Introduction: Cecal bascule is a rare clinical manifestation accounting for 0.1-0.4% of all large bowel obstructions. Three types of cecal volvulus are identified in literature: axial cecal volvulus (type 1), loop type cecal volvulus (type 2), and cecal bascule (type 3). Given type 3’s obscurity, it is imperative to distinguish it from types 1 and 2. Type 3 causes intermittent obstructive symptoms, thereby carrying an elevated risk of mortality. Treatment is either with conservative management or surgery, with the latter being more common. Our case study is unique as it presents a case of a cecal bascule managed endoscopically. Case: 66-year-old male with history of systemic lupus erythematosus and myelodysplastic syndrome (MDS) presented for haploidentical stem cell transplantation. After chemotherapy and radiation, he was transferred to the ICU due to concerns for airway compromise secondary to laryngeal angioedema. ICU course was prolonged and complicated by Vancomycin-resistant enterococcal bacteremia and transfusion dependent anemia without overt gastrointestinal bleeding. On day 36 of hospitalization, he demonstrated four episodes of melanic stools. EGD completed the following day did not reveal any active bleeding. He then developed an acute abdomen with emesis, abdominal pain, and hemodynamic instability the next day. Abdominal X-Ray revealed dilated large and small bowel loops; computed tomography (CT) showed a cecal bascule. He subsequently underwent a colonoscopy which revealed area of angulation in ascending colon (site of possible cecal bascule) and dilated cecum which was then decompressed. Imaging thereafter was consistent with ileus without reoccurrence of cecal obstruction. Discussion: The pathogenesis of cecal bascule includes congenital or acquired peritoneal adhesions, congenital mal fixation resulting in embryogenic mobile cecum, bowel distention and cecal displacement. Presenting symptoms include abdominal pain, distention, vomiting and in severe cases patients can become hemodynamically unstable and confused. Cecal bascule has less propensity to develop ischemia as folded mesentery adheres to ascending colon, compared to type 1 and 2 cecal volvulus that is associated with axial torsion. CT is the predominant imaging modality for diagnosis, followed by exploratory laparotomy. Treatment modalities include surgical management with cecopexy or right hemicolectomy, and nonoperative nasogastric tube decompression. Our patient underwent a successful decompressive colonoscopy with resolution of cecal bascule; however, he eventually succumbed to medical complications associated with MDS. Only one reported case of cecal bascule has been successfully treated nonoperatively; surgical intervention was required in all remaining cases per our literature review. Our case marks the first reported cecal bascule successfully treated endoscopically.

CT abdomen/pelvis sagittal view showing distended cecum (up to 8.8 cm) and cecum folded anteriorly (shown by arrow on image).
**CONTROL ID: 3697212**

EN BLOC ENDOSCOPIC REMOVAL OF AN ERODED MAGNETIC SPHINCTOR AUGMENTATION DEVICE

Fadi Odish, Tristan Handler

DDW 2022 Author Disclosures: Fadi Odish: NO financial relationship with a commercial interest | Tristan Handler: NO financial relationship with a commercial interest

The magnetic sphincter augmentation (MSA) is a newer alternative to fundoplication implemented for the management of gastroesophageal reflux. The laparoscopically placed device is composed of magnetic beads on a ring and utilizes the magnetic attraction of the beads to increase lower esophageal sphincter pressure to decrease reflux. Clinical studies have shown efficacy in controlling GERD symptoms. Although considered generally safe, common adverse events reported include dysphagia and rarely esophageal erosion. In these scenarios, removal has been reportedly performed both surgically and endoscopically. We present a case of a MSA device with erosion into the gastric cardia removed en bloc with needle knife dissection. A 69 year old Caucasian female who had undergone a MSA placement in May, 2020 presents with nausea, emesis, early satiety. Symptoms started approximately 6 months and have been progressive. Upper endoscopy was performed which showed the MSA had slipped to the gastric cardia and eroded into the gastric lumen (see image 1). The patient elected to proceed with an attempt of en bloc removal of the MSA to avoid surgery. Repeat endoscopy confirmed the eroded device in the cardia in forward and retroflexed views. 12 of the 17 beads of the MSA were visible within the lumen. A side viewing scope was then used for improved visualization. Next, an endoscopic needle knife was used to dissect the overlying mucosa unroofing the MSA. A rat tooth forceps was then used to apply gentle traction to the MSA, freeing it en bloc. The MSA was then removed per OS. The mucosal defect was revitalized and was minimal, no endoscopic clips were placed. The patient tolerated the procedure well and had improved symptoms post-operatively. Device erosion has been reported in 0.1 - 0.15% of MSA cases. Traditionally these are managed with laparoscopic removal, staged removal, or cutting of the device and pulling the separated device through the tissue. Staged removal involves cutting the visualized portion of the MSA endoscopically with surgery to remove the extraluminal portion afterward. Cutting of the MSA requires the tools for cutting and if the MSA breaks under traction, any retained extraluminal portion would also require surgery. Cutting of early generation MSA was reported with endoscopic loop cutters but this is not possible with newer devices. There are reports of using cranial biliary lithotripters to separate MSAs or commercially available devices for recovering over-the-scope-clips but these are not widely available. It is not known whether argon plasma coagulation will cut material with higher titanium content such as MSAs. We believe this to be the first reported case of endoscopic removal of an eroded MSA en bloc without requiring endoscopic cutting or surgery (primary or staged).

**CONTROL ID: 5701090**

ENTERIC-PERICARDIAL FISTULA IN A PATIENT WITH ROUX-EN-Y GASTRIC BYPASS


DDW 2022 Author Disclosures: Wael Mohamed: NO financial relationship with a commercial interest | Vinay Jahagirdar: NO financial relationship with a commercial interest | Mohamed Ahmed: NO financial relationship with a commercial interest | Hasan Bader: NO financial relationship with a commercial interest | Laith Al momani: NO financial relationship with a commercial interest | Hassan Ghoz: NO financial relationship with a commercial interest | Esam Sadeeddin: NO financial relationship with a commercial interest

Introduction: The upper GI tract and the pericardium are spatially related communication between them is known as an enteric-pericardial fistula. Causes include ulcer disease, malignancy, foreign body perforation, and iatrogenic reasons, including altered anatomy due to previous GI surgery. Case Report: A 54-year-old male presented with fever, chills, dyspea, and chest pain for 10 days. History was significant for Roux-en-Y gastric bypass 4 years prior, and esophageal dilation 3 months ago. He was found to be in shock and needed ICU admission. CT abdomen showed thickening at the GJ anastomosis and an incompletely imaged pneumopericardium. A pericardial drain was placed, which drained 130 cc of pus. Cultures subsequently grew Lactobacillus fermentum, Streptococcus vestibularis, and Candida albicans. CT chest with oral contrast was concerning for a fistulous tract between the GJ anastomosis and pericardium. Esophagogram was negative for a perforation. Due to worsening pericardial effusion, a pericardial window was made. Intraoperative EGD with minimal insufflation confirmed the fistula. A marginal ulcer, covering 60% of the lumen was seen, with a central fistula. Due to the size and position of the ulcer, it was not amenable to over-the-scope clips or endoscopic intervention. NCT was placed under visualization, for suctioning, to promote healing. The patient was treated conservatively with high dose IV PPI, antibiotics, and TPN. The patient was eventually transferred to a dedicated center for further bariatric management. Discussion: Enteric-pericardial fistulae manifest with pneumopericardium, pericarditis and cardiac tamponade. CT scan with oral contrast of the chest and abdomen can help reveal these fistulae. Esophageal contrast studies can be unrevealing in 20% of the cases. Endoscopy for visualization of the fistula is associated with the risk of pneumopericardium and tamponade. CO2 insufflation is preferred over air as it is rapidly absorbed if there is extravasation into the peritoneal, pleural, or pericardial cavities. Management includes antibiotics, hemodynamic stabilization, diversion of GI contents away from the fistula, and nutritional support. Pericardial drainage may help to temporize sepsis. Failure to improve with pericardiocentesis, may warrant appropriate early surgical management. The presence of an enteric organism in the pericardial fluid can confirm communication with the GI tract. Though early diagnosis is challenging given its non-specific presentation, there should be a high degree of suspicion in patients with previous GI surgical history who present with chest/shoulder pain, dyspea, fever, or upper GI symptoms. A multi-disciplinary and timely approach can help patients tide over this rare but fatal condition.
EGD showing perforated marginal ulcer involving the Roux limb. Defect within the diaphragm measures approximately 0.8 x 0.6 cm. Due to the size and position of the ulcer, it was not amenable to over-the-scope clip or endoscopic intervention.

**CONTROL ID:** 3673116

**INTESTINAL PERFORATION SECONDARY TO PRIMARY ENTEROLITHIASIS**

Pratik Patel*, Karina Fatakhova, Joshua Kern, Emily Glazer, Nicholas Craig, Gary Bernstein


Enteroliths are stones that are formed within the gastrointestinal tract. While they are a relatively common finding in horses, human enteroliths are quite rare. Enteroliths can be classified as primary or secondary. Primary enteroliths are stones that are formed within the luminal gastrointestinal tract. Secondary enteroliths are typically formed in either the gallbladder or kidney and migrate into the gastrointestinal tract via a fistula. We present only the second known case of duodenal perforation secondary to a primary enterolith in a patient with a history of Billroth II gastrectomy. This is a 71-year-old male with a past medical history of gastric neuroendocrine tumor status post wedge resection, followed by Billroth II gastrectomy for recurrence approximately 5 years ago who presented with complaints of right upper quadrant and mid-epigastric pain that radiated to the right flank. Associated symptoms included bilious emesis and a fever of 101°F. Initial bloodwork was only significant for a mild leukocytosis. CT scan revealed a 6.7 x 6.8 x 5.5 cm complex fluid collection encasing the pancreatic head/uncinate process with a central area of high density, possibly representing hemorrhage. There was no evidence of free air or perforation. He was initiated on IV piperacillin-tazobactam and IV Lactated Ringers. Subsequent MRI Abdomen then revealed a 8.6 x 3.5 x 9.8 cm complex fluid collection posterior to the pancreatic head and second portion of the duodenum with a small amount of air. Within the fluid collection, there was a 2.2 cm low signal structure possibly representing an enterolith. The constellation of findings suggested duodenal perforation with a retroperitoneal fluid and air collection containing an enterolith. Exploratory laparotomy revealed a retroperitoneal abscess with a 2 cm enterolith with perforation of the third portion of the duodenum. Cultures from the abscess grew pan-sensitive Klebsiella oxytoca and Escherichia coli. He recovered well post op and was discharged home on a 14 day course of oral antibiotics. Enteroliths are a rare gastrointestinal finding that is the result of intestinal stasis. Symptoms from enterolithiasis include abdominal pain, nausea, vomiting and distension. Complications from enterolith formation include intestinal obstruction, intussusception, hemorrhage, diverticulitis, afferent loop syndrome and perforation. Intestinal perforation secondary to a primary enterolith is an exceedingly rare discovery, with less than ten cases reported in literature. Various etiologies of enterolith formation were noted amongst these cases: small bowel diverticulum, Crohn’s disease, radiation enteritis, Meckel’s diverticulum and Billroth II anatomy. In patient’s with these aforementioned diagnoses, the differential diagnosis of enterolithiasis must be entertained, especially in the setting of intestinal perforation.

**Figure 1.** MRI Abdomen with a mildly complex fluid collection with a small amount of air measuring 8.6 x 3.5 x 9.8 cm. There is a 2.2 cm low signal structure within the collection, possibly representing an enterolith.

**Figure 2.** Two centimeter enterolith.

**CONTROL ID:** 3698269

**EARLY EXPERIENCE OF USTEKINUMAB FOR TREATMENT OF MODERATE-TO-SEVERE INFLAMMATORY BOWEL DISEASE IN PATIENTS POST-LIVER TRANSPLANT**

Pooja Magavi*, Catherine T. Frenette, Melissa Ferrari, Gauree G. Konijeti

DDW 2022 Author Disclosures: Pooja Magavi: NO financial relationship with a commercial interest | Catherine Frenette: YES financial relationship with a commercial interest; Salix: Speaking and Teaching; Intercept: Speaking and Teaching; Bayer: Grant/Research Support; Eisai: Speaking and Teaching; Eisa: Advisory Committees or Review Panels; Endless: Advisory Committees or Review Panels; Endless: Speaking and Teaching; Merck: Advisory Committees or Review Panels; Genentech: Advisory Committees or Review Panels; Genentech: Speaking and Teaching; Genentech: Consulting; Astra...
Introduction: There is limited data on the safety and efficacy of biologic therapy for moderate-to-severe inflammatory bowel disease (IBD) in patients on anti-rejection therapy post-liver transplant (LT). We describe our experience with ustekinumab (UST), an anti-IL12/23 p40 monoclonal antibody (mAb), in 2 LT patients with IBD. Case Descriptions: Patient 1 is a 41-year-old man with ulcerative colitis (UC), treated with sulfasalazine and azathioprine, and autoimmune hepatitis and primary sclerosing cholangitis (PSC) cirrhosis. In 2010, he underwent total proctocolectomy with ileal pouch due to high-grade colonic dysplasia. In 2020, he was diagnosed with Crohn’s disease (CD) of the pouch and pre-pouch ileum. He initiated UST, but unexpectedly underwent LT within 2 weeks of UST induction, and his post-transplant course was complicated by primary non-function requiring re-transplantation. Evaluation of diarrhea post-LT, while on tacrolimus and mycophenolate, revealed persistent moderate-to-severe CD. Induction with vedolizumab (VDZ), an anti-α4β7 integrin mAb, resulted in mild clinical improvement, but further treatment was deferred due to cytomegalovirus enteritis requiring prolonging valganciclovir.

Complete closure of fistulous tract with placement of 4 helix tacks and cinch.

Placement of helix tacks adjacent to persistent gastro-cutaneous fistula.

are potential risks, and larger studies are necessary to examine long-term efficacy and safety in this population.
malignancies, including endometrial, stomach, ovarian, prostate, and pancreatic cancer, among others. Specifically, gastric cancer carries a lifetime risk of between 5-15% in LS patients, making endoscopic screening and surveillance with esophagogastroduodenoscopy (EGD) beneficial. The American College of Gastroenterology recommends initial screening with EGD beginning at age 50-55 and consideration of surveillance EGD every 2-3 years based on patient risk factors. Case: A 71-year-old male with past medical history of MSH2-related LS manifested by CRC status post colonic resections and prostate cancer status post radiation therapy underwent routine surveillance EGD. A 14 mm esophageal polypoid lesion was found 20 cm from the midesophagus and biopsied. Histology was consistent with tubular adenoma with low grade dysplasia arising in the background of heterotopic gastric mucosa (gastric inlet patch). He was referred to our institution for further management. The patient underwent a repeat EGD where the semi-pedunculated polyp arising from a gastric inlet patch was removed via endoscopic mucosal resection. Interestingly, a second inlet patch was observed on the contralateral esophageal wall. Histology from the resected tissue revealed gastric type glandular mucosa with high grade dysplasia arising from an inlet patch. A repeat EGD was scheduled in 3 months to further assess the resection field for residual tissue and regrowth. Discussion: We present the case of a high grade dysplastic lesion arising from a gastric inlet patch in a patient with LS. Such lesions in the general population are rare findings, and there are very few, if any, reported cases in patients with LS. This patient’s lesion was endoscopically removed prior to progression to invasive carcinoma, an important intervention given the increased rate of adenoma-to-carcinoma progression in patients with LS. This case highlights the need for diligent inspection for heterotopic gastric mucosa in LS patients undergoing screening and surveillance EGD. In patients with LS, such gastric inlet patches should likely be surveilled at the same interval as normal gastric mucosa within the stomach.

CONTROL ID: 3701274

COMBINED ENDOSCOPIC PYLORIC EXCLUSION WITH ENDOSCOPIC VACUUM THERAPY FOR THE TREATMENT OF ANASTOMOTIC LEAK FOLLOWING ESOPHAGECTOMY

Thomas R. McCarty*, Hassan A. Khalil, Pichamol Jirapinyo


Background: Pyloric exclusion has traditionally been performed surgically to prevent food and acids from entering the area of duodenal injuries downstream. In this case report, we describe a novel use of endoscopic suturing to perform pyloric exclusion to prevent bile reflux from the duodenum into the stomach to promote healing of an esophagogastroduodenal ulcer. Case Presentation: A 58-year-old woman with esophageal adenocarcinoma underwent esophagogastrectomy and intrathoracic esophagogastrostomy. Her postoperative course was complicated by an acute leak immediately distal to the esophagogastroduodenal anastomosis (Figure 1). Given the acuity and location of the leak, as well as a forming intrathoracic cavity, the decision was made to perform intracavity endoscopic vacuum therapy (EVT) with an open-pore polyurethane sponge. The leak was slow to close despite weekly exchanges of the sponge system, presumably due to bile reflux. Specifically, bile was noted to reflux through the pylorus during her several endoscopic evaluations. Therefore, the decision was made to perform temporary pyloric exclusion using an endoscopic suturing technique. Using a double channel endoscope with a full-thickness endoscopic suturing device, two sutures were placed to close the pylorus to minimize bile reflux into the stomach, gastric conduit and esophagogastroduodenal anastomosis (Figure 2). The first suture was used to place eight stitches circumferentially around the pylorus using a purse-string suture pattern prior to cinching the pylorus closed. The second suture was then used to place six stitches in the pre-pyloric region for reinforcement using a running suture pattern. The lumen of the pylorus was completely collapsed following suturing. Subsequently, EVT replacement was performed with exchange from an intracavity to an intraluminal system. On follow-up endoscopy for routine EVT exchange at one and two weeks, the pylorus remained tightly closed with sutures intact. Additionally, no bile was observed in the gastric conduit. Close examination of the leak site revealed improved healing with evidence of granulation tissue in the mediastinal aspect of the anastomotic defect as well as a reduction in the cavity size. Conclusion: This case demonstrates technical feasibility and early efficacy of a novel application of endoscopic suturing to perform pyloric exclusion to prevent bile reflux in order to improve efficacy of EVT for the treatment of an acute esophagogastroduodenal anastomotic leak.

Figure 1. Endoscopic vacuum therapy (EVT) for the treatment of an acute esophagogastroduodenal anastomotic leak. A. Computed tomography with oral contrast extravasation into the left lower thoracic cavity, representing an esophagogastroduodenal anastomotic leak. B. Esophagogastroduodenal anastomotic leak site on endoscopy after several sessions of EVT exchanges. C. Intraluminal EVT system consisting of an open-pore polyurethane sponge secured to the tip of a nasogastric tube.

Figure 2. Endoscopic pyloric exclusion to treat bile reflux in order to promote healing of the esophagogastroduodenal anastomotic leak. A. Bile reflux into the gastric conduit adjacent to the esophagogastroduodenal anastomotic leak site. B. Antrum and pylorus prior to endoscopic suturing. C. Endoscopic suturing using a purse-string suture pattern around the pylorus. D. Endoscopic suturing using a running suture pattern for reinforcement in the pre-pyloric region E. Final appearance with complete closure of the pylorus following endoscopic suturing. F. Continued closure of the pylorus with absence of bile reflux on follow-up endoscopy.
Background. Primary obesity surgery endoluminal (POSE) is an effective endoscopic bariatric and metabolic therapy. The procedure involves placing full-thickness plications in the stomach to reduce its volume. Despite its efficacy, a small proportion of patients experience weight regain over time. In this case report, we describe an endoscopic approach to treat weight regain following POSE using a novel double-helix plication technique to further enhance plication size and gastric volume reduction. Case Presentation. A 25-year-old woman with class III obesity with a baseline body mass index of 44.5 kg/m² underwent POSE for the treatment of obesity. During the procedure, a distal POSE approach was performed with 15 plications placed in the gastric body sparing the fundus to reduce the gastric width and length. Additionally, the traditional single-helix technique was utilized where a single plication with serosa-to-serosa approximation was obtained with each device activation. Two tissue anchors with each device activation, two helixes were utilized to allow for length. Additionally, the traditional single-helix technique was utilized where a single plication with serosa-to-serosa approximation was obtained with each device activation. Two tissue anchors with each device activation, two helixes were utilized to allow for...
CONTROL ID: 3701032
HYPERAMMONEMIC ENCEPHALOPATHY: A RARE COMPLICATION OF ROUX-EN-Y GASTRIC BYPASS
Gal S. Sadlik*, Varun Angajala, Amanda Cruz, Divya Ayyala, Liyun Yuan

DDW 2022 Author Disclosures: Gal Sadlik: NO financial relationship with a commercial interest | Varun Angajala: NO financial relationship with a commercial interest | Amanda Cruz: NO financial relationship with a commercial interest | Divya Ayyala: NO financial relationship with a commercial interest | Liyun Yuan: NO financial relationship with a commercial interest

Introduction: Hyperammonemic encephalopathy (HE) is a rare and potentially fatal complication of roux-en-y gastric bypass (RYGB). Here we present a case of coma secondary to hyperammonemic encephalopathy after a RYGB. Case Report: A 44-year-old woman presented with encephalopathy and frequent falls. She had a history of RYGB for morbid obesity complicated by nesidioblastosis refractory to medical management. She underwent a distal pancreatectomy complicated by bile leak and abscess and had a Whipple resection. She developed chronic malnutrition and functional type 1 diabetes and was dependent upon parental nutrition. She developed a rapid onset encephalopathy necessitating intubation for airway protection. She was found to have an ammonia of 97 umol/L, hyperbilirubinemia (7.4 mg/dL), high SAAG ascites, imaging showing an enlarged steatotic liver with no evidence of portal hypertension, liver biopsy with steatohepatitis, cholestasis, and periportal and patchy pericellular fibrosis, and magnetic resonance imaging of the brain with diffuse patchy cortical injury. Her ammonia peaked at 305 umol/L despite lactulose and rifaximin therapy and required continuous renal replacement therapy (CRRT) for clearance. Workup revealed hypoalbuminemia, elevated plasma glutamine, low plasma zinc, and carnitine deficiency likely secondary to malnutrition. Intravenous carnitine, vitamin and nutrient supplementation, and low protein parenteral nutrition were initiated with improvement of hyperammonemia and mild improvement of mental status. She has been extubated and transferred to the medical ward. Discussion: HE is an underrecognized and morbid complication of bariatric surgery that has been described in case reports and small case series with onset ranging from 1.5-20 years after surgery. The etiology of this syndrome is complex and may be due to a silent urea cycle disorder (defect of Ornithine transcarbamylase (OTC) enzyme being the most common cause) unmasked by altered anatomy and the resultant catabolic state. Underlying liver disease is highly prevalent in this cohort with biopsies showing fibrosis or steatohepatitis likely reflecting underlying non-alcoholic steatohepatitis. If OTC deficiency is suspected, quantification of serum amino acids and urine metabolites (glutamine and orotic acid) along with enzymatic activity assay of tissue provide a definitive diagnosis. CRRT has an established role for the acute management of hyperammonemia; however, long-term treatment hinges on correction of nutritional deficiencies, zinc (cofactor for OTC) supplementation, and lactulose (decreases enteric ammonia production). This syndrome may confer mortality risk as high as 50%. Early recognition and treatment are imperative to improving outcomes.

CONTROL ID: 3691515
A NOVEL TECHNIQUE COMBINING EUS AND SPYGLASS DS SYSTEM GUIDANCE FOR BOTH THE DIAGNOSIS AND MANAGEMENT OF AFFERENT LIMB SYNDROME
Fatema Almousawi*, Bong Sik M. Kim, Jeffrey D. Mosko

DDW 2022 Author Disclosures: Fatema Almousawi: NO financial relationship with a commercial interest | Bong Sik Kim: NO financial relationship with a commercial interest | Jeffrey Mosko: NO financial relationship with a commercial interest

Background: Afferent limb syndrome is obstruction of a biliary-enteric limb following pancreaticoduodenectomy. In the past, treatment was limited to surgery or insertion of a percutaneous transhepatic biliary drainage tube. A more recent approach to treatment is Endoscopic Ultrasound (EUS)-guided gastrojejunostomy using a lumen apposing metal stent (LAMS). It was first described in two single case reports in 2015 and has been growing in its application. We present a case series of 2 patients where afferent limb syndrome was successfully managed with EUS guided gastrojejunostomy using LAMS. Aims: 1-To demonstrate a novel technique for diagnosis and management of afferent limb syndrome. Cases presentation: Case # 1- 79 year old female post Whipple’s surgery for ampullary carcinoma, presented two years after surgery with significant nausea and vomiting. CT scan showed obstruction of the afferent loop suspicious for local tumor recurrence. Patient underwent EUS-guided gastrojejunostomy with successful insertion of 20 x 10 mm (AXIOS EC, Boston Scientific) stent. Patient improved dramatically within days and resumed oral diet. Fourteen days later, an upper endoscopy was performed in order to assess the stricture via an antegrade approach. The adult Olympus HQ gastroscope was advanced through the AXIOS stent into the afferent limb to the level of the stenosis where a tight stricture was seen. Multiple biopsies taken and were negative for neoplasia. Patient continued to improve, CRRT was stopped, and patient was extubated. Case # 2- 79 year old post surgery for pancreatic cancer, presented three years after surgery with nausea and vomiting. CT scan showed obstruction of the afferent loop suspicious for local tumor recurrence. Patient underwent EUS-guided gastrojejunostomy with successful insertion of 20 x 10 mm (AXIOS EC, Boston Scientific) stent. Patient improved dramatically within days and resumed oral diet. Fourteen days later, an upper endoscopy was performed in order to assess the stricture via an antegrade approach. The adult Olympus HQ gastroscope was advanced through the AXIOS stent into the afferent limb to the level of the stenosis where a tight stricture was seen. Multiple biopsies taken and were negative for neoplasia. Patient continued to improve, CRRT was stopped, and patient was extubated.

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malignancy. Four weeks later, she continued to tolerate oral diet well with no abdominal pain or discomfort. Case #2: A 51 year old male with pancreatic CA status post Whipple surgery presented with worsening abdominal pain and nausea. CT scan confirmed afferent limb syndrome. He underwent EUS-guided gastrojejunostomy with successful placement of 10 x 10 mm (AXIOS EC, Boston Scientific). Patient continued to do well clinically 12 weeks post operation. Follow-up upper endoscopy was performed to determine the etiology of the obstruction but due to a sharp angulation, the gastroscope could not be advanced through the AXIOS stent. As such, we advanced an adult Olympus IT gastroscope down to the site of the AXIOS stent and then utilized the Spyglass DS system to advanced deep into the afferent limb to the level of the stricture and took multiple biopsies for diagnostic purposes. Conclusions: Interventional endoscopic management of afferent limb syndrome has been evolving in the past few years with EUS guided LAMS gastrojejunostomy becoming a well established modality. We have demonstrated this technique with subsequent endoscopic anterograde assessment. In one of these cases, this anterograde assessment was performed using the cholangioscope in conjunction with the gastroscope to overcome unfavorable angulated anatomy which to our knowledge has not been described in the literature previously.

Abstracts

A “TACK-FUL” APPROACH TO SUTURE PATTERN SELECTION IN EMR DEFECT CLOSURE
Mark J. Radliński*, Ross C. Buerlein, Alexander J. Podboy, Andrew P. Copland

DDW 2022 Author Disclosures: Mark Radliński: NO financial relationship with a commercial interest | Ross Buerlein: NO financial relationship with a commercial interest | Alexander Podboy: NO financial relationship with a commercial interest | Andrew Copland: NO financial relationship with a commercial interest

Introduction: Through the scope endoscopic tack and suture devices provide a new method for endoscopic mucosal resection (EMR) defect closure. However, suture pattern selection is variable and can be dependent on multiple factors including defect shape, size, and position within the lumen. Ideally, the EMR defect can be closed with the 4 tacks available in one closure system. Utilizing an additional kit increases the procedure cost and duration. While prices are variable based on negotiated rates, the endoscopic tack and suture device with four tacks costs around $600 with an additional $90 for the cinch. Using an additional four tacks to complete the closure of an EMR defect may help accomplish complete closure but could add an additional $600 to the cost of the procedure. When considering the cost of clips cost ranges between $80-200, using multiple cartridges of the tack and suture device might not make economic sense. Recommendations for closure patterns include a running (zig-zag) stitch, figure 8 (also referred to as figure 4 or “X” pattern), and purse string formation. The ideal closure pattern with this new device has not yet been studied. Case description: Here we present a video case series of several EMR closures using different suture patterns. In the first example, we have a complete closure of a linear EMR defect using a running suture technique. In the 2nd example, we have an incomplete closure of a circular defect using a running suture technique. In the final example, we have a complete closure of a circular EMR defect using a figure 4 approach. Discussion: In our experience, running stitch is particularly effective for linear EMR defects. For a circular EMR defect, the figure 4 pattern tends to be effective in accomplishing complete closure with only 4 tacks. We have had incomplete closures using the running pattern with four tacks on circular EMR defects. While purse string formation might be effective with multiple cartridges, this pattern is at risk for incomplete closure with use of only four tacks. Regardless of the pattern used, including a wide margin of tissue between the EMR defect margin and the tack allows for better mucosal approximation and decreased chance of incomplete EMR defect closure. We have found planning for the last tack placement to be located in a stable location distal to the defect allows for better visualization of the defect closure as tension is placed on the cinch. Furthermore, it is helpful to provide gentle tension on the suture after each tack placement to visualize the closure and help approximate the ideal location of the subsequent tack. Finally, we have found that using ample lubrication (using mineral oil or surgical lubricant), both on the channel liner and along the push catheter, has improved the ease of use and decreased friction.
ABERRANT RIGHT SUBCLAVIAN ARTERIO-ESOPHAGEAL FISTULA: A RARE COMPLICATION OF ESOPHAGEAL STENTING

Haley Mertens*, Diana G. Lerner, Michael A. Manfredi

CONTROL ID: 3701238

Introduction: While survival rates for children born with esophageal atresia (EA) have improved, the rate of anastomotic esophageal stenosis remains stable at about 40%. Use of esophageal stents is one of the therapies for refractory stenosis and allows maintenance of esophageal function while awaiting more definitive repair. A rare complication of esophageal stenting is an arterio-esophageal fistula, which can cause severe hemorrhage. Case Description: A 12-month-old female with recent esophageal stenting presented to the hospital with hematemesis. She was born with a long gap tracheoesophageal fistula/esophageal atresia that required a staged repair throughout infancy and had resulted in refractory esophageal stenosis. In addition, she had known dextrocardia with a left aortic arch and retroesophageal aberrant right subclavian artery (ARSA). A 10 mm by 6 cm biliary stent was used to provide symptomatic relief and break from weekly dilations for esophageal stenosis. Five days after placement she presented to the emergency room with hematemesis. She was admitted to the hospital and monitored overnight where vitals were initially stable, but within 5 hours of admission she developed ongoing rapid hemorrhage and hypotensive shock. She required a mass transfusion protocol. CT angiogram of the chest demonstrated the known ARSA with signs of vascular injury along the upper margin of the esophageal stent. She was taken emergently to the operating room for sternotomy and esophagogastroduodenoscopy. The stent was partially preventing hemorrhage, so it was kept in place until sternotomy was completed and arterial structures were in view. After stent removal, a Forrest 1A bleeding arterial vessel was visualized. Endoscopic pressure was used to stop bleeding while the cardiovascular surgeon clamped arteries to identify the source. After the artery was identified as the ARSA, division and reimplantation into the ascending aorta were completed. A different esophageal stent was deployed to cover the ulcer and area of perforation. It was removed after 48 hours with no esophageal leak seen on follow-up contrast imaging. Discussion: Bleeding and perforation are known complications of esophageal stenting, but severe bleeding is uncommon. ARSA- esophageal fistulae are a recognized complication in children born with tracheoesophageal fistula/ esophageal atresia, but are very rare. A sentinel bleed may precede rapid hemorrhage, as was seen in this case. Prompt identification and involvement of cardiovascular surgery is essential to successful outcomes as these fistulae are often fatal. (No Image Selected)

FULL OF HOT AIR: A RARE COMPLICATION OF COVID-19

Alvin Green*, Abrahim Hanjar, Mary C. Marshall, William P. Sonnier

CONTROL ID: 3700851

Colonic pseudo-obstruction is a disease where the signs and symptoms of a mechanical bowel obstruction are present, without evidence of a mechanical issue. The pathophysiology is likely due to autonomic nervous system dysfunction. Colonic pseudo-obstruction is relatively rare seen in less than 1% of hospitalized patients. The majority of cases occur after an inciting trauma, exacerbation of a chronic condition or medications. We present a case of a 30-year male with no past medical history who developed colonic pseudo-obstruction, in the setting of COVID-19 infection. A 30-year-old male with no known past medical history presented with a chief complaint of dyspea, cough and diarrhea for the past 10 days. In triage the patient was tachycardic, tachypneic and required supplemental oxygen. Chest radiograph showed bilateral lower lobe pneumonia and he tested positive for COVID-19. Labs on admission revealed hypokalemia and was repleted. His early hospital course was complicated by acute alcohol withdrawal requiring lorazepam. He remained hospitalized due to oxygen requirement. 6 days into hospitalization he developed colicky (Right or left?) upper quadrant abdominal pain, bloating and constipation. Abdominal radiograph showed distended and dilated loops of large bowel, with maximum diameter of 13 cm. C. difficile testing was negative. A CT abdomen confirmed gaseous distention of the colon with multiple fluid filled levels. A nasogastric tube was placed and serial abdominal radiographs were obtained. The patient continued without improvement for approximately 5 days, with cecal diameter reaching 17cm. Given the lack of improvement the decision was made to attempt neostigmine 2 mg. After neostigmine administration the patient started passing liquid bowel movements and improvement in colon distention on radiograms. 2 days later the patient was discharged home. This case is unique as COVID-19 no doubt played a role in this patient’s pseudo-obstruction. While the lorazepam use, and hypokalemia are known factors associated with Ogilvie’s syndrome the patient had his electrolytes replete and was off lorazepam prior to the development of his obstruction. This leaves his COVID-19 infection as the most likely cause of his pseudo-obstruction. Since SARS CoV2 is a new virus, not all its effects are known. However, there have been studies showing COVID-19 infection interacts with the parasympathetic nervous system alters neural-hormonal signals and autonomic dysfunction correlates to higher morbidity and mortality. 

PENILE GANGRENE IN A PATIENT WITH UNTREATED CROHN’S DISEASE AND ACUTE RENAL FAILURE

Todd A. Brenner*, Seena Tahibi, Jose M. Monroy Trujillo, Steven N. Steinway

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Volume 95, No. 6S : 2022 GASTROINTESTINAL ENDOSCOPY AB9
Background. Hyperoxaluria, the presence of excess urinary oxalate, can result in increased hepatic synthesis or secondary to gastrointestinal disease. Though the prevalence of enteric hyperoxaluria is poorly defined, ~250,000 patients in 2019 suffered from nephrolithiasis and/or severe acute kidney injury (AKI) associated with enteric conditions, including gastric bypass, inflammatory bowel disease, small bowel resection, celiac disease, and chronic pancreatitis. Case presentation: A 64-year-old male with untreated Crohn’s disease (CD) presented to an outside hospital with AKI with creatinine (Cr) of 14.8 mg/dL, Phos 6.3 mg/dL, PTH 247 pg/mL. A skin biopsy showed calcification of medium-sized vessels without small vessel vasculopathy. Serum oxalate was 9.6 mumol/L and urine oxalate was 89.7 mg/dL. CT scan showed bilateral renal stones and diffuse non-healing skin wounds. Labs were obtained for nephroptosis, penile glans necrosis, and diffuse non-healing skin wounds. Labs were notable for Cr 8.1 mg/dL, Ca 3.3 mg/dL, PTH 334 pg/mL. A skin biopsy showed calcification of medium-sized vessels without small vessel vasculopathy. Serum oxalate was 9.6 mumol/L and urine oxalate was 89.7 mg/dL. CT scan showed bilateral hydronephrosis, terminal ileal thickening, and dense large vessel calcifications. His AKI was presumed secondary to urethral obstruction from penile necrosis and Cr normalized after suprapubic decompression. Colonoscopy revealed a circumferential, inflammatory terminal ileal mass. Discussion: This patient presented with marked hypercalcemia caused by hyperphosphaturia secondary to AKI, making the subsequent elevation in PTH an expected physiologic response to hypercalcemia rather than a secondary hyperparathyroidism. This is supported by the normalization of his PTH and calcium following urinary tract decompression. Normally, calcium oxalate formation in the GI tract limits oxalate absorption; however, in cases of impaired oxalate excretion and increased oxalate absorption. Though rare in patients with preserved renal function, enteric hyperoxaluria can be highly morbid in patients with malabsorptive gastrointestinal diseases.

Figure 1. (A) ECF, (B) APC of ECF, (C) Over-the-scope clip of ECF

Figure 2. (A) TEF, (B) Suturing of TEF, (C) Closure of ECF distally and TEF proximally

SESSION DAY & DATE: Tuesday, May 24, 2022
SESSION START TIME: 2:00 PM
SESSION END TIME: 3:30 PM
CATEGORY: Case Reports - Fellows/Trainees Only
SESSION FORMAT: Lecture

CONTROL ID: 3701112
ROSAL-DORFMAN-DESTOMBS DISEASE: A RARE CAUSE OF OBSTRUCTIVE JAUNDICE
Daud Akhtar*, Mira A. Donaldson, Nabeel H. Akhtar, S. Ian Gan
DDW 2022 Author Disclosures: Daud Akhtar: NO financial relationship with a commercial interest | Mira Donaldson: NO financial relationship with a commercial interest | Nabeel Akhtar: NO financial relationship with a commercial interest | S Ian Gan: YES financial relationship with a commercial interest, Romark Stock Shareholder
Background: Rosai-Dorfman-Destombes Disease (RDD) is rare histiocytic disorder that is most frequently seen in children and young adults. Gastrointestinal involvement is reported in <1% of cases and typically involves the small bowel and colon. Pancreatic and hepatic involvement has been previously reported but is extremely rare. Aims: To describe a case of obstructive jaundice in the setting of a very rare histiocytic disorder known as RDD. Methods: Qualitative description of one case. Results: A 53-year-old previously healthy male of South Asian descent presented with obstructive jaundice. Initial imaging demonstrated intra and extrapancreatic biliary duct dilation with concurrent diffuse enlargement of the pancreas compatible with autoimmune pancreatitis. Endoscopic retrograde cholangiopancreatography (ERCP) was performed with stenting and biopsy. ERCP demonstrated a distal common bile duct stricture with biopsies suggestive of low grade reactive changes and inflammation. Initial IgG4 serology was elevated (2.05 g/L). Subsequent endoscopic ultrasound (EUS) showed no evidence of involvement of the common bile duct, pancreatic duct, or head of the pancreas. The patient was referred to our center and underwent surgery. MRI [Figure 1] and ERCP [Figure 2] showed complete resolution of the stricture and his stent was removed. Outpatient laboratory evaluation revealed normal IgG4 and CA 19-9 levels. The patient was promptly initiated on prednisone and discharged. He was discharged. He received his second dose of Pfizer-BioNTech COVID-19 vaccine shortly after hospitalization. One month later, repeat ERCP demonstrated resolution of the stricture and his stent was removed. Outpatient laboratory evaluation revealed normal IgG4 and CA 19-9 levels. The patient was re-admitted two months later, however, with fatigue and repeat imaging now displayed lymphadenopathy in the neck, chest, and abdomen, and a bulky pancreatic head with associated hepatomegaly. Lymph node excisional biopsy confirmed the diagnosis of RDD with the presence of scattered histiocytic cells showing emperipolesis with a low number of IgG4 positive cells. The patient was promptly initiated on prednisone and rituximab and has since then had excellent clinical response. Conclusions: RDD is a rare non-Langerhans cell histiocytosis of unknown etiology that has a prevalence of 1.2-5.0/1,000. RDD clinically presents with painless bilateral cervical lymphadenopathy and can manifest with both nodal and extra nodal involvement. The most common sites of extra nodal disease are the skin and central nervous system, but rarely, can also present with pancreatic involvement. The use of FNAC in diagnosing RDD with extra nodal disease can be limited by low yield, sclerotic tissue, or non-diagnostic findings. For this reason, RDD with pancreatic involvement can masquerade as autoimmune pancreatitis, pancreatic malignancy and IgG4-related disease. This case report raises awareness about RDD with pancreatic and biliary involvement, a rare entity, that can present with obstructive jaundice.

Although such rare side effects of vaccination need to be recognized, they should not prevent physicians from recommending COVID-19 vaccination.

Figure 1. Liver Test Trend Post First Dose of Pfizer-BioNTech COVID-19 Vaccination

Figure 2. MRI Cholangiogram Prior to Initiation of Therapy (left panel) vs. 8 Weeks on Therapy (right panel)
ampullary analog of intraductal papillary mucinous neoplasm. The minor ampullary papilla demonstrated high-grade glandular epithelial dysplasia. On follow up endoscopy several months later, repeat biopsy of the major and minor papilla was negative for recurrence. Discussion: IAPNs appear to have a distinct endoscopic appearance compared to sporadic ampullary adenomas. Management of these lesions is based on size and involvement of the pancreatic duct, common bile duct, or pancreatic parenchyma. Endoscopic resection of these lesions appears to be a safe alternative to surgical resection as long as these lesions are localized to the major and minor papilla.

Background: The incidence of abnormal serum liver tests in patients hospitalized with COVID-19 has been reported to range from 14-58%. There have also been increasing reports of long-term sequelae of COVID-19, and the term “long-haulers” has been used for patients with persistent symptoms, including chronic respiratory, neurologic and psychiatric effects. Faruqui et al described a syndrome in patients recovering from severe COVID-19 characterized by abnormal liver tests and biliary strictures similar to critical illness cholangiopathy. Case 1: A 75-year-old male with heart failure and diabetes mellitus, was admitted to the ICU for ventilatory support due to COVID-19-related respiratory distress. Overall, he had a good recovery and was discharged after 10 days of hospitalization. Laboratory tests 4 months later showed AST 223 U/L, ALT 233 U/L, alkaline phosphatase (ALP) 1325 U/L, total bilirubin 1.5 mg/dL, and GGT 1704 U/L. MRCP showed multiple intrahepatic biliary strictures with a beaded appearance. ERCP showed extrabiliary bile duct filling defects due to biliary casts which were removed along with additional smaller stones and sludge (Fig 1). On follow-up 2 months later, liver tests improved but remained abnormal with AST of 102 U/L, ALT 70 U/L, ALP 746 U/L, and total bilirubin 0.9 mg/dL. Repeat MRCP showed persistent focal intrahepatic ductal strictures. Case 2: A 66-year-old male with respiratory distress due to COVID-19, was admitted to the ICU for mechanical ventilation. He had a prolonged ICU stay with septic shock and acute renal failure. On day 5 of admission, liver tests were: AST 83 U/L, ALT 72 U/L, ALP 857 U/L, and total bilirubin 1.3 mg/dL. An abdominal ultrasound showed mild intrahepatic biliary dilatation with no evidence of choledocholithiasis. His clinical status and liver tests slowly improved and he was discharged to a long-term acute care hospital on day 49. On follow-up 6 months later, he was again noted to have a cholestatic pattern of liver test abnormalities with an AST of 50 U/L, ALT 56 U/L, ALP 1819 U/L, and total bilirubin 1.9 mg/dL. An abdominal ultrasound showed mild intrahepatic biliary dilatation with no evidence of choledocholithiasis. His clinical status and liver tests slowly improved and he was discharged to a long-term acute care hospital on day 49. On follow-up 6 months later, he was again noted to have a cholestatic pattern of liver test abnormalities with an AST of 50 U/L, ALT 56 U/L, ALP 1819 U/L, and total bilirubin 1.9 mg/dL. ERCP showed diffuse intrahepatic biliary strictures and multiple extrahepatic filling defects. The biliary tree was swept and large, pliable linear stones and biliary casts were removed (Fig 2). Two months later, he was doing well but had persistent abnormal liver tests with ALP of 1418 U/L and total bilirubin 2.1 mg/dL. Conclusion: The clinical picture in our patients was consistent with critical illness cholangiopathy as a significant late complication of severe COVID-19 infection, a clinical entity that requires further study to elucidate the underlying pathogenesis, natural history, therapeutic options and long-term outcomes. It may be prudent to monitor patients with severe COVID-19 infection and abnormal liver tests during the acute phase for at least a year to recognize those who may develop persistent cholangiopathy.

CONTROL ID: 3690640
CRITICAL ILLNESS CHOLANGIOPATHY IN COVID-19 LONG-HAULERS
Nasir Saleem*, Betty H. Li, Raj Vuppalanchi, Samer Gawrieh, Mark A. Gromski

Figure 1. Biliary cast removed during endoscopic retrograde cholangiopancreatography (ERCP). A pancreatic duct stent is also seen.
Secondary sclerosing cholangitis with biliary cast due to SARS-CoV-2 infection

Jaclyn E. Kagihara*, Ritika Gadodia, Jessica Davis

CONTROL ID: 3698150

SECONDARY SCLEOROSING CHOLANGITIS WITH BILIARY CAST DUE TO SARS-COV-2 INFECTION

A healthy 44-year-old male was hospitalized with acute respiratory distress syndrome (ARDS) secondary to COVID-19 requiring extracorporeal membrane oxygenation. He received dexamethasone, remdesivir, and tocilizumab. His course was complicated by septic shock secondary to Streptocococcus mitis and Klebsiella pneumoniae pneumonia, acute renal failure requiring dialysis, bilateral pneumothoraces requiring chest tubes, gastrointestinal hemorrhage due to a bleeding gastric vessel requiring endoclips, and bilateral lower extremity deep venous thromboses. He developed marked cholestatic jaundice (Table 1). Liver biopsy revealed severe chronic cholestasis and inflammation of the portal tracts with many small portal tracts lacking portal vein branches and bile ducts, suggestive of post-COVID-19 cholangiopathy. Computed tomography abdomen showed mild intrahepatic biliary duct dilation and 16 mm common bile duct with subtle intraductal densities. Endoscopic retrograde cholangiopancreatography (ERCP) with sphincterotomy produced purulent drainage and a pigmented biliary cast (Figure 1a). Final cholangiogram demonstrated short-segment intrahepatic biliary stricture with saccular dilations concerning for sclerosing cholangitis (Figure 1b). A fully-covered metal stent was placed. On follow-up, his abdominal pain resolved, and labs improved (Table 1). He is currently undergoing evaluation for liver transplantation. Secondary sclerosing cholangitis in critical illness (SSC-CIP) is characterized by cholestasis and diffuse intrahepatic strictures seen on cholangiography. The novel entity, post-COVID-19 cholangiopathy, refers to SSC-CIP in patients who recover from severe COVID-19 infection. It is thought to be a variant of SSC-CIP with further investigation needed to identify the direct and unique pathogenicity that COVID-19 plays on the hepatobiliary system. One hypothesis involves the binding of the virus to angiotensin converting enzyme-2 receptors, found in hepatocytes and cholangiocytes, triggering uncontrolled inflammation. While biliary cast formation is a hallmark of SSC-CIP, ours is the second published case of biliary cast due to COVID-19 cholangiopathy. The pathogenesis of SSC-CIP is not fully understood. The most accepted theory is that ischemia and changes in bile composition cause necrosis of cholangiocytes and biliary cast formation. This results in biliary obstruction and infection leading to irreversible destruction and obliteration of the intrahepatic bile ducts. This case should raise awareness about the risk of secondary sclerosing cholangitis and biliary cast syndrome in patients with severe COVID-19.

Figure 1. ERCP with biliary cast removal using balloon sweep (a), and cholangiogram after biliary cast extraction showing short-segment intrahepatic biliary stricture with saccular dilations (b).

Table 1. Laboratory Data
Cholangiogram post-treatment at three months with resolution of disconnected left hepatic duct.

CONTROL ID: 3660965
SUCCESSFUL EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY AS RESCUE THERAPY FOR IMPACTED STONE BASKET IN THE Pancreatic Duct
Paul A. Muna Aguon*, Kelli Kosako Yost, Sakolwan Suchartlikitwong, Naıl Haddad, Nina Rawal, Rawad Mounerz, Teodor C. Pitea

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Introduction: Extracorporeal shock wave lithotripsy (ESWL) has gained traction in gastroenterology for its utility in removing large or impacted stones in the pancreaticobiliary system. More recently, ESWL has been used as salvage therapy for impacted baskets in the common bile duct, a feared adverse event of endoscopic retrograde cholangiopancreatography (ERCP). Little has been reported for how to successfully proceed when basket impaction occurs in the pancreatic duct. In this case, ESWL is successful in salvage therapy of basket impaction of the pancreatic duct after multiple modalities failed. Case: A 78-year-old female with hypertension and breast cancer in remission presented with abdominal pain. CT scan revealed multiple pancreatic duct stones in the head of the pancreas and associated diffuse pancreatic duct dilation. Endoscopic ultrasound (EUS) and ERCP were performed and revealed a 10mm main duct stone at the head of the pancreas with upstream ductal dilation to 8mm. A 10Fr x 5cm pancreatic duct stent was placed. During follow-up ERCP two weeks later, a pancreatoscopy (Spyglass) with electrohydraulic lithotripsy (EHL) was performed which was unsuccessful after delivering 2000 shocks. A Spyglass Retrieval Basket (15mm diameter) was then introduced, and mechanical lithotripsy was attempted before the basket became entrapped. The basket was then cut at the handle and the wire was secured through the right nostril before being transferred to the university hospital for further management. Upon arrival, the patient underwent two rounds of ESWL using a Dornier Compact II. First session was done utilizing 5500 shocks at an intensity of 6 (16,000V) on a scale of 1 to 6. Second session utilized 5000 shocks at an intensity of 6. Follow-up CT scan revealed an impacted basket in the main pancreas duct with contained stone fragments. A repeat ECP was performed one day after the last ESWL session. The impacted basket within the pancreatic duct was gently removed without any resistance under direct visualization. ERCP revealed retained stones within the pancreatic duct that were successfully removed with balloon extraction and a 7Fr x 5cm plastic stent was placed into the pancreatic duct. Patient’s abdominal pain continued to improve throughout hospitalization, and she was subsequently discharged four days later without any pain. Discussion: As demonstrated in this case, basket impaction is a dreaded complication of ERCP. There is limited data on how to proceed if one occurs, especially in the pancreatic duct. ESWL has emerged as a successful method of fragmenting stones in the pancreaticobiliary system, and now as salvage therapy...
when other modalities fail in the biliary system. In conclusion, ESWL can be an effective and safe method for disimpaction of baskets in the pancreatic duct.

Background. Periampullary diverticulum (PAD) is found in 9.32% of patients undergoing endoscopic retrograde cholangiopancreatography (ERCP). There is evidence of an association between PAD and formation of primary bile duct stones, particularly in the absence of gallbladder stones. The presence of a PAD makes biliary cannulation during ERCP challenging as it poses difficulty in locating, positioning, and optimal alignment of the major papilla. Several techniques with a variable rate of success have been described to facilitate selective biliary cannulation in the presence of a PAD. These include balloon dilation of a narrow-necked diverticulum, use of an ultrathin gastroscope to locate the papilla, EUS-guided rendezvous technique, endoclips-assisted biliary cannulation and a double-endoscope method. Cases: We report two cases where a double-catheter or “chopstick” technique was successfully deployed to obtain selective biliary cannulation during ERCP in the presence of a PAD. A 62-year-old female undergoing evaluation for a combined liver-kidney transplantation was diagnosed with acute cholecystitis, which was managed conservatively due to a high surgical risk. She recovered but had a recurrent attack of acute cholecystitis one month later and was referred for transpapillary gallbladder drainage and cystic duct stent placement. During ERCP the major papilla was located partially within a large-mouthed diverticulum (Fig 1). Using two 5 Fr cannulas a double-catheter technique was used for selective deep biliary cannulation. The first catheter was used to expose and maintain visualization of the major papilla while the second catheter was used for biliary cannulation. A gallbladder stent was successfully placed. A 68-year-old male underwent an ERCP for acute cholangitis at a local hospital which demonstrated a PAD and the major papilla could not be located. During repeat ERCP at our hospital, a sphincterotome was used to probe the mucosal tissue and pull the papilla out from the diverticulum. While keeping the sphincterotome in this position a cannula was then used to achieve deep biliary cannulation and bile duct stone removal (Fig 2). Conclusion: In cases where selective biliary or pancreatic cannulation is technically difficult due to a PAD, the use of a double-catheter or the so-called “chopstick” technique can be used to improve visualization and alignment of the major papilla to obtain access. This technique obviates the need for removal and insertion of a different endoscope and reduces procedural and fluoroscopy time. A limiting factor in this method is the endoscope working channel to allow two catheters simultaneously with a diameter of at least 10 Fr, however this diameter can be easily accommodated within working channel of most duodenoscopes in current clinical use.

Figure 1. Use of a double-catheter technique for obtaining selective biliary cannulation in the presence of a peri-ampullary diverticulum
A pancreatic duct stent migrating through the spleen; a case report

Jay Babaye*, Ahmed Shehadah, Patrick Okolo

DDW 2022 Author Disclosures: Jay Babaye: No financial relationship with a commercial interest
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Patrick Okolo: No financial relationship with a commercial interest

Background: Pancreatic duct (PD) stenting is commonly performed for complications of chronic pancreatitis like PD calculi or strictures. PD stent migration is a well-described procedure-related complication however extraluminal migration of PD stents through the pancreatic parenchyma has not been reported. Here we describe the first reported case of a trans-splenic migration of a PD stent. Case: A 49-year-old female with chronic pancreatitis and PD strictures status post PD stenting, underwent a stent exchange one month prior to presentation. At that time, she was found to have several PD strictures and two stents measuring 18 cm and 7 cm were placed (Figure 1) to facilitate drainage. She was also found to have a distal PD leak which was expected to resolve spontaneously. A month later, she presented to the ED with fever, abdominal pain, vomiting, and diarrhea for two days and was found to be in severe sepsis. Laboratory findings revealed lipase - 278 U/L (ref range: 31-235 U/L). A computed tomography (CT) scan of the abdomen revealed that the longer PD stent had its proximal end in the duodenum while the distal end had migrated inward and posteriorly traversing the splenic parenchyma with associated peri-splenic fluid collection (Figure 2). The patient was stabilized with intravenous fluids, antibiotics, bowel rest, octreotide, and percutaneous drainage of the peri-splenic fluid collection. ERCP was performed 7 days after initial presentation. Proximal end of both the stents were visualized near the ampulla. Fluoroscopy revealed that the distal end of the longer stent had traversed beyond the pancreatic tail. The stent was crossed using a snare and gently separated from the splenic parenchyma. Both stents were removedatraumatically. Pancreatogram revealed extravasation of contrast beyond the pancreatic tail and PD strictures. A 7 Fr 5 cm plastic stent was placed traversing the PD stricture with adequate drainage of the PD. The post-procedural period was uneventful. Her clinical status improved and she was discharged on an oral antibiotic and gastroenterology follow up. Discussion: Migrated gastrointestinal stents causing damage to the spleen has been described only twice in the literature where one case required splenectomy and the other caused a splenic perforation and the patient was referred to hospice. The patient’s severe symptoms and CT findings were concerning for stent related splenic injury with possible splenic hemorrhage. Stent removal was not performed immediately to minimize the risk of splenic bleeding which the stent could have been tamponading. Once the peri-splenic fluid collection was noted not to be hemorrhagic and the patient’s hemoglobin remained stable, only then an ERCP was performed and the stent removed. We report the first case of a PD stent migrating through the spleen and then successfully retrieved endoscopically.