Dual Scope Technique

Endoscopic Full Thickness Resection of a Large Gastrointestinal Stromal Tumor Using a Novel S2366 Presidential Poster Award

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DISCUSSION: A 74 year-old asymptomatic male underwent esophagogastroduodenoscopy for gastric cancer screening given his family history of gastric cancer. A 3cm submucosal lesion was found in the gastric body. Endoscopic ultrasound showed a 27.5 × 20.3mm hypoechoic lesion arising from the muscularis propria (MP). Fine needle aspiration with cytology revealed spindle cells positive for CD117, consistent with GIST. CT scan was negative for metastatic disease. The patient did not want to undergo laparoscopic surgery but was open to endoscopic removal and as a result endoscopic full thickness resection was performed. Endoscopic submucosal dissection technique was first used to isolate the lesion circumferentially from the overlying mucosa and submucosa. Following dissection, it was seen that the tumor was attached to the MP by a pedicle. To minimize the size of the full thickness hole created, a dual scope technique was used. A pediatric gastroscope was passed into the stomach alongside the standard gastroscope. The standard gastroscope grasped the top of the lesion and provided highly effective traction while the pediatric scope using a snare cut through the MP layer below the pedicle. En bloc resection was achieved. The full thickness defect and the resection site was closed with a dual-layer of endoscopic suturing. The lesion was carefully removed intact via the mouth.

DISCUSSION: This case demonstrates the capability of third space endoscopy techniques combined with endoscopic suturing to remove a large GIST lesion using a novel dual-scope technique. With the excellent traction afforded by the second scope, en bloc resection capably removed a 3cm submucosal lesion en bloc. Though resection of GISTs have classically occurred through laparotomy and laparoscopic surgery, we demonstrate here that novel endoscopy techniques may play an integral role as a minimally invasive approach to tumor removal.

CASE DESCRIPTION/METHODS: A 75 year-old male with a past medical history of alcoholic liver cirrhosis decompensated by esophageal varices presented to our outpatient endoscopy unit for a surveillance esophagogastroduodenoscopy (EGD). His vital signs and physical exam were unremarkable. His laboratory studies were notable for a hemoglobin of 8.3 g/dL, Hct of 24.6%, platelet count of 66,000, and INR of 1.2. On EGD, the patient was noted to have several short columns of grade II esophageal varices in the distal esophagus with red wale sign; they were residual varices adjacent to post-banding scars. A single varix was suctioned and a band was deployed, however, there was incomplete eradication of the varix due to nearby scarring and fibrosis. There was steady bleeding noted and a covered metal esophageal stent was emergently placed to acutely tamponade the bleeding as a rescue measure. The patient was then sent to Interventional Radiology for placement of a transjugular intrahepatic portosystemic shunt (TIPS). The patient was monitored in the Intensive Care Unit (ICU) following the procedure and was hemodynamically stable. Repeat EGD was performed 5 days later for esophageal stent removal.

DISCUSSION: Post-banding esophageal scar formation is an expected outcome following EVBL. In patients who have undergone multiple previous EVBL procedures, the development of post-banding esophageal scars/fibrosis can hinder effective varix suctioning and endoscopic band ligation during subsequent endoscopies. This case presentation highlights the limitations of repeated EVBL procedures and the effective use of a covered metal esophageal stent as a rescue measure to acutely tamponade an esophageal variceal bleed prior to TIPS. Early TIPS placement enhances hemodynamic stability by reducing portal pressure and prevent further variceal formation.

S2366 Presidential Poster Award

Endoscopic Full Thickness Resection of a Large Gastrointestinal Stromal Tumor Using a Novel Dual Scope Technique

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INTRODUCTION: Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors affecting the gastrointestinal tract. Most frequently found in the stomach, GISTs are often incidentally discovered during imaging or endoscopy. Symptoms, when present, range from nonspecific abdominal discomfort and bloating to more serious pain, bleeding, or obstruction. GISTS are identified histologically by overexpression of the KIT gene. Though resectable tumors are traditionally treated surgically, “third space endoscopy” approaches can now be performed to provide minimally invasive techniques for removal.

CASE DESCRIPTION/METHODS: A 74 year-old asymptomatic male underwent esophagogastroduodenoscopy for gastric cancer screening given his family history of gastric cancer. A 3cm submucosal lesion was found in the gastric body. Endoscopic ultrasound showed a 27.5 × 20.3mm hypoechoic lesion arising from the muscularis propria (MP). Fine needle aspiration with cytology revealed spindle cells positive for CD117, consistent with GIST. CT scan was negative for metastatic disease. The patient did not want to undergo laparoscopic surgery but was open to endoscopic removal and as a result endoscopic full thickness resection was performed. Endoscopic submucosal dissection technique was first used to isolate the lesion circumferentially from the overlying mucosa and submucosa. Following dissection, it was seen that the tumor was attached to the MP by a pedicle. To minimize the size of the full thickness hole created, a dual scope technique was used. A pediatric gastroscope was passed into the stomach alongside the standard gastroscope. The standard gastroscope grasped the top of the lesion and provided highly effective traction while the pediatric scope using a snare cut through the MP layer below the pedicle. En bloc resection was achieved. The full thickness defect and the resection site was closed with a dual-layer of endoscopic suturing. The lesion was carefully removed intact via the mouth.

DISCUSSION: This case demonstrates the capability of third space endoscopy techniques combined with endoscopic suturing to remove a large GIST lesion using a novel dual-scope technique. With the excellent traction afforded by the second scope, en bloc resection capably removed a 3cm submucosal lesion en bloc. Though resection of GISTs have classically occurred through laparotomy and laparoscopic surgery, we demonstrate here that novel endoscopy techniques may play an integral role as a minimally invasive approach to tumor removal.

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Push Enteroscopy-Assisted ERCP for Treatment of Biliary Obstruction and Cholangitis in a Patient With Kasai Porto-Enterostomy

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INTRODUCTION: Biliary obstruction and acute cholangitis are late complications in patients with Kasai porto-enterostomy performed for biliary atresia. Patients typically present with fevers and jaundice and can progress to liver failure. Only a few cases have reported successful endoscopic treatment for biliary obstruction in adults with a previous Kasai procedure. Here we describe the case of a 34-year-old female with Kasai porto-enterostomy with recurrent cholangitis. A successful enteroscopy-assisted ERCP was performed with resolution of symptoms.

CASE DESCRIPTION/METHODS: A 34-year-old female with a history of biliary atresia status post Kasai procedure done shortly after birth presented with intermittent fevers, refractory pruritus, and recent hospitalization for acute cholangitis. Her workup revealed elevated liver tests and serum bile acids. MRCP showed right intrahepatic bile duct (RHD) dilatation with peribiliary cysts, trace left intrahepatic bile duct (LHD) dilatation and focal stricture at the porto-enterostomy anastomosis. We performed an enteroscopy-assisted ERCP with the patient in supine position. A pediatric colonoscope with a clear cap was used to access the biliary limb. After applying external abdominal pressure, the porto-enterostomy was reached and showed a severely stenosed opening of the bile ducts (Figure 1). The RHD was deeply cannulated using a 0.025” hydrophilic-tipped guidewire. Cholangiogram showed dilated RHD up to 10mm with severe stricture at the porto-enterostomy (Figure 2). The stricture was dilated with a balloon dilator first to 3mm then 4mm. A 5Fr x 4cm plastic stent with a single internal flange and single external pigtail was placed into the RHD. A submucosal ink injection was used to mark the biliary limb. The patient was discharged home the same day. Both her fever and pruritus resolved and she has not had further episodes of cholangitis. Her liver tests improved markedly (Table 1). On repeat ERCP, the prior stent was exchanged for a 7Fr x 5cm stent. Liver enzymes normalized. No late complications occurred.

DISCUSSION: Enteroscopy-assisted ERCP is a feasible treatment for biliary obstruction in patients with Kasai porto-enterostomy. Altered anatomy and limited choice of tools make interventions challenging. This procedure should be considered as an alternative to more invasive percutaneous and surgical techniques and as part of a multidisciplinary approach.