Endoscopic Stenting as Bridge to Surgery in Adult-Onset Hypertrophic Pyloric Stenosis

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INTRODUCTION

Adult onset hypertrophic pyloric stenosis is a rare disease without formal epidemiological studies. Prior to a case review by Hellman et.al. in 2006 only about 200 cases had been reported in the literature[1]. The mainstay of treatment for this condition remains surgical with multiple different techniques reported in the literature[2]. However, there is limited discussion on treatment options when surgery would not be feasible. We aim to discuss stenting as a suitable temporizing technique prior to surgical intervention.

Case Presentation

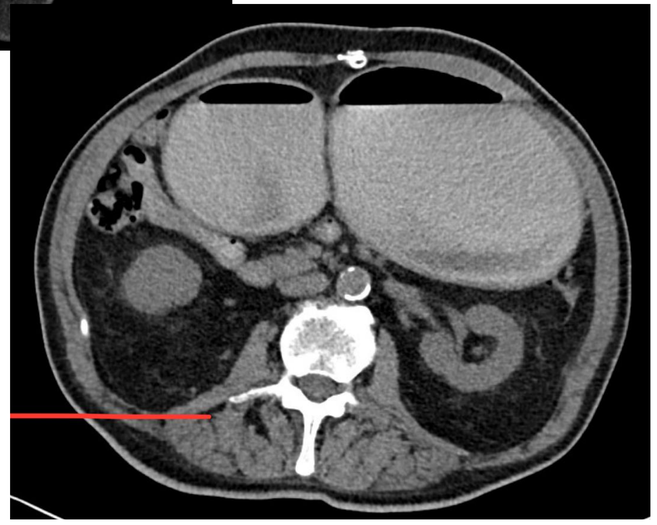
A 78-year-old male with hypertension, hyperlipidemia, chronic kidney disease, type 2 diabetes, H. pylori gastritis, and a history of exploratory laparotomy for a perforated ulcer presented to the emergency room with poor oral intake due to hypertrophic pyloric stenosis. Chronic epigastric pain, nausea, vomiting, and weight loss of 40 pounds over 4 months preceded the presentation. CT on admission showed markedly distended stomach greater than noted on prior exams containing enteric contrast and fluid consistent with gastroparesis. Multiple esophagogastroduodenoscopies (EGD) showed negative biopsies and positive H.pylori which was treated with triple therapy. Repeated endoscopic balloon dilations failed to alleviate symptoms.

He was admitted to the General Surgery service, a nasogastric tube was placed for decompression, and total parenteral nutrition was initiated. The gastrointestinal team attempted balloon dilation of the pylorus which again failed. Due to chronic malnutrition and likely atonic stomach he was a poor surgical candidate and therefore transferred to an advanced endoscopy facility where a pyloric stent was successfully. He subsequently tolerated a regular diet. Concerned for treatment-resistant H. Pylori, the infectious disease team recommended quadruple therapy. At this point he was discharged home.

On initial follow up, the patient was tolerating diet and underwent a normal gastric emptying study. He then underwent interval EGD for stent removal, followed by creation of gastrojejunostomy. At the time of the most recent follow up, the patient has slowly and successfully advanced to a regular diet without any problems.

IMAGING





Figures 1&2: CT Abdomen & Pelvis obtained in Emergency Room

Markedly distended stomach greater than that noted on prior CT 4 & 5 months ago containing enteric contrast and fluid suggestive of gastroparesis.

Gas and stool to the rectum. No small or large bowel obstruction. No free intraperitoneal air. No abdominal or pelvic ascites. Midline surgical sutures.

GI PROCEDURAL NOTE

LA Grade D (one or more mucosal breaks involving at least 75% of esophageal circumference) esophagitis was found. A benign-appearing, intrinsic severe stenosis was found at the pylorus. This was non-traversed. Biopsies were taken with cold forceps for histology. A dreamwire loaded in an extraction balloon was passed across the pylorus under fluoroscopic guidance. A TTS dilator was passed through the scope over the wire. Dilation with a pyloric balloon dilator was performed under fluoroscopic guidance and he stricture was then stented. The stent was then fixed in place with one suture using the overstitch device.

DISCUSSION

Adult hypertrophic pyloric stenosis is much rarer than its infantile counterpart. It was first described by Cruveilhier in 1835[3]. Its etiology is not well understood but pathological examination of the pylorus showed similar pathology to the infantile hypertrophic pyloric stenosis. Symptoms will typically present as a gastric outlet obstruction with endoscopy showing a thickened pylorus with benign biopsies. Treatments described in the literature include balloon dilation, pyloroplasty, and gastrectomy with Billroth II reconstruction[2]. Balloon dilation has a high failure rate and in cases of prolonged gastric outlet obstruction there is concern that chronic overdistention of the stomach has led to gastroparesis. In addition, the prolonged malnutrition makes these patients poor surgical candidates. In cases such as these, pyloric stenting can be a suitable alternative to optimize patients prior to definitive surgical treatment[4]. Despite stenting's higher rate of dislodgement and re-occlusion our case highlights its utility in the short term.

CONCLUSION

Adult hypertrophic pyloric stenosis is definitively treated with surgical interventions such as pyloroplasty or gastrectomy with reconstruction. In poor surgical candidates, pyloric stenting is a suitable short term option allowing providers to optimize patients prior to surgical intervention.

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