge needle. A 0.025" angled guidewire was then advanced into the left hepatic duct and across the HJ. After dilating the tract with a 4mm balloon, a 10mm x 8cm fully-covered self-expandable metal stent was deployed with the distal end in the left hepatic duct and proximal in the stomach. A guidewire was then used to access the right hepatic duct and a plastic double-pigtail catheter was deployed across the HG. The patient did well post-procedurally with no additional hospitalizations for cholangitis and improvement in nutrition parameters. (Figure)

**Discussion:** Visualization of the intrahepatic ducts is critical for successful completion of EUS-HG. Here we report a creative, collaborative approach to the procedure which unencumbered the patient from external hardware and improved her nutrition through more physiologic bile circulation. Watch the video at <https://tinyurl.com/ACGAbstractS353>



[O353] **Figure 1.** (A) Balloon-occlusion (arrow) cholangiogram of left hepatic duct performed through transcatheter and (B) completion fluoroscopy showing fully-covered self-expandable metal stent bridging hepaticogastrostomy with plastic stent draining the right biliary tree.

#### S354 Presidential Poster Award

##### A Step-by-Step Endoscopic Tour of the Primary Obesity Surgery Endoluminal (POSE 2.0) Procedure

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**Introduction:** Endoscopic bariatric therapies (EBT) have emerged in the last two decades as safe and effective therapies for the management of obesity and its comorbidities. Primary obesity surgery endoluminal (POSE 2.0) procedure achieves gastric remodeling through the creation of a shorter and narrower stomach which leads to reduced gastric accommodation and delayed gastric emptying. In this video, we describe the technical details of POSE 2.0 procedure and a follow up of the patient post the procedure.

**Case Description/Methods:** POSE 2.0 utilizes the USGI incisionless operating platform (IOP) which has 4 components: a) the transport, which houses the whole apparatus, b) the g-Prox which houses the g-Cath (c) and two deployable nitinol snowshoe anchors delivered through a hollow needle and d) the g-Lix used to pull tissue into the jaws of the g-Prox. Plications are grasped with the g-Prox jaws. The force is distributed over the nitinol anchors to enhance the healing and durability. These plications result in serosa-serosa healing which can last up to 10 years. In total an average of 20 plications are created following a specific pattern to create six tissue folds or rings. Three rings are created starting at the level of incisura. We use the helix for full thickness tissue acquisition, and each plication with these anchors creates a 6.5 cm reduction of the stomach. For each ring, the orientation of the central plication is antero-posterior to tubularize the stomach, while the orientation of other plications is superior inferior to shorten the stomach. Ring 1 is created at the junction between the antrum and body. In ring 1, five plications were created. Ring 2 is created approximately 2-4 cm proximal to ring 1. In ring 2, a total of five plications were created. Ring 3 is created at the junction between the fundus and the body. A total of five plications were created. Then, three constricting lines of mid body tissue all oriented in the antero-posterior fashion are created between rings 2 and 3. Line 4 is created at the greater curvature of the stomach where two plications were created. Line 5 is created at the anterior part of the stomach. One plication was created. Line 6 was created at the posterior part of the stomach. Two plications were created. The result is a narrow and tubularized stomach.

**Discussion:** The patient had no complications after the procedure. On four months follow up, the patient is doing well, has advanced her diet to solid food and has 20% total body weight lost. Watch the video at <https://tinyurl.com/ACGAbstractS354>

## S355 Presidential Poster Award

**Recurrent Obstruction After Surgical GJ in a Rare Case of Gastric Outlet Obstruction: EUS to the Rescue**

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**Introduction:** Eosinophilic enteritis is a rare cause of gastric outlet obstruction and if not recognized early can be very difficult to manage. Endoscopic ultrasound (EUS) guided gastrojejunostomy (GJ) is most often used for malignant disorders. However, it can act as a very effective temporary tool in benign disorders for effective medical therapy to take its course.

**Case Description/Methods:** A 49-year-old man presented to us with features of recurrent vomiting and pain abdomen for 5 months. He had alcohol-related chronic calcific pancreatitis. Three years prior to current presentation he had features of gastric outlet obstruction for which he underwent oesophagogastroduodenoscopy (EGD) revealing a circumferential ulcer in antropyloric region with swelling. He underwent truncal vagotomy with antecolic gastrojejunostomy. Biopsy from the specimen had revealed eosinophilic gastroenteritis (EE). He again had some symptoms of obstruction 2 months after surgery which responded to proton pump inhibitors. He remained apparently well with regular follow up for chronic pancreatitis. Now he was symptomatic with progressive symptoms of gastric outlet obstruction since last 4 months. On endoscopy he was found to have both afferent and efferent loop strictures. He was also having a few geographic ulcers and pseudopolyps near stricture mouth. He underwent balloon dilatation twice upto 13.5 mm but symptoms did not improve. Repeat biopsies were taken from the ulcer and stricture site revealed EE with eosinophilic abscesses. Barium meal follow-through and Contrast enhanced CT was done for evaluation of stricture. A nasoduodenal (ND) tube of 10 french was negotiated over guidewire through the stricture using a cannula. It was used to continue enteral feeding. Surgical consultation was taken and poor surgical outcome was predicted in view of both loop involvement. He was started on oral budesonide and planned for an endoscopic bypass procedure. The ND tube was used to distend the normal jejunal loops beyond stricture and endoscopic ultrasound was used for gastrojejunostomy using a lumen apposing metal stent.

**Discussion:** EUS-GJ is a viable option for gastric outlet obstruction even in benign cases for bridging for further surgical or medical therapy. Post-surgery complications may be difficult to manage and EUS-GJ appears more lucrative for the short time period. It requires a carefully selected patient with preset management plan and a learning curve for successful implementation. Watch the video at <https://tinyurl.com/ACGAbstractS355>

## S356 Presidential Poster Award

**Pancreatoscopy Using Adult Gastroscope as a Diagnostic Method for Main Duct IPMN**

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**Introduction:** Intraductal papillary mucinous neoplasm (IPMN) is a premalignant condition of the pancreas characterized by epithelial neoplasms of the pancreatic duct. Typically, IPMNs are diagnosed by cross sectional imaging and/or endoscopic ultrasound owing to its high sensitivity. Less commonly, pancreatoscopy is utilized for direct visualization of the pancreatic duct using a single operator cholangioscope but it has limitations. There are case reports of using thinner gastroscopes to achieve pancreatoscopy, however to date, there are no reports of using adult gastroscopes to directly visualize the main pancreatic duct.

**Case Description/Methods:** We present an 81-year-old man with hypertension, 15 pack-year tobacco use, recurrent acute pancreatitis, and a known pancreatic mucinous cyst for at least 7 years. He initially presented with intermittent abdominal pain and a 10-pound weight loss in the past 4 months. Labs were remarkable only for an elevated alkaline phosphatase level. He underwent CT that showed an enlarging pancreatic head mass. The patient underwent esophagogastroduodenoscopy (EGD) which showed a fishmouth papilla in the ampulla. Due to the presence of debris and mucus in the duodenum, suction was used to clear the area near the ampulla, however the gastroscope inadvertently intubated the main pancreatic duct. Endoscopic ultrasound was then performed which showed an oval, hypoechoic mass measuring 31 mm x 21 mm in the uncinate process. This was aspirated via fine needle aspiration. Interestingly, the molecular analysis was interpreted as statistically benign; however the pancreatic main duct biopsy showed a superficial portion of ductal wall with acute and chronic inflammation, papillary mucinous epithelial proliferation, and focal marked epithelial atypia consistent with at least high-grade dysplasia.

**Discussion:** This case highlights a unique approach in directly visualizing the pancreatic duct using an adult gastroscopically. The adult gastroscopically used in this case had a diameter of 9.9mm which enabled direct passage into the dilated pancreatic duct. It also had a working channel of 2.8mm which allowed easy suctioning of the thick mucin for analysis. Finally, the maneuverability of the gastroscopically allowed relatively easy targeted forceps biopsies of the mucosal irregularities of the pancreatic duct, which helped raise suspicion for malignant transformation. Thus, if the pancreatic duct is dilated enough, an adult gastroscopically can be considered as a means to diagnose main duct IPMN. Watch the video at <https://tinyurl.com/ACGAbstractS356>

## S357 Presidential Poster Award

**Mushroom Sign: Complete Esophageal Obstruction Following Endoscopic Variceal Band Ligation**

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<sup>1</sup>University of Missouri-Columbia, Columbia, MO; <sup>2</sup>University of Missouri-Columbia, Scottsdale, AZ; <sup>3</sup>University of Missouri, Columbia, MO; <sup>4</sup>University of Missouri Health Care, Columbia, MO.

**Introduction:** Gastrointestinal hemorrhage secondary to esophageal varices is frequently encountered by gastroenterologists. Endoscopic variceal band ligation is a procedure that has potential for complications. However complete esophageal obstruction due to band ligation is very uncommon.

**Case Description/Methods:** An 80-year-old female patient transferred to our hospital with complaints of inability to tolerate oral secretions and chest discomfort. 24 hours prior to transfer, she underwent endoscopic variceal band ligation and three bands placed for primary prophylaxis. CT chest showed esophagus was dilated with fluid retention, and there was 1cm mass-like lesion in distal esophagus. Upper endoscopy was performed and revealed a mushroom-like appearance of mucosa in mid-esophagus, with a full circumferential banding of the esophagus lumen causing complete esophageal obstruction. Underlying band was seen. Following initial endoscopic exam, we discussed risk and benefits of band removal. Hepatology and interventional radiology were consulted and patient was consented for a possible need for transjugular intrahepatic portosystemic shunt placement as a rescue therapy in case of an acute variceal bleeding following endoscopic intervention. Repeat endoscopy was performed using the distal attachment cap, and band was grabbed with loop cutter, and gentle pulling pressure applied resulting removal of the band uneventfully (d). Subsequent endoscopic examination showed esophageal mucosa had circumferential mushroom-like edematous mucosa with ulcerated base in 10 mm length at 30 cm from incisors (e). Due to ongoing obstruction, we performed balloon dilation (8-10mm) to prevent further stricture formation and open the esophagus lumen (f). There was no post-procedure bleeding and scope was easily traversed the stenosis. Patient recovered well post-procedure and discharged home next day. A week later, patient had ongoing dysphagia and repeat endoscopy was scheduled for dilation.

**Discussion:** Complete esophageal obstruction from variceal band ligation is very rare. Cases with partial obstruction or patients who can handle secretions can be managed with supportive care. In this case, we removed the band with loop cutter as this was a complete obstruction and patient was at risk for aspiration and airway compromise. This case should illustrate the importance of spiral banding technique and aiming towards one column of varices at a time. Practicing gastroenterologists and trainees should be aware of this rare complication. Watch the video at <https://tinyurl.com/ACGAbstractS357>

## S358

**Endoscopic Ultrasound-Directed Transgastric ERCP for Pancreatic Duct Stent Placement to Treat Pancreatic Ascites**

*Varun Iyer<sup>1</sup>, David Jonason, MD<sup>2</sup>, Guru Trikudanathan, MD<sup>2</sup>.*

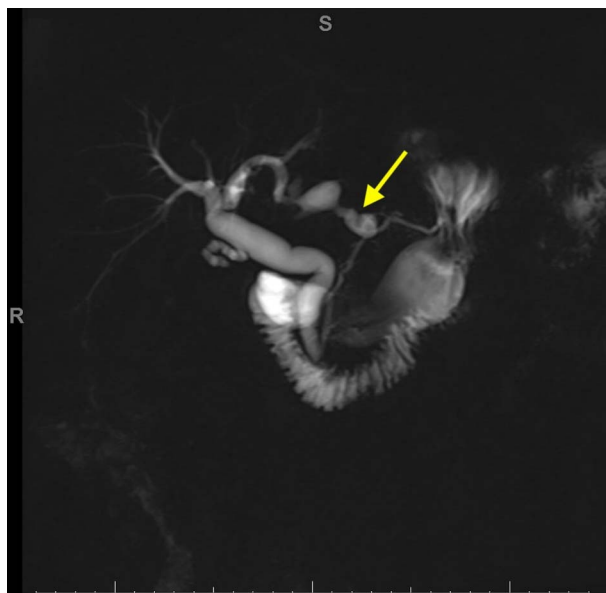
<sup>1</sup>University of Minnesota, Minneapolis, MN; <sup>2</sup>University of Minnesota Medical Center, Minneapolis, MN.

**Introduction:** Endoscopic ultrasound (EUS)-Directed transGastric ERCP (EDGE) is an advanced procedure utilized to enable pancreaticobiliary access in patients with Roux-en-Y gastric bypass anatomy. We hereby present a case of refractory pancreatic ascites from a persistent pancreatic duct (PD) leak treated with EDGE and transpapillary PD stenting.

**Case Description/Methods:** A 62-year-old White female with history of morbid obesity with Roux-en-Y gastric bypass and biliary pancreatitis with prior cholecystectomy was referred for refractory pancreatic ascites causing significant abdominal pain, poor oral intake and weight loss necessitating total parenteral nutrition. MRCP showed a PD leak in the body as cause for ascites (Fig. 1). After multidisciplinary team discussion, a staged EDGE for PD stenting was pursued. The gastric remnant was identified endosonographically through the jejunum, a 19G needle was advanced into it and 500 ml of saline was instilled to dilate the remnant. A 0.025 guidewire was coiled in the remnant and a 15mm by 10 mm cautery enhanced lumen apposing metal stent (LAMS) delivery system was used to create a jejunogastrostomy followed by LAMS deployment. LAMS was post dilated to 15 mm and ERCP was pursued after 10 days. During ERCP, PD leak at the body was confirmed on the pancreaticogram. A 5 Fr by 15 cm single pigtailed stent was deployed to bridge this leak. A large biliary sphincterotomy was also performed for a subjectively stenotic major papilla. Follow up CT scan after 1 month showed resolution of pancreatic ascites and repeat ERCP

confirmed resolution of the PD leak. The biliary and pancreatic stents were removed. The jejunogastrostomy stent was removed after three months. She continues to remain asymptomatic and is tolerating a regular diet.

**Discussion:** This case demonstrates the successful use of EDGE procedure for management of refractory pancreatic ascites from a pancreatic duct leak. EDGE for pancreatic endotherapy in Roux-en-Y gastric bypass anatomy is a safe and effective alternative to more invasive laparoscopy or percutaneous gastrostomy access to the gastric remnant and should be considered in cases with ascites. Watch the video at <https://tinyurl.com/ACGAbstractS358>



[O358] **Figure 1.** MRCP With Pancreatic Duct Leak.

S359

#### Endoscopic Full-Thickness Resection of Gastric Ulceration with Persistent Low-Grade Dysplasia Using the Full-Thickness Resection Device

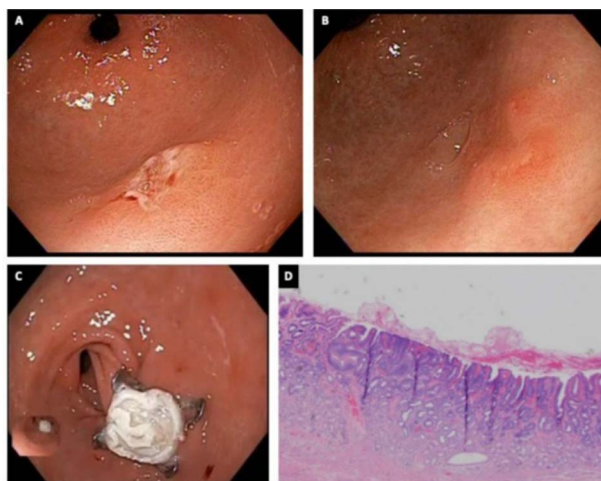
Natalie Wilson, MD<sup>1</sup>, Nicholas McDonald, MD<sup>1</sup>, Mohamed Abdallah, MD<sup>2</sup>, Mohammad Bilal, MD<sup>3</sup>.

<sup>1</sup>University of Minnesota, Minneapolis, MN; <sup>2</sup>University of Minnesota Medical Center, Minneapolis, MN; <sup>3</sup>University of Minnesota, Minneapolis VA Medical Center, Minneapolis, MN.

**Introduction:** Endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) are well-established treatment methods for resection of precancerous gastric lesions and early gastric cancers. Ulcerated or scarred gastric lesions are challenging to resect with EMR or ESD due to submucosal fibrosis and scarring, and hence, carry an increased risk for perforation. Endoscopic full-thickness resection (EFTR) using the full-thickness resection device (FTRD) is rapidly gaining popularity for the treatment of upper gastrointestinal tract lesions. While it has been shown to be a safe and effective treatment modality for colorectal lesions not amenable to conventional resection methods, data regarding its use in the upper GI tract is evolving. Here, we describe a patient with an ulcerated gastric lesion with persistent low-grade dysplasia who underwent successful resection of the lesion using the FTRD.

**Case Description/Methods:** A 75-year-old man with a history of diffuse gastric intestinal metaplasia was found to have a 1 cm ulcer in the gastric antrum (Figure A). Biopsies of the ulcer demonstrated low-grade dysplasia, while surrounding biopsies showed incomplete gastric intestinal metaplasia. He was started on a proton pump inhibitor with plan for repeat endoscopy for surveillance. Subsequent upper endoscopy 12 and 24 months later showed partial healing of the gastric ulcer (Figure B), however, biopsies showed persistent low-grade dysplasia. After a multidisciplinary discussion, the decision was made to pursue EFTR of the ulcerated lesion. An upper endoscopy was performed and the borders of the lesion were marked circumferentially with a marking probe. The FTRD was mounted on a modified therapeutic upper endoscope and the lesion was resected. The resection site was examined and demonstrated appropriate positioning of the clip and no evidence of bleeding (Figure C). Given the proximity of the lesion to the pylorus, the endoscope was advanced to the duodenum documenting luminal patency. The patient tolerated the procedure well and was discharged the same day. No adverse events were experienced within four weeks of the procedure. The final pathology report of the lesion confirmed focal low-grade dysplasia (Figure D) with negative resection margins (R0).

**Discussion:** EFTR using the FTRD device can offer a safe and effective approach to treat ulcerated or scarred gastric lesions that are not typically amenable to conventional endoscopic resection techniques. Watch the video at <https://tinyurl.com/ACGAbstractS359>



[O359] **Figure 1.** A) Initial upper endoscopy with antral gastric ulcer. B) Subsequent upper endoscopy showing partial healing of the gastric ulcer. C) Endoscopic view of the resection site with overlying clip after EFTR. D) Pathology of resected lesion demonstrating focal low-grade dysplasia.

S360

### Underneath the Surface: EUS-Guided Treatment of Varices When Not Endoscopically Visualized

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**Introduction:** Endoscopic visualization of varices can be challenging in some clinical scenarios. Here we describe three cases in which endoscopic ultrasound (EUS) was used to identify and treat varices.

**Case Description/Methods:** Case 1: a 62-year-old woman with decompensated cirrhosis and isolated gastric fundal varices treated with prior glue injection presented with her second episode of upper gastrointestinal (GI) bleeding. Urgent esophagogastroduodenoscopy (EGD) showed a glue cast ulcer without obvious gastric varices. EUS revealed tubal, anechoic structures in the fundus of the stomach consistent with varices. A 19-gauge access needle was used to puncture the varices with return of blood flow. Three 10mm embolization coils followed by 8 ml of gel foam-normal saline slurry were injected into the varix. Doppler post-treatment showed a decrease in the flow of the treated varix and of the deeper varices. Case 2: a 60-year-old man with non-cirrhotic portal hypertension from portal vein thrombosis was admitted for hemorrhagic shock from gastric variceal hemorrhage. Endoscopic evaluation showed non-bleeding gastroesophageal varices. Surveillance endoscopy one week later showed no obvious gastric varices, but EUS identified two large gastric fundus varices which were treated with two 8 mm coil and 8 ml gel foam. Complete thrombosis of both varices was noted. Surveillance EUS-guided treatment was performed until eradication without recurrence. Case 3: a 63-year-old man with decompensated cirrhosis presented with recurrent rectal variceal bleeding after previous treatment with glue injection. Flexible sigmoidoscopy showed few glue cast rectal ulcers with no obvious bleeding. EUS showed a varix of 5 x 15 mm which was treated with a 10 x 14 mm embolization coil and 4 ml of gel-foam normal saline slurry leading to eradication. Surveillance endoscopy in two weeks showed decompression of rectal varices.

**Discussion:** In all three cases, EGD performed for recent gastrointestinal bleeding did not show any evidence of varices. However, EUS could precisely localize the feeder vessels, verify the needle placement into the vessel by aspirating blood and inject coils followed by gel foam into varices in a targeted manner. Successful treatment of varices was confirmed by the decrease in Doppler flow of the treated varices. No post-procedure adverse events such as pain, bleeding or embolization were noted. This illustrates the utility of EUS in the treatment of varices when they are not detected endoscopically. Watch the video at <https://tinyurl.com/ACGAbstractS360>

S361

### EUS-Guided Gastrojejunostomy to Relieve Afferent Loop Obstruction

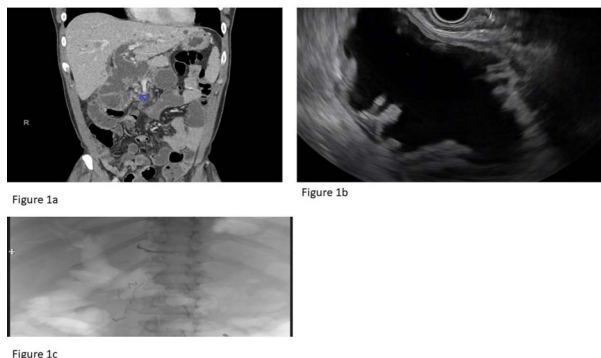
Vijay S. Are, MBBS<sup>1</sup>, Gaurav Suryawanshi, MD<sup>2</sup>, Guru Trikudanathan, MD<sup>2</sup>.

<sup>1</sup>University of Minnesota, St. Paul, MN; <sup>2</sup>University of Minnesota Medical Center, Minneapolis, MN.

**Introduction:** In subjects with post Whipple anatomy, needing hepatobiliary drainage, ERCP is technically difficult and at times not feasible. EUS guided gastrojejunostomy is an alternative method that is associated with less mortality, high success rate and less need for reintervention.

**Case Description/Methods:** A 40-year-old Asian man with h/o T3N2 pancreatic adenocarcinoma and underwent Whipple procedure (5 months prior to presentation) who presented with fever, chills, epigastric pain, nausea and vomiting for the past two days. Lab work was significant for elevated WBC and liver tests. CT imaging revealed dilation of proximal jejunal (pancreaticobiliary limb) with transition point in region of surgical bed (Figure 1a). A diagnosis of obstructive jaundice due to pancreaticobiliary limb obstruction in the setting of post Whipple anatomy was made. Two weeks ago, pt had endoscopic ultrasound guided assessment for concern for tumor recurrence and FNA biopsy was negative. During this procedure, there was mucosal trauma to the afferent limb that needed hemoclips to seal the defect. Therefore, after a multidisciplinary consensus, further endoscopic manipulation of the afferent loop was felt to be harmful and so an EUS guided gastrojejunostomy was planned. Procedure: After linear EUS scope was advanced into the stomach, a dilated loop of afferent jejunum was found adjacent to gastric antrum (Figure 1b). Once appropriate position in jejunum was identified, any interposed vessels were ruled out using Color Doppler imaging, a Lumen Apposing Metal Stent and cautery were introduced through working channel, and the stent was successfully deployed into afferent jejunal loop using a free hand technique. This resulted in drainage of copious amounts of dark bile into the stomach via LAMS. The distension of jejunal loop has resolved at the end of the procedure (Figure 1c). Post procedurally, patient improved clinically. Leukocytosis and Liver tests have improved significantly. Pt continued to do well post discharge. CT scan obtained during follow up showed decompression of the afferent loop.

**Discussion:** Obstructive jaundice can occur due to afferent loop obstruction in a subjects with post Whipple anatomy. ERCP is technically difficult in this setting. EUS guided gastrojejunostomy is a promising option to relieve obstruction. Watch the video at <https://tinyurl.com/ACGAbstractS361>



[0361] **Figure 1.** (1a) Coronal CT imaging showing evidence of a post Whipple anatomy with a dilated pancreaticobiliary limb and upstream dilation of the hepaticojejunostomy anastomosis (Arrow points at the transition point). (1b) Endoscopic ultrasound view showing a portion of the dilated proximal jejunum that is apposed to the stomach wall. (1c) Fluoroscopy image after stent deployment (air cholangiogram) indicating patency of the afferent loop and hepaticojejunostomy.

S362

### Endoscopic Holmium Laser Lithotripsy for Therapy of Bouveret Syndrome

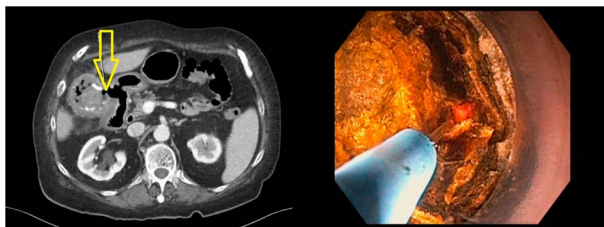
Andy Silva-Santisteban, MD<sup>1</sup>, Neal Mehta, MD<sup>2</sup>, Roberto Trasolini, MD<sup>1</sup>, James Stone, MD<sup>2</sup>, Douglas K. Pleskow, MD<sup>1</sup>.

<sup>1</sup>Beth Israel Deaconess Medical Center, Boston, MA; <sup>2</sup>BIDMC, Boston, MA.

**Introduction:** Bouveret syndrome is a rare condition characterized by the impaction of a gallstone in the stomach or duodenum via a fistulous tract resulting in gastric outlet obstruction. This condition generally requires surgery to remove the impacted stone. However, for patients who are unable to undergo surgery, laser lithotripsy can be an alternative therapy. Here, we present an interesting case of a patient with recurrent gallstone ileus successfully treated by endoscopic Holmium laser lithotripsy.

**Case Description/Methods:** A frail 79-year-old woman with chronic cholecystitis presented with right upper quadrant abdominal pain. Abdominal computed tomography (CT) scan demonstrated emphysematous calculous cholecystitis, a cholecystoduodenal fistula and a 30 mm gallstone lodged in the terminal ileum. She emergently underwent an ileocecal resection and partial right colectomy, confirming the diagnosis of gallstone ileus and a small bowel perforation. 10 days post-surgically, the patient again developed nausea, vomiting, and right upper quadrant pain. CT imaging re-demonstrated a 40 mm gallstone within the gallbladder fossa. Surgical options were limited due to a friable duodenum and inflammation of the cholecystoduodenal fistula. After a multidisciplinary discussion, endoscopic therapy was planned. Endoscopically, a large gallstone measuring about 40 mm was into the duodenal bulb eroding into the duodenum consistent with the known fistula. Holmium laser lithotripsy was used to fragment the stone. Due to the size of the gallstone, the procedure was performed in two sessions. During the first session, the stone was successfully fractured into smaller fragments. In the subsequent session, the remaining gallstone measuring about 28 mm was fragmented until the fistula tract was cleared. The larger gallstone fragments were removed using a roth net and a stone retrieval basket. Full resolution of the Bouveret syndrome was achieved. No immediate or delayed complications were noted. The patient is now doing well 3 months post-procedurally. (Figure)

**Discussion:** Although surgery is often required for definitive therapy of Bouveret syndrome, endoscopic management remains a feasible option in select cases with appropriate expertise. Here, we present a case of successful endoscopic therapy utilizing Holmium laser lithotripsy in a high-risk patient for Bouveret syndrome. Although utilizing this technique is lengthy and requires advanced endoscopic expertise, provides a great benefit due to its minimal tissue injury and safety. Watch the video at <https://tinyurl.com/ACGAbstractS362>



[O362] **Figure 1.** A) Cholecystoduodenal fistula on CT scan, B) Holmium laser lithotripsy for Bouveret syndrome.

S363

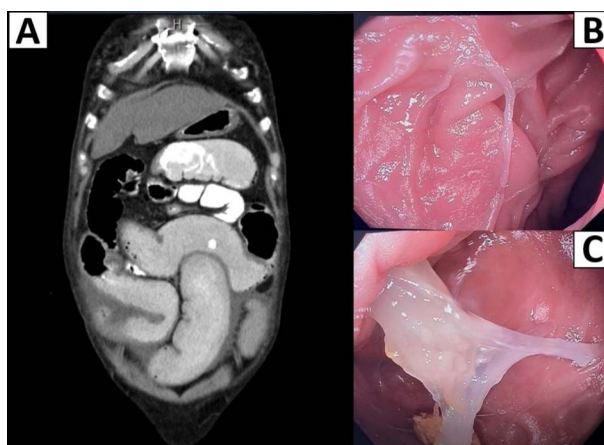
#### Successful Treatment of Distal Intestinal Obstruction Syndrome With N-acetylcysteine and Polyethylene Glycol via Colonoscopy

*Kenna K. Emelogy, MD, Cynthia N. Tran, MD, Joshua D. Novak, MD, Wendy R. Greene, MD.*  
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**Introduction:** Cystic fibrosis (CF) can lead to obstructive gastrointestinal disease, such as meconium ileus in children and distal intestinal obstruction syndrome (DIOS) in adults. DIOS is characterized by the accumulation of inspissated stool and viscous secretions in the terminal ileum and proximal colon, leading to complete or incomplete obstruction. Treatment strategies for DIOS are still essentially empirical as there are no randomized controlled trials to guide therapy. We describe a case of a CF patient with DIOS successfully treated with 4% N-acetylcysteine (NAC) and polyethylene glycol (PEG) administered via colonoscopy.

**Case Description/Methods:** A 46-year-old woman with cystic fibrosis and prior episodes of DIOS presented with several days of abdominal pain and constipation. On exam, her abdomen was distended and diffusely tender to palpation. Abdominal CT showed extensive debris in the distal small bowel with resultant dilation proximally, thickening at the terminal ileum, and a decompressed colon (Fig A). She was initially managed with frequent enemas and oral laxatives including Lubiprostone and PEG via nasogastric tube. Her symptoms worsened and she was taken for urgent colonoscopy. With the patient in supine position, the colonoscope was meticulously advanced to the cecum, traversing several matted, mucoid-adherent folds (Fig B). A mucoid plug was seen extending from the ileocecal (Fig B) valve to the walls of the cecum (Fig C). The mucoid plug was injected with 4% NAC and PEG. The scope was then advanced into the terminal ileum approximately 20 cm to the proximal end of a large, actively dissolving fecalith with administration of NAC and PEG. A CRE 8-9-10 mm balloon was used to sweep the stool from the distal ileum. Following this maneuver, peristalsis was observed with inspissated stool emanating from the distal ileum towards the IC valve.

**Discussion:** Optimal management of DIOS in CF patients remains a challenge. Although most cases are relieved with conservative treatments, select patients will need surgery, which is associated with a higher peri- and postoperative morbidity. However, the administration of 4% N-acetylcysteine and polyethylene glycol via colonoscopy offers a viable remedy that may obviate the need for surgery. Watch the video at <https://tinyurl.com/ACGAbstractS363>



[O363] **Figure 1.** (A) Abdominal CT showing extensive debris in the distal small bowel. (B) Matted, mucoid-adherent folds in the colon. (C) A mucoid plug extending from the ileocecal valve to the walls of the cecum.

S364

#### Endoscopic Removal of Postcholecystectomy Clip Eroding in the Common Bile Duct Causing Recurrent Choledocholithiasis and Acute Cholangitis

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**Introduction:** Postcholecystectomy clip migration into the CBD is a rare complication of laparoscopic cholecystectomy (LC) and can lead to recurrent choledocholithiasis and cholangitis. We present a case of a woman with recurrent acute cholangitis found to have a cholecystectomy clip embedded in the common bile duct (CBD), removed successfully by endoscopic retrograde cholangiopancreatography (ERCP) with SpyGlass cholangioscopy.

**Case Description/Methods:** A 29-year-old pregnant woman, at 32 weeks gestation, presented for postprandial right upper quadrant pain, fever, and jaundice. Surgical history included LC five years prior. Her liver panel revealed AST 87 U/L, ALT 94 U/L, ALP 288 U/L, and total bilirubin 3.1mg/dL. CBD dilation with a 1 cm echogenic foci was seen on abdominal ultrasound. ERCP revealed a retained stone which was removed by balloon extraction followed by placement of a plastic biliary stent. Complete clearance of the biliary tree was confirmed on fluoroscopy. A repeat ERCP post-partum revealed a filling defect in the upper third of the CBD with SpyGlass cholangioscopy confirming a large, retained CBD stone. Electrohydraulic lithotripsy was performed, and a cholecystectomy clip was noted within the stone. A biliary stent was placed, and the procedure was stopped. After multidisciplinary discussion with hepatobiliary surgeons, a plan was made to remove the clip endoscopically. After discussing the potential risks of perforation and bile leak, the patient was in agreement and ERCP was pursued. The clip was grasped with SpyBite forceps and successfully removed with gentle traction. The final occlusion cholangiogram showed no contrast extravasation, and a plastic biliary stent was placed. The patient remains asymptomatic.

**Discussion:** Postcholecystectomy clip migration is a rare complication of LC. The sequence of events remains unclear, but a proposed mechanism includes stump necrosis leading to clip migration towards a path of low resistance into the CBD. The clip can act as a nidus for stone formation and infection. Preventative techniques include placing the clip away from the cystic duct and CBD junction and applying a



minimum number of clips. Although rare, cholecystectomy clip migration should be considered in the differential diagnosis of cholangitis in patients with a previous history of LC. Endoscopists should be aware of this complication and detailed fluoroscopic examination and direct visualization by cholangioscopy should be highly considered based on local expertise. Watch the video at <https://tinyurl.com/ACGAbstractS364>

S365

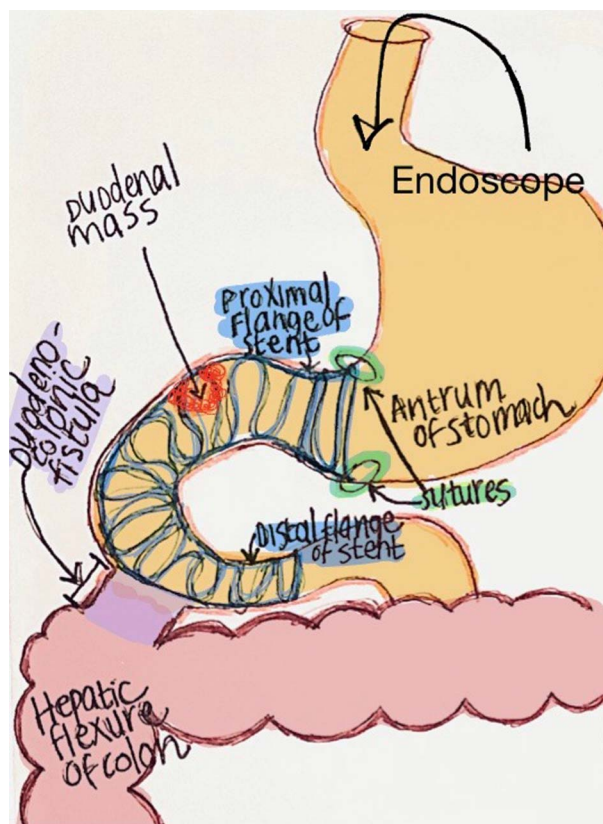
#### A Palliative Approach: Stenting a Malignant Duodenocolonic Fistula in a Patient With Two Primary Malignancies

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**Introduction:** Duodenocolonic fistulas can be complications of malignancy with management being challenging for non-surgical patients. Our case highlights a palliative approach by duodenal stenting in a malignant duodenocolonic fistula.

**Case Description/Methods:** A 73-year-old man with a history of Diabetes Mellitus presents with a one-week history of hematochezia with associated epigastric pain. On admission, his vitals were stable and he had bright red blood on rectal exam. Labs were notable for a calcium 7 mg/dL, magnesium 1.2 mg/dL and hemoglobin 9.8 gm/dL. Computed tomography (CT) imaging revealed a pulmonary mass and a duodenocolonic fistula. The patient underwent an upper GI endoscopy with findings revealing a 10 millimeter (mm) fistula in the first and second portion of the duodenum with opening into the right side of the colon and an infiltrative mass past the duodenal bulb with biopsy positive for invasive adenocarcinoma. A 20mm x 120mm covered metal luminal stent was placed under fluoroscopy with the proximal flange in the antrum of the stomach and distal flange in the second part of the duodenum, bridging the fistula (Figure). The stent was anchored proximally by the endoscopic placement of two interrupted 2.0 polypropylene sutures to prevent distal migration. Fluoroscopy revealed no contrast extravasation with good flow into the proximal jejunum. Interval imaging three weeks post-procedure revealed a second primary lung malignancy. The patient was seen in clinic one month following the procedure with improved abdominal pain and tolerating a full-liquid diet.

**Discussion:** This case highlights an endoscopic approach to stenting a duodenocolonic fistula. While the treatment for malignant duodenocolonic fistula can include surgery such as hemicolectomy, parental nutrition is usually required with the risk of post-operative complications. Alternative endoscopic approaches including using through the scope or over the scope clips for enteral fistula closure has a higher likelihood of dislodging and failure given their smaller size relative to the fistula. Other techniques including endoscopic suturing would not be ideal given the friability associated with the tumor causing the sutures to fail and dehiscence. A covered duodenal stent placed across the fistula allowed for a less invasive method to relieve debilitating vomiting and abdominal pain. Our case demonstrates an endoscopic palliative method in providing symptom relief and insuring enteral nutrition in patients with a limited life expectancy. Watch the video at <https://tinyurl.com/ACGAbstractS365>



[0365] **Figure 1.** Anatomy of stent placement position with proximal flange of the stent placed in the antrum of the stomach and distal flange in the second part of the duodenum.

S366

#### Endoscopic Marsupialization of a Large Duodenal Duplication Cyst

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**Introduction:** Duodenal duplication cysts are rare congenital malformations of the gastrointestinal tract. These malformations are usually diagnosed in infancy and childhood. Only one-third of adults are diagnosed after twenty years of age. Presenting symptoms and signs include abdominal pain and intestinal obstruction. These are generally found in the first and second parts of the duodenum. Although the majority are benign, case reports have demonstrated a risk of malignancy. The ideal treatment is complete surgical resection. Due to the proximity of structures including the biliopancreatic ducts, excision of the duodenal duplication cyst may require total pancreaticoduodenectomy. Advances in therapeutic endoscopy provide an alternative option for patients who are at a high risk of surgical complications. Endoscopic marsupialization is a management option in which the cyst cavity contents are drained into the duodenum. Complications include duodenal perforation and bleeding. However, the overall morbidity is low. Endoscopic surveillance is recommended in these patients to assess for recurrence.

**Case Description/Methods:** We present a case of a 38-year-old female who was diagnosed with a large duodenal mass in the second part of the duodenum measuring 8 cm in the largest diameter. This was found incidentally during an upper endoscopy which was performed in July 2020 for hematemesis. The duodenal mass was cystic in appearance on cross-sectional imaging. She was offered endoscopic marsupialization in October 2020 due to morbid obesity which increased the risk of perioperative complications.

**Discussion:** The procedure was performed successfully. Pathology from the lateral wall of the duodenal cyst was consistent with a duodenal duplication cyst. There were no early or delayed complications. The patient had a follow-up endoscopy one year later which did not demonstrate evidence of recurrence on biopsies. Watch the video at <https://tinyurl.com/ACGAbstractS366>

S367

#### Endoscopic Eversion and Stent-Assisted Strangulation for the Management of an Intraductal Papillary Neoplasm of the Bile Duct: A Minimally Invasive Technique for Non-Surgical Candidates

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<sup>1</sup>University of Alabama at Birmingham School of Medicine, Birmingham, AL; <sup>2</sup>University of Alabama at Birmingham, Birmingham, AL.

**Introduction:** Intraductal papillary neoplasms of the bile duct (IPNB) are uncommon lesions that may accompany risk for malignancy. Management is often surgical and may be associated with significant postoperative morbidity and mortality.

**Case Description/Methods:** An 80-year-old female with a history of hepatocellular carcinoma (HCC) presented for management of jaundice and sepsis after microwave ablation of HCC. Computed tomography (CT) imaging demonstrated intra and extrahepatic biliary ductal dilation with a 19 mm soft tissue density in the distal common bile duct (CBD). Index labs depicted leukocytosis, hyperbilirubinemia, and elevated lactate. Endoscopic ultrasound (EUS) delineated a round, hypoechoic intraductal CBD lesion. The pancreas and ampulla were normal. Endoscopic retrograde cholangiopancreatography (ERCP) confirmed a distal CBD filling defect. Biliary sphincterotomy was performed and balloon sweeping revealed a frond-like partially protruding polypoid lesion suggestive of an IPNB. Due to non-surgical candidacy, we decided to perform a complete eversion with subsequent full prolapse of the lesion by using a biliary extraction balloon. This was followed by the placement of a biliary plastic stent to assist with strangulation of the base of the lesion. Biopsies were consistent with a papillary neoplasm with intestinal differentiation, confirming our findings of an IPNB, without accompanying high-grade dysplasia or carcinoma. Interval surveillance ERCP 3 months later revealed no protruding lesion from the major papilla, no residual filling defects on cholangiogram, and sweeping of the biliary tree uncovered no contents. Cholangioscopy demonstrated segmental mucosal irregularity with mild granular tissue in the mid/distal bile duct wall; however, cholangioscopy-guided intraductal biopsies and brushings showed benign reactive tissue and no recurrent IPNB. At 5 months of follow-up, the patient continues to do well.

**Discussion:** IPNB is a rare biliary lesion. Radical surgical resection has been the mainstay of curative treatment. However, a few recent cases have described endoluminal radiofrequency ablation as an alternative therapy. To the best of our knowledge, this is the first reported case of balloon-assisted eversion combined with stent-assisted strangulation of an IPNB leading to spontaneous removal. In non-surgical candidates, this technique may be advantageous to minimize adverse operative outcomes, improve patient tolerance, and decrease cost. Watch the video at <https://tinyurl.com/ACGAbstractS367>

S368

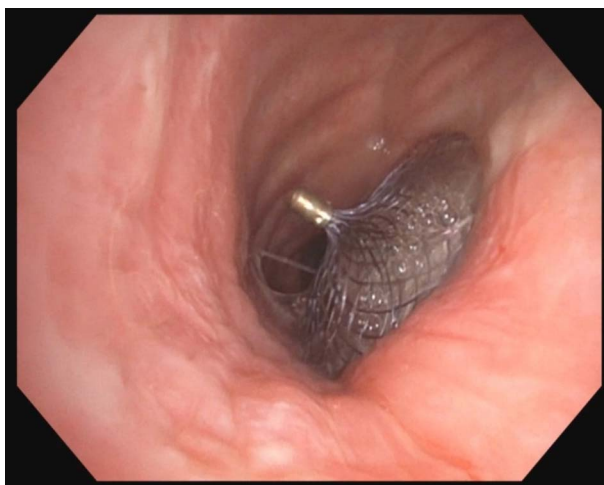
#### Chronic Tracheoesophageal Fistula Successfully Treated Using an Amplatzer Closure Device Under Endoscopic Visualization

*Karolina N. Dziadkowiec, MD, Peter M. Stawinski, MD, Nichole Henkes, Natasha McMillan, MD, Laura Rosenkranz, MD.*  
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**Introduction:** In tertiary care centers, where advanced endoscopic expertise is available, the placement of an Amplatzer septal occluder is practical and safe. This allows for potential fistula closure, especially in patients with severe comorbidities or in critical condition or those with chronic or recurrent tracheoesophageal fistulas (TEF).

**Case Description/Methods:** A 72-year-old man with a history of gastroesophageal reflux disease (GERD) and well-differentiated esophageal adenocarcinoma who presented for dysphagia and cough. Social history was negative for smoking, smokeless tobacco, alcohol ingestion and illicit drug use. Home medications include famotidine. He had no known significant family history. The patient had undergone numerous esophagogastroduodenoscopies (EGD) since 2017 for recurrent strictures requiring TTS balloon dilations, intralesional triamcinolone acetonide injections and esophageal stenting complicated by formation of a tracheoesophageal fistula (TEF) at the anastomotic site. The TEF was initially treated with stenting 3 months prior to presentation. The patient underwent EGD and bronchoscopy with visualization of a 5 mm fistula. He was then evaluated by the surgery team for consideration of surgical repair, however the patient declined surgical intervention. Given the clinical condition of the patient with recurrent aspiration events, failed endoscopic management and refusal of surgical intervention, it was decided to remove the esophageal stent and attempt placement of an Amplatzer septal occluder. An 18 mm Amplatzer device (AD) was successfully placed with satisfactory closure of the TEF. Repeat endoscopy 5 months later, showed that the device had remained in the correct position and the patient remained asymptomatic following advancement of his diet.

**Discussion:** Acquired TEF is a rare complication, the incidence in the US has yet to be reported. Amplatzer occluder devices, originally designed for transcatheter closure of cardiac defects, have shown promise in the treatment of TEFs. It is suggested that the placement of the AD induces granulation tissue formation around the device allowing for complete closure of the fistula without compromising airway patency. Upon review of current literature only one other case report was found where an AD was used for the management of refractory TEF. In the setting of large or difficult to manage TEFs and patients who are not surgical candidates, Amplatzer septal occluder devices can be used to successfully treat complicated TEFs. Watch the video at <https://tinyurl.com/ACGAbstractS368>



[O368] **Figure 1.** Amplatzer device deployed with successful tracheoesophageal fistula closure.

S369

#### Dysphagia From an Ischemic Colonic Segment in a Patient With Colon Interposition

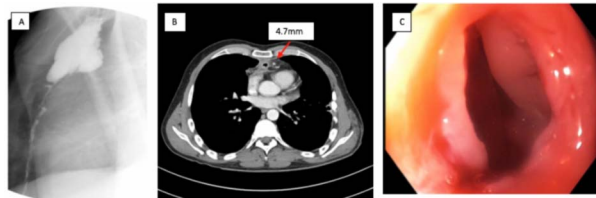
*Yassmin Hegazy, MD<sup>1</sup>, Usman Barlass, MD<sup>1</sup>, Douglas Morgan, MD, MPH<sup>1</sup>, Dane Johnson, MD<sup>1</sup>, Pooja Bhavsar, BS<sup>2</sup>, Kondal R. Kyanam Kabir Baig, MD<sup>1</sup>.*  
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**Introduction:** Colon interposition of the esophagus in adults may lead to future complications including chronic ischemia, stricture formation, and adenocarcinoma.

**Case Description/Methods:** A 39-year-old male immigrant presented with progressive dysphagia, in the setting of a remote history of emergent colon interposition following gunshot wounds of the esophagus. In the prior 6 months, he developed dysphagia with solids and then liquids, with associated weight loss and regurgitation. On admission, he had stable vitals with an unremarkable physical exam and labs. Esophagram revealed a severe high-grade, upper-mid esophageal stricture with proximal dilation (Figure 1A). Computed Tomography (CT) imaging showed an esophageal conduit in the anterior mediastinum

with proximal conduit distension and distal conduit narrowing (Figure 1B). Esophagoduodenoscopy (EGD) revealed a stricture (6 mm) at the esophago-colonic anastomosis, 19 cm from the incisors (Figure 1C). This was traversed with an ultra-thin endoscope which also revealed a severe stenosis distally in the colon segment with a partially obstructing inflammatory polyp. The proximal stricture was dilated in a staged fashion to advance the upper endoscope to the colonic stenosis. A wire was advanced and the stenosis length was estimated to be 11 cm under fluoroscopy. This was successfully stented with 20 mm x 12 cm covered metal stent. The stent was removed one month following the procedure with initial improvement in dysphagia and a normalized diet. However, the patient had re-occurring symptoms and a repeat EGD with dilation and stenting was performed one week later. The multidisciplinary team recommended definitive treatment for the chronic ischemic segment-related complications.

**Discussion:** Conduit ischemia with anastomotic strictures can occur in patients with a history of colonic interposition. Evaluation with double contrast studies may reveal ischemic changes including loss of haustration and stricture formation in the colon graft with dilation being an effective treatment. Chronic ischemia can be a delayed complication of the interposed colon resulting from non-necrotic vascular insufficiency leading to fibrosis, stricture formation, and dysphagia. Additionally, given the patient's stricture and mass, there was concern for underlying malignancy, which highlights the utility of adenocarcinoma screening in this patient population. Watch the video at <https://tinyurl.com/ACGAbstractS369>



[0369] **Figure 1.** 1A: Esophagram showing severe high-grade stricture at the junction of the cranial one third and distal two thirds of the esophagus. 1B: CT chest showing conduit extending along anterior mediastinum and deep into the sternum with anastomosis in upper neck and abrupt caliber change in mid esophageal conduit at level of right main pulmonary artery with associated wall thickening, fat stranding, and small adjacent lymph nodes measuring up to 5mm (red arrow). 1C: Esophago-colonic anastomosis found in the middle/lower third of the esophagus at 29cm from incisors.

S370

#### Use of a Novel Attachment Device to Aid in Endoscopic Food Impaction Removal

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**Introduction:** Esophageal food impaction is one of the most common gastrointestinal emergencies. Unfortunately, tools for foreign body removal from the esophagus are limited and upper endoscopies for food impaction are often prolonged procedures that require the use of multiple tools. Adding to the armamentarium of tools is a novel single-use attachment device consisting of a plastic cap that fits over the end of the endoscope with a snare threaded through it designed for use in foreign body removal.

**Case Description/Methods:** Four patients, ranging in age from 28 to 54 years, presented separately to the emergency room with sensations of food stuck in the esophagus after eating meat. All were hemodynamically stable and had no improvement with glucagon. On endoscopy, food bolus was seen in the esophagus in all patients and three of the four patients had evidence of eosinophilic esophagitis. Attempts to gently push the boluses into the stomach were unsuccessful, so the combination cap and snare device was attached. With this device, each ~4cm food bolus was removed entirely in one pass before reinsertion of the endoscope to complete the exam.

**Discussion:** Use of a transparent cap in addition to standard accessory devices such as rat tooth forceps has been shown to decrease procedure time in upper endoscopy food impaction (1,2). Conventional esophageal food impaction endoscopies have a procedure time of approximately 47 minutes and the addition of a cap decreases procedure time to 23 minutes (2). The above cases required only one pass of the endoscope to remove the food bolus, demonstrating that the use of the cap and snare device has the potential to significantly decrease endoscopy procedure time in these often complex cases. Watch the video at <https://tinyurl.com/ACGAbstractS370>

#### REFERENCES

- Zhang S, Wang J, Wang J, Zhong B, Chen M, Cui Y. Transparent cap-assisted endoscopic management of foreign bodies in the upper esophagus: a randomized, controlled trial. *J Gastroenterol Hepatol* 2013; 28(8):1339-42.
- Ooi M, Duong T, Holman R, et al. Comparison of Cap-Assisted vs Conventional Endoscopic Technique for Management of Food Bolus Impaction in the Esophagus: Results of a Multicenter Randomized Controlled Trial. *Am J Gastroenterol*. 2021;116(11):2235-2240.

S371

#### Management of Huge Walled-Off Necrosis Using Sequential Percutaneous and Endoscopic Drainage: The First Experience from Qatar

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**Introduction:** Acute pancreatitis can be categorized into acute interstitial edematous pancreatitis and acute necrotizing pancreatitis. Acute necrotizing pancreatitis is associated with an acute necrotic collection that can progress into walled-off necrosis once a well-defined inflammatory wall has developed. Here we present a challenging case of huge acute necrotic collection that progressed into walled-off necrosis and was managed with percutaneous and endoscopic drainage.

**Case Description/Methods:** We present a 48-year-old patient with a past medical history of hypertension, alcohol use disorder, and acute pancreatitis who presented to our hospital with fever and generalized abdominal pain. Computed tomography of the abdomen revealed a large complex multi-loculated pancreatic collection with fluid and multiple air locules measuring 16 x 17 x 33 cm. It also revealed a small distal CBD stone. The patient underwent percutaneous drainage with catheter insertion. Repeated CT scan showed interval reduction in the size of the collection. Three weeks later, the patient underwent second percutaneous drainage with catheter insertion. A repeated CT scan of the abdomen showed further reduction of the collection with the development of thick organized wall (Walled-off necrosis). After EUS confirmed the presence of the small distal CBD stone, ERCP was performed with the insertion of double-pigtail plastic biliary stent and a pancreatic stent. A third transcatheter drainage procedure was performed with the removal of two catheters and deployment of a new one. It was followed by an EUS-guided cystogastrostomy with the insertion of a 10F 5 cm long double pigtail plastic stent. The patient underwent cystogastrostomy tract dilatation with placement of a second double-pigtail plastic stent through the cystogastrostomy tract. Repeated endoscopy after a week showed migration of one of the double-pigtail stents, so another stent was inserted into the cystogastrostomy tract. 5 weeks later, CT scan of the abdomen revealed a significant reduction in the size of the WON, and the patient finally underwent removal of the two transluminal cystogastrostomy stents and the biliary stent two weeks after the CT scan (8 weeks from the initial cystogastrostomy).

**Discussion:** Our presentation highlights a case of severe acute necrotizing pancreatitis complicated by an acute necrotic collection that progressed into walled-off pancreatic necrosis requiring multiple transcatheter and endoscopic drainage procedures. Watch the video at <https://tinyurl.com/ACGAbstractS371>

S372

#### Cystic Artery Pseudoaneurysm: A Rare Case of Upper Gastrointestinal Bleeding

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**Introduction:** Cystic artery pseudoaneurysm (CAP) is a rare complication of acute cholecystitis and cholecystectomy. We present an unusual case of upper GI bleed due to CAP.

**Case Description/Methods:** An elderly female presented with one month history of lethargy and unintentional weight loss. Clinical exam was unremarkable apart from pallor. Blood tests revealed severe iron deficiency anaemia and bland cholestasis. CT scan showed a common bile duct (CBD) mass and a gallbladder (GB) neck lesion with prominent regional lymph nodes, which was worrying for biliary malignancy. MRI scan showed a 3cm CBD stone with acute emphysematous cholecystitis and possible CAP at the GB neck. An urgent OGD and ERCP was done on the same day as she developed hematemesis and cholangitis. On endoscopy, there was active bleeding from possible enteric fistula at first part of duodenum (D1), this was treated with metal clips. During ERCP, haemobilia was noted on CBD cannulation. On

cholangiogram, the endoclips were adjacent to distal CBD stone. A plastic stent was inserted into the CBD and she was referred to the surgeons. Cholecystectomy and CBD exploration was performed for definitive treatment. Intra-operatively, there was active bleeding into the GB from CAP. D1 was thinned out with adhesions to the GB. There was stale blood in the bile duct but no biliary-enteric fistula seen. CAP was sutured, adhesiolysis, subtotal cholecystectomy, omental patch repair of D1 and CBD stone was retrieved. Repeat OGD and ERCP with CBD stent removal done 2 months later showed healed D1 mucosa.

**Discussion:** The clinical features of CAP include right upper quadrant pain, upper GI bleed due to haemobilia and abnormal liver enzymes. It is diagnosed on arterial phase of CT scan, angiography, MRI or during surgery. It is treated with surgery or angioembolization. This is a challenging case with delayed diagnosis of CAP as she lacks the typical presentation of CAP. A plain contrasted CT without arterial phase was done initially, which have mistaken the CAP as soft tissue lesion in GB. Endoscopic findings raises possibility of choledocho-duodenal fistula; this was excluded during surgery. The final diagnosis is acute calculous cholecystitis complicated by CAP with direct pressure on D1 leading to upper GI bleed. To our knowledge, this is the first case of CAP with such entity. In conclusion, CAP should be considered in patients with symptomatic gallstone disease and upper GI bleed in order to select appropriate imaging modality and guide therapy. Watch the video at <https://tinyurl.com/ACGAbstracts372>

S373

#### Successful Management of Recurrent Malignant High-Grade Anastomotic Recto-Sigmoid Stricture With Non-Cautery Enhanced Lumen-Apposing Metal Stent

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**Introduction:** Recurrent malignant anastomotic strictures, especially close to the rectum, are challenging to treat. Lumen-apposing metal stents (LAMS) have been increasingly used for benign strictures. Data in malignant strictures is limited. We report a case successfully treated by non-cautery enhanced LAMS.

**Case Description/Methods:** A 54-year-old man with a history of rectosigmoid adenocarcinoma post low anterior resection, adjuvant chemoradiation, and local recurrence with progression to peritoneal carcinomatosis presented with the complaints of intermittent nausea, vomiting, and abdominal distention. A small bowel follow-through did not show an obstruction but a Gastrografin enema revealed a rectosigmoid anastomotic stricture. Sigmoidoscopy confirmed a high-grade stricture, 0.4 cm (diameter) x < 1 cm (length) at an end-to-end colo-colonic anastomosis, 10 cm from the anus. This was balloon dilated to 16.5 mm using an over-the-wire technique and traversed showing severe upstream colonic dilation. Stricture biopsies showed evidence of at least high-grade dysplasia. Symptoms improved for a month after which they recurred. Interval positron emission tomography scan revealed hypermetabolic recurrent rectosigmoid tumor. After a multidisciplinary discussion, he was deemed a high-surgical risk candidate. Due to proximity to the anus and long-term life expectancy, a LAMS placement was planned. Stricturegram on repeat colonoscopy using a dual-channel gastroscope confirmed < 1 cm length stricture. A 20 x 10 mm LAMS system was exchanged over-the-wire. Using a non-cautery technique both flanges were deployed across the stricture, followed by balloon dilation to 18 mm with improvement in luminal narrowing and decompression of the upstream colon. At 5-month follow-up, the patient continues to do well with the resolution of obstructive symptoms.

**Discussion:** Malignant recurrence at post-surgical anastomotic sites is difficult to manage surgically, especially with peritoneal involvement. Palliative endoscopic options are limited to dilation or uncovered self-expanding metal stents (uSEMS). Due to their longer length, the role of uSEMS is limited in strictures close to the anus (< 10 cm) due to the occurrence of pain and tenesmus. LAMS with their short length and fully covered nature can provide a longer-lasting alternative with the avoidance of adverse effects. To our knowledge, this is the first report using LAMS for a distal colonic malignant post-surgical anastomotic stricture. Watch the video at <https://tinyurl.com/ACGAbstracts373>

S374

#### Endoscopic Coiling of Mesenteric Varices Causing Stomal Bleeding Caused by Extensive Portal Vein and Superior Mesenteric Thrombus

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**Introduction:** Ectopic varices are collateral vessels located outside the gastro-esophageal area. Small bowel varices, while an uncommon result of portal hypertension can be a life-threatening cause of gastrointestinal bleeding. We present a case of refractory stomal bleeding secondary to mesenteric varices, treated with endoscopic ultrasound (EUS) guided coiling.

**Case Description/Methods:** A 54-year-old male presented with history of ulcerative colitis status post proctocolectomy and ileostomy, primary sclerosing cholangitis (PSC), and auto-immune hepatitis (AIH) overlap syndrome treated with a deceased donor liver transplant in 2019. This was further complicated by portal hypertension secondary to portal vein and superior mesenteric vein thrombus. The patient presented with refractory stomal bleeding at this ileostomy site requiring multiple blood transfusions. On CT imaging, prominent mesenteric varices extending to the area of the stoma were noted. An interventional radiology (IR) approach from the portal system was not feasible given thrombosis in the portal vein and superior mesenteric vein. Percutaneous IR approach was also felt to be suboptimal given the depth of the peri-stomal varices. After a multidisciplinary discussion, the patient underwent ileoscopy with EUS guided coiling of the terminal/culprit branches of the mesenteric varices. The linear echoendoscope was introduced through the ileostomy and advanced approximately 5-10cm. Multiple tubal anechoic structures consistent with varices were noted with flow seen on doppler examination. This was confirmed on pulse wave doppler. A large feeding variceal vein towards the patient's left side was punctured with a 22G needle. Saline was injected and it was visualized on EUS to confirm location. Next, embolization coils (8mm x 2, 10mm x1) were inserted for varix eradication. Reduced flow downstream of the coiling site was confirmed on doppler exam after embolization. Brief fluoroscopic images showed appropriate placement of coils in the patients right lower quadrant, without any migration. There was no significant flow toward the lumen on EUS after coiling. Since this procedure, the patient's stomal bleeding resolved. (Figure)

**Discussion:** Small bowel varices in the setting of significant portal hypertension are a rare but clinically significant cause of gastrointestinal bleeding. EUS-guided interventions such as coil embolization can be an effective treatment modality, especially in patients who are poor interventional radiology candidates. Watch the video at <https://tinyurl.com/ACGAbstracts374>

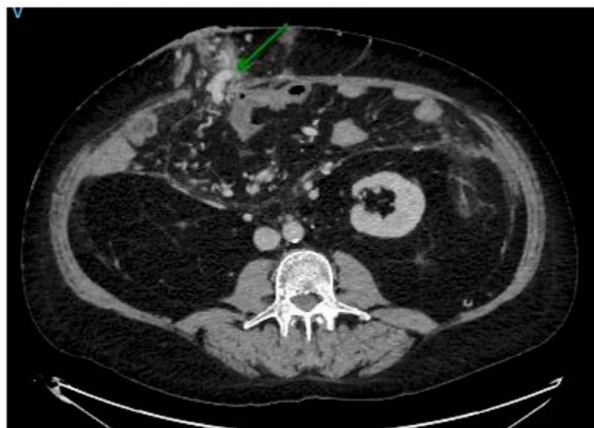


Figure 1a



Figure 1b



Figure 1c

[0374] **Figure 1.** (1a) Prominent mesenteric varices extending into the ostomy (1b) EUS-guided coil embolization (1c) Status post successful endoscopic coil embolization

S375

**A Novel Method for Removal of a Partially Deflated Intra-gastric Balloon**

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**Introduction:** Intra-gastric balloons are being increasingly utilized for weight loss. A ruptured gastric balloon requires urgent removal to prevent downstream migration which risks obstruction. Endoscopic removal of gastric balloons is typically performed using a needle and catheter to puncture the balloon, suction liquid, and deflate the balloon. However, this process may not be feasible when the balloon is already ruptured. Here, we describe a novel technique to remove a partially ruptured gastric balloon.

**Case Description/Methods:** A 55-year-old woman presented with abdominal pain and blue colored urine. Further questioning revealed intra-gastric balloon placement about 16 months prior to presentation. Abdomen x-ray showed linear gaseous lucencies projecting over the stomach. Computed tomography abdomen illustrated ruptured gastric balloon sitting within the cardia and body of the stomach without bowel perforation or obstruction. The patient was intubated and an esophagogastroduodenoscopy was performed. Due to the partially decompressed balloon, puncture with traditional drainage tools was challenging. Instead, disposable endoscopic scissors were used to cut open the silicone balloon wall to permit complete drainage. An endoscopic retractor was used to grasp the proximal end of the balloon once it was deflated, and the balloon was pulled and removed from the oropharynx in one piece. Post balloon removal endoscopic examination showed no remaining balloon fragments in the stomach.

**Discussion:** We describe a novel technique to remove a partially ruptured gastric balloon using endoscopic scissors and retractor. This technique may also be considered if removal of an intra-gastric balloon is challenging even after complete evacuation in cases of severe esophagitis or stenosis which be seen due to reflux while the balloon is dwelling in the stomach for long periods of time. Endoscopic removal of a ruptured and partially deflated gastric balloon appears safe and feasible using a combination of endoscopic scissors and retractor. Watch the video at <https://tinyurl.com/ACGAbstractS375>

S376

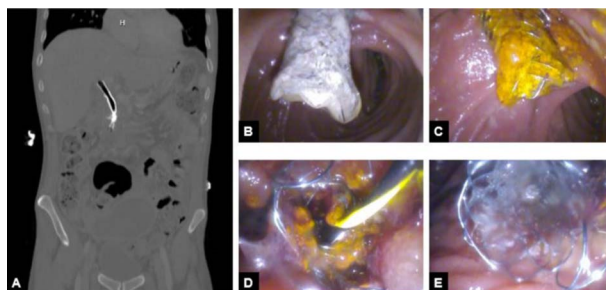
#### Use of Loop Cutter to Successfully Retrieve a Forceps Stuck in a Self-Expandable Metal Biliary Stent

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**Introduction:** Self-expanding metal stents (SEMS) occasionally migrate, and subsequent endoscopic retrieval may be technically challenging. A variety of techniques using basket, balloon, snares, and forceps have been described, but there are few reports on salvage techniques for when these attempts go awry. We describe the first-ever successful retrieval of forceps stuck in a SEMS by cutting the wire of the stent with a loop cutter.

**Case Description/Methods:** A 39-year-old man with metastatic pancreatic cancer who had undergone chemoradiation was admitted to our hospital for obstructive jaundice due to stent migration and occlusion. His initial endoscopic retrograde pancreatography (ERCP) for obstructive jaundice due to malignant stricture was performed at an outside facility and records were not available. Physical exam was notable for cachexia, jaundice, and epigastric tenderness. Labs showed mild leukocytosis and cholestatic hyperbilirubinemia (Table). Computed tomography (CT) showed narrowing of the distal common bile duct (CBD) stent, concerning tumor ingrowth of the residual pancreatic head (Fig. 1A). A decision was made to perform SEMS exchange. Duodenoscopy revealed fully covered SEMS with distal migration from the CBD (Fig. 1B), successfully removed with a 10-millimeter alligator and rat tooth forceps. This revealed another SEMS extending from the papilla with apparent occlusion (Fig. 1C). While attempting to remove this SEMS, the wire of one of the cells of the SEMS became trapped in the hinge of the forceps and despite multiple maneuvers was unable to be removed. The forceps was then cut at the handle and the duodenoscope was removed, leaving the forceps impacted in the partially covered SEMS in place. A dual channel endoscope was reinserted along with the forceps. Jumbo forceps as well as scissor forceps were tried, but were unsuccessful in removing the alligator and rat tooth forceps. A loop cutter was then used to cut the SEMS wire, allowing its release from the hinge of the forceps. The forceps was retrieved, and the dual channel endoscope was exchanged for the duodenoscope to allow for insertion of a new fully covered SEMS within the impacted partially covered SEMS (Fig. 1D-E).

**Discussion:** Laser-cut SEMS have an open cell structure which forceps may get stuck on. Argon plasma coagulation is a useful procedure for cutting a SEMS. While jumbo forceps and scissor forceps were unsuccessful in this case, loop cutter may be a novel and effective technique in these difficult situations. Watch the video at <https://tinyurl.com/ACGAbstractS376>



[O376] **Figure 1.** A, CT of the abdomen shows CBD with pneumobilia and narrowing of the distal portion of the stent with adjacent metallic material concerning for residual tumor compression. B, Previously placed fully covered SEMS migrated distally. C, Removal of the fully covered SEMS reveals another previously placed occluded SEMS that became stuck on alligator and rat tooth forceps during attempted removal. D, Wire cannulation of the CBD. E, Placement of a new fully covered SEMS inserted within the previously placed impacted SEMS.

**Table 1. Laboratory Data**

Serologies	24 Days Prior to ERCP	Day of ERCP	7 Days After ERCP	Normal Values
White blood cell count (K/ $\mu$ L)	2.05	13.97	12.02	4.80-10.80
Hemoglobin (g/dL)	9.6	8.4	7.8	14.0-18.0
Platelet count (K/ $\mu$ L)	201	484	531	130-400
Bilirubin, total (mg/dL)	1.3	11.1	5.8	0.2-1.3
Bilirubin, direct (mg/dL)	0.0	5.1	1.0	0.0-0.3
Bilirubin, indirect (mg/dL)	0.7	2.0	1.2	0.0-1.1
Alkaline phosphatase (U/L)	956	1490	1431	40-125
Aspartate aminotransferase (U/L)	36	139	98	10-45
Alanine aminotransferase (U/L)	18	56	50	10-45
Albumin (g/dL)	2.4	3.0	2.7	3.5-5.0

S377

#### Laparoscopic Assisted ERCP for Cholelithiasis After Gastric Bypass

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**Introduction:** Cholelithiasis can occur after gastric bypass. Access to the biliary is endoscopically complicated given the altered anatomy. Laparoscopic access to the distal gastric remnant can be utilized for endoscopic access to the ampulla and biliary tree for endoscopic sphincterotomy and clearance of the biliary tree without disruption of the gastric bypass.

**Case Description/Methods:** This video demonstrates the procedure of a laparoscopic assisted ERCP following gastric bypass for morbid obesity. The patient presented with increased bilirubin and a dilated biliary tree. MRCP revealed gallstones and common bile duct stones with biliary obstruction. Laparoscopic access to the distal stomach is obtained. A cholecystectomy is performed and the distal stomach is

cannulated with a 15 mm. laparoscopic trochar. An ERCP endoscope is passed through the abdominal wall, through the trochar into the distal stomach. The ampulla is identified and cannulated. A sphincterotomy was performed and the biliary tree is cleared of stones. The endoscope is withdrawn and the gastric cannulation site is surgically closed.

**Discussion:** Laparoscopic assisted ERCP following gastric bypass for morbid obesity is a safe and effective approach for choledocolithiasis. This approach does not sacrifice or disrupt the gastric bypass. This approach is needed. Watch the video at <https://tinyurl.com/ACGAbstractS377>

S378

#### EUS-Guided Cyst Gastrostomy for Treatment of a Pancreatic Pseudocyst Extending Into the Mediastinum Resulting in Acute Respiratory Failure

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**Introduction:** Mediastinal pseudocysts are the result of a rare drainage tract formation that develops more often in patients with a history of alcohol related chronic pancreatitis. The current evidence suggests favorable outcomes using endoscopic transmural drainage in the management of pancreatic pseudocysts. Here, we present a challenging approach to an unusual complication of a pancreatic pseudocyst extending into the mediastinum using EUS guided creation of a cyst gastrostomy.

**Case Description/Methods:** A 50-year-old female with a history of alcohol related chronic pancreatitis presented to our hospital in severe respiratory distress requiring intubation for acute hypoxemic respiratory failure. A CT scan demonstrated a pseudocyst extending through the esophageal hiatus into the mediastinum and right lower lung where it measured 69.7mm. Multidisciplinary consensus between gastroenterology and interventional radiology was to proceed with EUS assisted creation of a cyst gastrostomy with placement of a metal stent. A curvilinear echoendoscope was passed and advanced into the proximal stomach. Here, a 55mm anechoic cystic cavity with layering debris was brought into stable view. Using standard endo cut settings, a 10mm x 10mm lumen apposing metal stent was successfully placed using a cauterized technique. The echoendoscope was then exchanged for the gastroscope and the stent was seen to be in good position draining cystic fluid. Four days after the procedure, a CT scan showed the stent extending from the proximal stomach to the pseudocyst, which had decreased in size from 69.7mm to 43.6mm. One week following the initial procedure, the patient underwent upper endoscopy, which showed the lumen-apposing metal stent in the cardia along with an empty cavity and scant fluid drainage when suction was applied through the stent. A CT scan performed 8 weeks later showed complete resolution of the pseudocyst. The patient then underwent upper endoscopy with EUS, which confirmed resolution of the pseudocyst and the stent was removed using rat tooth forceps.

**Discussion:** In this case, we have demonstrated the utility of EUS in the creation of a cyst gastrostomy to successfully treat a patient with acute respiratory failure secondary to pancreatic pseudocyst extension into the mediastinum and right lower lung. Further studies are needed to evaluate for pseudocyst recurrence following this procedure to determine its long-term efficacy in the management of mediastinal pseudocysts. Watch the video at <https://tinyurl.com/ACGAbstractS378>



[0378] **Figure 1.** (A) CT scan showing a pseudocyst extending through the esophageal hiatus into the right lower lobe of the lung where it measured 69.7 mm and appeared to contain gas. (B) CT scan showing a stent extending from the stomach to the pseudocyst which decreased in size to 43.6 mm and an enlarging moderate right pleural effusion. (C) CT scan demonstrating the stent placed on prior admission with interval resolution of the previously demonstrated large pseudocyst.

S379

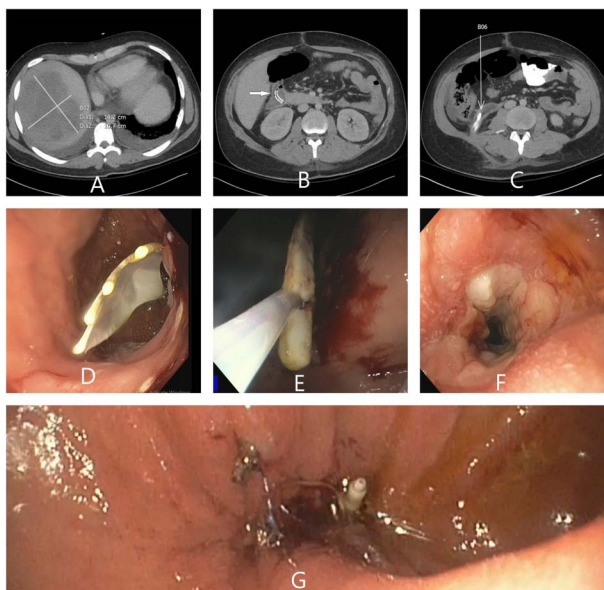
#### Successful Use of a Novel Through-the-Scope Suturing Device to Close a Duodenal Fistula Caused by Foreign Body Penetration

*Abdullah Sohail, MD<sup>1</sup>, Khadija Naseem, MD<sup>2</sup>, Elizabeth Brindise, DO<sup>1</sup>, Kyle E. Brown, MD<sup>1</sup>, Henning Gerke, MD<sup>1</sup>.*  
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**Introduction:** Endoscopic treatments have become vital in managing transmural gastrointestinal defects both as a first-line and rescue treatment. The latest advances in interventional endoscopy have made a paradigm shift in managing these defects from surgery to minimally invasive endoscopic procedures. We present a unique presentation of a perforation caused by foreign body ingestion (FBI), leading to a chronic duodenal fistula that was treated with a novel through-the-scope suturing device (X-Tack Endoscopic HeliX Tacking System).

**Case Description/Methods:** A 28-year-old male presented with a 4-week history of intermittent right upper quadrant abdominal pain associated with high-grade fevers. He had a past medical history and multiple episodes of FBI in the past. CT scan of the abdomen and pelvis revealed a large (14.2cm X 10.7cm) multiloculated liver abscess (Figure A). It also showed an impacted foreign body in the duodenum (Figure B) and multiple foreign bodies in the small intestine (Figure C). An EGD was performed, which revealed a spork in the second part of the duodenum (Figure D), which was removed using a snare (Figure E). A chronic-appearing fistulous tract was visualized at the duodenal sweep (Figure F). We decided to close the defect with a novel through-the-scope suturing device. Four HeliX Tacks were placed approximating the defect, and the suture was cinched with the endoscope cinching device. After deployment of the sutures, there appeared to be a residual opening; a second X-Tack with four HeliX Tacks was placed, but unfortunately, the suture broke. Finally, the third set of Helix Tack was placed, approximating the residual defect. After deployment, the fistulous tract appeared to be closed (Figure G). A follow-up CT scan with contrast revealed no residual duodenal leakage, and the patient improved clinically.

**Discussion:** Our case exhibits a rare presentation of chronic contained duodenal perforation successfully treated with the help of a through-the-scope suturing device. This novel technique has several advantages over the traditional through-the-scope (TTS) and over-the-scope clips (OTS). It allows a suture-based deep submucosal/intramucosal fixation through a standard scope. This technique is superior for the closure of large mucosal defects as compared to traditional TTS clips. In addition, this device has improved accuracy and simplicity without the need for endoscope withdrawal for device loading. It is less invasive than surgery and more appropriate for clinically stable patients. <https://tinyurl.com/ACGAbstractS379>



[0379] **Figure 1.** (A) Liver Abscess in the Right Lobe of the Liver (B) Curved Metallic Body in 2nd and 3rd part of Duodenum (C) Small metallic bodies in the small intestine (D) Metallic Spork In the duodenum (E) Removal of Spork with a snare Image (F) Chronic Fistulous Tract in Duodenum (G) Endoscopic Closure of the Fistulous Tract

S380

#### Lap TEC for Walled Off Pancreatic Necrosis

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**Introduction:** Walled Off Pancreatic Necrosis (WOPN) is a result of acute pancreatitis. These cyst cavities have been traditionally drained via an open surgical approaches. More modern approaches with endoscopic drainage and debridement are used effectively for pancreatic pseudocysts and have been used for WOPN. These cases usually require several debridement procedures per patient. Evolution of surgical approaches with less invasive approaches continue to evolve.

**Case Description/Methods:** This video demonstrates a combined endoscopic and laparoscopic approach to debridement of a walled off pancreatic necrosis through the posterior gastric wall. This approach we have termed "Lap TEC" stands for Laparoscopic Transgastric Endoscopically assisted Cystgastrostomy for a woman several months from an episode of acute pancreatitis resulting in a large symptomatic WOPN.

**Discussion:** Lap TEC is an effective approach for patients with walled off pancreatic necrosis. These patient should be managed by a multidisciplinary team including gastroenterologists and surgeons. Approach chosen for management of WOPN should include patient risk factors, size and location of WOPN, amount of cavitary debris and local expertise. Lap TEC has demonstrated a high degree of safety and efficacy for patient requiring debridement and drainage of WOPN. Watch the video at <https://tinyurl.com/ACGAbstractS380>

S381

#### Retrieving an Endoscopic Cap From the Submucosal Tunnel During a POEM Procedure: Keep an Eye on the Cap Before Closing the Mucosal Incision

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**Introduction:** Achalasia is an esophageal motility disorder that results in the failure of the lower esophageal sphincter (LES) to relax. Moderate to severe forms of the Achalasia can be debilitating due to the patients' inability to tolerate PO food or drink; often experiencing constant pain or pressure. Peroral endoscopic myotomy (POEM) is a relatively novel endoscopic procedure that has shown more favorable results when compared with other therapeutic modalities in the treatment of achalasia. This case illustrates retrieving an endoscopic cap from a closed submucosal tunnel during a POEM procedure.

**Case Description/Methods:** A 63-year-old male with type 3 achalasia underwent a seemingly routine POEM. At the beginning of the procedure, the GE junction was located, and methylene blue was injected to lift the mucosa at the site of the initial mucosotomy. After the mucosotomy was made, the endoscope was used to enter the submucosal tunnel, which was further lengthened by continued lifting and dissection. The submucosal tunnel was then extended to about 1 to 2 cm distal to the gastroesophageal junction (GEJ), and the myotomy was performed that extended into the cardia with no observed complications. After the mucosotomy site was closed with 4 endoclips, it appeared that the cap of the endoscope was missing after the endoscope's removal from the esophagus. Upon further inspection of the patient's mouth, bed and floor in the procedure room, the cap was still missing. The endoscope was then reinserted into the patient's esophagus to continue the search for the lost cap. The intraluminal compartment of the stomach, the esophagus, and the patient's oropharynx showed no evidence of the cap. Video of the endoscopic procedure was reviewed, and it revealed the presence of bulging mucosa in the distal esophagus along with the absence of the endoscope cap during the clipping of the mucosotomy site. It was determined that the cap was most likely in the submucosal tunnel. After the initial four clips were removed by rat tooth forceps and deposited into the stomach, the scope went into the submucosal tunnel again. The cap was visualized in the submucosal tunnel and removed with the same rat tooth forceps, which was followed by reclosing the mucosotomy site with four more clips. The patient had a successful postoperative course.

**Discussion:** Review of this case prompts further discussion and research into a more stable cap design for the endoscope, especially for third space endoscopy. Watch the video at <https://tinyurl.com/ACGAbstractS381>

S382

#### Accessing the Bile Duct: Not the Usual Way

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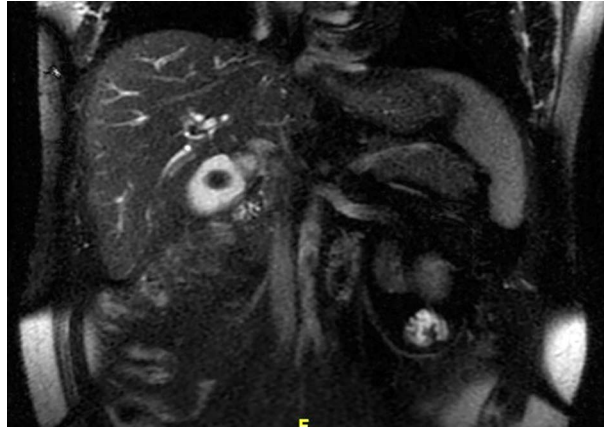
**Introduction:** Percutaneous transhepatic cholangioscopy (PTCS) provides direct visualization of the biliary system. Direct visualization of the biliary system has advantages for the identification and treatment of intraductal lesions compared to indirect imaging of endoscopic retrograde cholangiopancreatography (ERCP). This case highlights the role of PTCS in diagnosis of cholangiocarcinoma.

**Case Description/Methods:** A 63-year-old male was admitted with 3 day history of abdominal pain associated with nausea and vomiting. Physical exam was remarkable for scleral icterus, jaundice and epigastric tenderness. Laboratory data showed WBC 14, AST 80, ALT 77, AP 144, TB 10.1, INR 1.0, Lipase 3000, Amylase 850, CA 19-9 673. MRI Abdomen with MRCP revealed large gallstones in the gallbladder neck, and proximal CBD obstruction with severe diffuse biliary dilatation proximally (Figure); no definite stricture was noted. ERCP revealed papillary stenosis and ventral pancreatic sphincterotomy was performed; distal CBD could not be cannulated due to severe stenosis. He was started on antibiotics and underwent internal/external percutaneous biliary drain placement. He subsequently developed



necrotizing post ERCP pancreatitis with multiple intra-abdominal fluid collections requiring interval placement of surgical drains. He had a complicated hospital course requiring mechanical ventilation and dialysis. Repeat attempt at ERCP was not possible due to patient clinical condition and family refusal. To obtain a definitive diagnosis, decision was made to access the biliary tree via PTSC. Biopsies from the mass revealed atypical cells concerning for malignancy. Patient and family decided to opt for hospice.

**Discussion:** Cholangiocarcinoma is a very aggressive tumor which can be classified as intrahepatic, peri-hilar and distal based on location. Diagnosis can be challenging due to location of tumors. Tissue collection during endoscopic (ERCP) and/or percutaneous transhepatic (PTC) procedures provides with definitive diagnosis. In patients with difficult bile duct access PTSC approaches offers an alternative for bile duct access. Studies have demonstrated greater than 95% accuracy with PTCS in diagnosing biliary malignancies. Overall, PTCS is a safe and effective procedure, with severe complications occurring in less than 8% of patients. This case highlights a challenging diagnostic case where novel and underutilized PTSC technique provided with diagnosis. Watch the video at <https://tinyurl.com/ACGAbstractS382>



[0382] **Figure 1.** MRI Abdomen with MRCP with large gallstones, Gallbladder neck, cystic duct, and proximal common bile duct thickening and enhancement and severe segmental narrowing of the affected proximal common bile duct resulting in moderately severe diffuse biliary dilatation proximally.

S383

**“Into the Folds:” Case Report of a Polypoid Variant of Menetrier’s Disease**

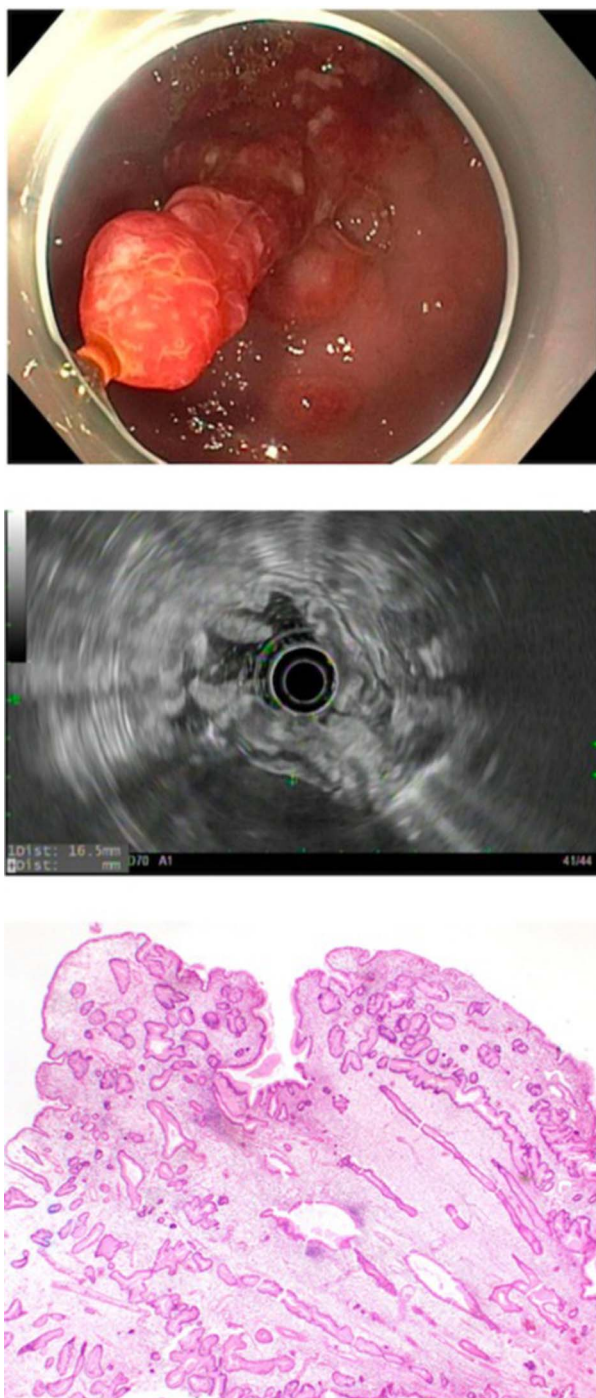
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**Introduction:** Menetrier’s disease (MND) is a rare disease characterized by epithelial hyperplasia, enlarged gastric folds and, protein losing enteropathy. Here we discuss a case of a patient with the polypoid variant of MND who presented with an unprovoked deep vein thrombosis (DVT).

**Case Description/Methods:** Our patient is a 75-year-old woman who recently developed an unprovoked DVT (placed on rivaroxaban). CT abdomen/pelvis at this time was notable for diffusely thickened gastric mucosa with retroperitoneal soft tissue nodules concerning for metastatic disease. EGD (esophagogastric duodenoscopy) was performed and there was note of “many polypoid lesions” in the fundus and body along with a large, 5-6 cm mass (biopsied). Histopathology showed fragments of gastric non-oxynitic mucosa, foveolar metaplasia, and no overt malignancy. She was referred to us for EUS staging and further management of a presumed gastric malignancy. On our examination, EGD revealed multiple pedunculated and sessile polyps in the fundus/body with antral sparing. EUS demonstrated diffuse gastric wall thickening (16.5 mm) with significant enlargement in the second endosonographic layer corresponding to the muscularis mucosae. A large, representative, polyp was removed via snare mucosal resection. Pathology showed multiple hyperplastic gastric polyps, with intestinal metaplasia and low-grade dysplasia in the setting of foveolar hyperplasia, consistent with a polypoid variant of MND.

**Discussion:** MND is a rare form of hyperplastic gastropathy. Typically, this presents endoscopically with giant gastric folds but there also exists a polypoid variant, as is described with our patient. Diagnosis is made with EGD, EUS, and pathology. Endoscopically, these hyperplastic polyps typically can be found in the fundus and body of the stomach with antral sparing as noted in our patient. Large snare biopsies can be useful in obtaining full thickness epithelial samples. Further confirmation of MND can be made with typical EUS findings including diffuse gastric wall thickening, particularly in the muscularis mucosae (2nd endosonographic layer, hypoechoic). Pathology from gastric resection usually demonstrates foveal hyperplasia with cystic dilation and an increase in mucous glands. Prior case reports have also noted unprovoked DVT as a presenting symptom of MND. The mechanism for this is unclear but it is thought that protein losing enteropathy associated with MND predisposes to a thrombophilic state with loss of antithrombin III and protein C and S. Watch the video at <https://tinyurl.com/ACGAbstractS383>



[O383] **Figure 1.** (Top) Multiple gastric polyps in the body and fundus with antral sparing. (Middle) Muscularis mucosa thickening on EUS. Gastric wall measures 16.5 mm. (Bottom) Foveolar Cell Hyperplasia on histopathology.

S384

#### An Unusual Cause of Iron Deficiency Anemia: Gastric Metastasis From Renal Cell Carcinoma

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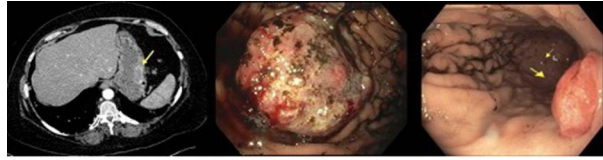
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**Introduction:** Renal cell carcinoma (RCC) is known to metastasize anywhere throughout the body with the most common sites of metastasis being the lungs (71%), lymph nodes (46%), bone (36%), and liver (21%). However, metastatic spread to the stomach is exceedingly rare. We describe a case of gastric metastasis from RCC.

**Case Description/Methods:** A 52-year-old female with a history of seizures, RCC with metastasis to adrenal gland and brain status post Gamma Knife and multiple lines of chemotherapy who presented with generalized weakness. There was no history of overt GI bleeding. The patient took aspirin 81 mg daily, but denied any other NSAID, antiplatelet agent, or anticoagulant use. Her initial hemoglobin was 7.1 gm/dL, decreased from her normal baseline level 1 month prior to admission. CT PE protocol that was performed 10 days prior to admission revealed interval development of multiple lung nodules, new hyperenhancing liver lesions, and an enhancing mass within the greater curvature of the stomach (Figure). An EGD was performed and revealed multiple fungating masses in the gastric body and antrum

(Figure). Biopsies were obtained and confirmed metastatic RCC. The patient underwent palliative radiation to the stomach to control bleeding, but ultimately died six months later from complications of her metastatic disease.

**Discussion:** Gastric metastasis from any tumor is extremely uncommon with a reported incidence of 0.2% to 0.7% of cases. The most common malignancies presenting as metastatic solid tumors within the stomach are those arising from the breast (27%), lung (24%), esophagus (19%), and kidney (8%). In a single center database of 2,084 post-mortem patients with metastatic renal cell carcinoma, only 5 patients had gastric involvement. Patients with gastric metastases most often present with GI bleeding and anemia, with only 13% presenting with abdominal pain. In our case, the patient did not present with gastric metastases until 17 months following primary diagnosis. Treatment of gastric metastasis varies widely and includes surgical resection, endoscopic resection, chemotherapy, arterial embolization, and as in our case, radiation therapy. Generally, outcomes of patients with metastatic RCC are poor with 5-year survival rates of less than 20%. Watch the video at <https://tinyurl.com/ACGAbstractS384>



[0384] **Figure 1.** Large mass in the greater curvature of gastric body on CT scan (left), large non-circumferential mass within gastric body (middle), and mucosal papule within gastric body (right).

S385

#### Endoscopic Through-the-Scope Suturing of a Percutaneous Gastrostomy Tube Removal Site

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**Introduction:** Percutaneous endoscopic gastrostomy (PEG) tubes are commonly placed to provide nutritional support for patients who are unable to tolerate oral intake. Typically, PEG tubes are not removed until a mature track has formed in order to decrease the risk of spillage of gastric contents into the peritoneum. We present a case of a patient requiring immediate removal of a newly placed gastrostomy tube. Closure of the gastrostomy site with over-the-scope-clip was not feasible due to esophageal stenosis refractory to dilation, so we performed endoscopic closure using a through-the-scope tack and suture device.

**Case Description/Methods:** A 56-year-old woman with history of glottic stenosis and tracheostomy presented to the hospital for planned upcoming additional otolaryngological surgeries for her recurrent glottic stenosis. Gastroenterology was consulted for placement of percutaneous gastrostomy tube prior to her scheduled surgery. The patient experienced significant post-procedural pain and elected for PEG removal two days after placement. The risks and benefits of removing a freshly placed gastrostomy tube were discussed with the patient, and she elected to proceed with removal. The original plan was to attempt closure of the defect with an over-the-scope (OTSC) clip (outer diameter 16.5 mm), however due to an intrinsic moderate stenosis found at 35 to 37 cm, the endoscope would not pass with the OTSC attached. Instead, the decision was made to close the gastrostomy tube site with a through-the-scope tack and suture device. Four tacks were deployed in a Figure four pattern. Three of the four tacks were placed with the gastrostomy tube still in-situ to facilitate continued insufflation and visualization. The gastrostomy tube was then cut from the outside of the patient, and the severed end was pushed into the stomach. The fourth tack was placed as the stomach deflated, and the cinch was deployed with adequate long-term closure.

**Discussion:** Over-the-scope clips (OTSC) are effective in closure of gastrostomy tube defects, but the large outer diameter of the device can be prohibitive in the setting of strictures. This case demonstrates the efficacy of endoscopic suturing using a tack and suture device in the setting of esophageal stenosis that prohibited over-the-scope clip placement. Additionally, closure was performed around an indwelling gastrostomy tube to provide adequate insufflation in a fresh gastrostomy site. Watch the video at <https://tinyurl.com/ACGAbstractS385>