

Esophageal Rings and Stricture Related to a Circumferential Inlet Patch

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ABSTRACT

Inlet patches are sometimes seen during upper endoscopy, usually in the proximal esophagus. Complications of inlet patches can cause a wide array of symptoms and complications. A man presented with dysphagia and was found to have 2 rings in the upper esophagus, just above and below a circumferential inlet patch. The more distal ring caused a stenosis, which produced the symptoms. Savary dilation and treatment with a proton pump inhibitor led to symptom resolution. Pathology was missed on the patient's first endoscopy, highlighting the importance of looking for pathology throughout the entire esophagus, not just in the distal esophagus.

INTRODUCTION

Inlet patches occur in a small percent of adult patients undergoing upper endoscopy. This ectopic gastric mucosa can secrete acid and cause a variety of symptoms and pathology, often similar to what is seen in the distal esophagus related to acid reflux.

CASE REPORT

A 62-year-old man with no past medical history was referred to the gastroenterology clinic for evaluation of dysphagia over the last year. He had difficulty swallowing pills. By modifying his diet and chewing thoroughly, he could manage the dysphagia. He denied dysphagia to liquids or odynophagia. When food got stuck, he felt like he could not breathe. Food and pills always passed on their own within a few minutes, and he denied prior food impactions that required medical care. He denied nausea, vomiting, abdominal pain, gastrointestinal bleeding, weight loss, or constitutional symptoms. He had intermittent heartburn and reflux. His primary care physician ordered a barium swallow and started him on a proton pump inhibitor, which he was taking for about 3 months prior to being seen in our clinic. This gave him some symptom relief.

Physical exam and labs were unremarkable. Barium swallow showed 2 discrete esophageal stenoses with smooth borders at the level of the thoracic inlet (Figure 1). The esophageal mucosa appeared normal. Reflux was absent. A small sliding hiatal hernia was identified. Upper endoscopy demonstrated a hiatal hernia but was otherwise normal. There was no evidence of Barrett's esophagus or reflux esophagitis in the distal esophagus. Random esophageal biopsies showed unremarkable squamous epithelium, without eosinophils, intestinal metaplasia, or dysplasia.

Due to ongoing suspicion of pathology in the cervical esophagus, a repeat endoscopy was performed 2 weeks later. Two discrete rings were seen at 18 and 21 cm from the incisors with a mild stricture at the distal ring (Figure 2). Between the 2 rings, the mucosa was salmon colored (Figure 3). The remainder of the esophagus looked normal. Under narrow band imaging, there was salmon-colored mucosa between 18 and 21 cm from the incisors and pearly white mucosa in the remainder of the esophagus (Figure 4). The anatomic gastroesophageal junction and Z line were noted at 40 cm from the incisors. Savary dilation was performed in 1-mm increments until moderate resistance was felt from 15 to 20 mm with a tear seen in the stricture at 21 cm after dilation (Figure 5). Gastroesophageal

ACG Case Rep J 2016;3(4):e124. doi:10.14309/crj.2016.97. Published online: September 14, 2016.

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Figure 1. Barium swallow showing 2 areas of narrowing (arrows) at the level of the thoracic inlet.

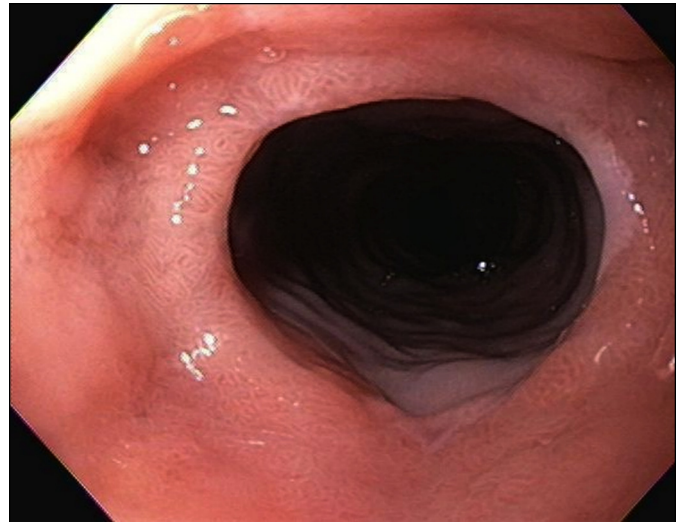


Figure 3. Salmon-colored mucosa just above the stenosis at 21 cm from the incisors.

junction biopsies showed esophageal mucosa with marked basal cell hyperplasia and intercellular edema with focal infiltration of lymphocytes and scattered eosinophils, consistent with reflux esophagitis. There was no Barrett’s metaplasia. Biopsies from 18-21 cm from the incisors showed cardiac type mucosa lined with columnar cells and focal goblet cells, consistent with inlet patch. No dysplasia or malignancy was identified. The patient was instructed to continue a proton pump inhibitor indefinitely. He was seen for follow-up in clinic 1 month after the repeat endoscopy, and his symptoms of dysphagia had improved. He was able to liberalize his diet and no longer feared swallowing pills.

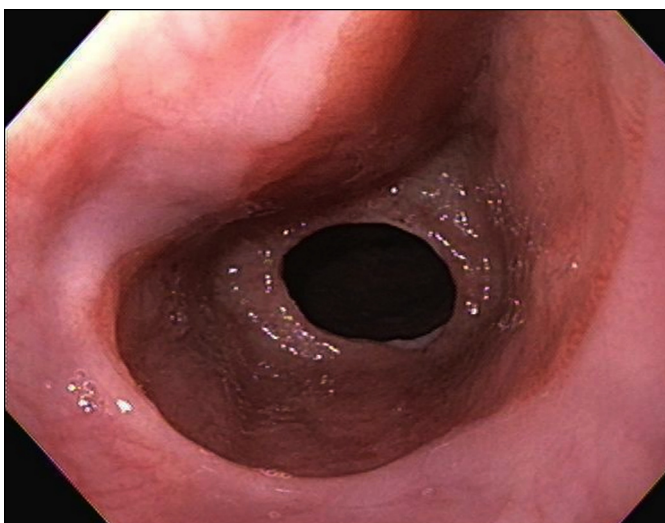


Figure 2. Ring at 18 cm from the incisors and ring with stricture at 21 cm from the incisors with salmon-colored mucosa in between.

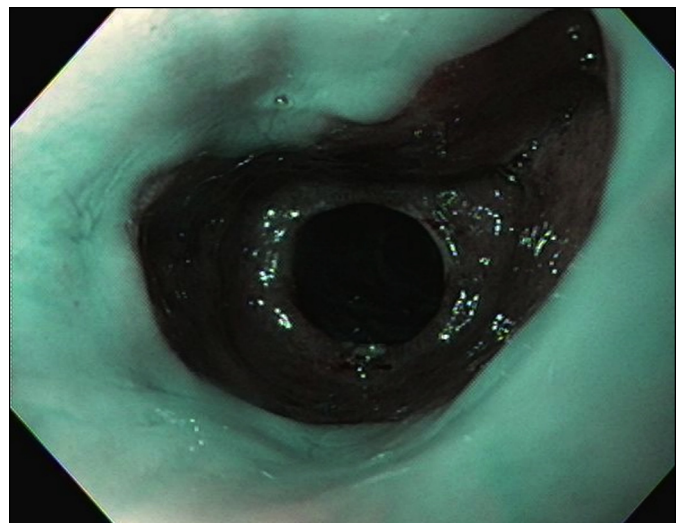


Figure 4. Narrow band imaging showing squamous mucosa proximal to 18 cm from the incisors and salmon-colored mucosa distal to this.

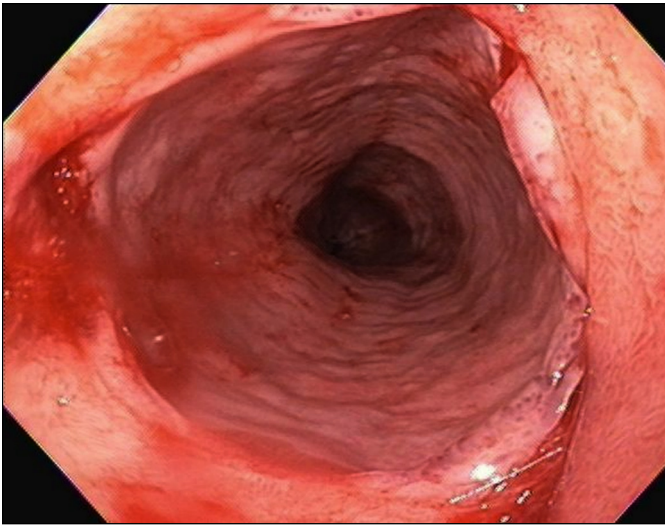


Figure 5. Post dilation of the stenosis at 21 cm from the incisors. Squamous mucosa can be seen distal to this.

DISCUSSION

Inlet patches appear as velvety, salmon-colored mucosa usually in the cervical esophagus.¹ The size and shape can vary, being flat, depressed, or elevated. The incidence is reported as 0.1%-10% of adults.¹ Often inlet patches are asymptomatic, but several complications have been associated with inlet patches, including esophageal strictures, rings or webs, obstruction, food impaction, adenocarcinoma, bleeding, ulceration, perforation, tracheoesophageal fistulas, and vocal cord dysfunction.¹⁻⁶ These complications are hypothesized to result from acid production by parietal cells in the ectopic mucosa.^{1,4} In a report of 2 patients, high esophageal strictures were associated with a circumferential inlet patch, with biopsies showing fundal type mucosa. Patients had improvement in symptoms after dilation and treatment with histamine H2 antagonists.² Cases of food impaction related to strictures or rings associated with inlet patches have been described. In these cases, patients responded to dilation and proton pump inhibitors or sucralfate slurries.³⁻⁵ While some patients present acutely with food impactions, others can present with progressive dysphagia, as in 1 case of dysphagia related to a cervical esophageal web caused by an inlet patch.⁶ One case of inlet patch was treated with endoscopic mucosal resection and radiofrequency ablation, with no residual inlet patch seen

at 6-month follow-up.⁷ Argon plasma coagulation has also been used for ablation of inlet patches.

Complications of inlet patches occur infrequently, but they can cause significant pathology. Careful examination of the entire esophagus, including the cervical esophagus, is important to identify these unusual findings. Unfortunately, the first endoscopy overlooked this patient's pathology, likely from rapid insertion and withdrawal of the scope through the upper esophagus. In this patient, the 2 rings were likely related to acid exposure above and below the inlet patch, related to gravity and the normal flow of esophageal contents (including acid) towards the stomach as well as reflux of acid above the inlet patch, causing the usual peptic stricture at the squamocolumnar junction. A barium esophagram can also be helpful in evaluating these patients as it may identify mild strictures or early rings that could be easily missed on endoscopy.

DISCLOSURES

Author contributions: J. Guider prepared the manuscript and is the article guarantor. L. Scott edited and approved the manuscript.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received December 13, 2015; Accepted April 15, 2016

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