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Case Report

Dysphagia and Refractory Gastroesophageal Reflux Due to Antral Web: A Case Report

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Abstract

Gastric antral web is a rare congenital or acquired condition that may remain undiagnosed until adulthood and typically presents with nonspecific upper gastrointestinal symptoms. In adults, it may mimic functional dyspepsia, gastroesophageal reflux disease, or cardiac conditions, leading to diagnostic delay. Impaired antral peristalsis and delayed gastric emptying increase intragastric pressure and contribute to dysphagia and refractory reflux symptoms. Endoscopic evaluation plays a key role in diagnosis, while management ranges from medical therapy to endoscopic interventions such as balloon dilation, needle-knife incision, and surgery in selected cases. In this case, the patient was treated with proton pump inhibitors and showed clinical improvement. This case highlights the need to consider antral web in the differential diagnosis of patients with dysphagia and refractory gastroesophageal reflux symptoms.

Keywords: Gastroesophageal Reflux, Endoscopy, Gastrointestinal, Hernia, Hiatal

INTRODUCTION

Gastric antral web is an uncommon anatomical abnormality characterized by a thin membranous structure partially obstructing the distal stomach. While it is typically diagnosed during infancy due to feeding intolerance or gastric outlet obstruction, adult cases are rare and frequently present with nonspecific upper gastrointestinal symptoms. These symptoms may resemble gastroesophageal reflux disease (GERD), functional dyspepsia, or even cardiac conditions, leading to diagnostic delay. Due to its subtle endoscopic appearance, the antral web may be overlooked unless carefully inspected. We present an adult case of dysphagia and refractory reflux symptoms in which an antral web was detected during upper gastrointestinal endoscopy.

CASE

A 39-year-old male presented with dyspepsia, epigastric pain, bloating, indigestion, dysphagia characterized by a sensation of food sticking during swallowing, chest tightness, and retrosternal burning sensation exacerbated by meals. The patient reported that these symptoms had been present intermittently but had significantly worsened over the last two weeks. He had no history of diabetes mellitus, hypertension, or coronary artery disease.

Given the chest-related symptoms, a comprehensive cardiac evaluation was performed. Electrocardiography demonstrated normal sinus rhythm at 102 beats per minute, and blood pressure was 120/70 mmHg. Transthoracic echocardiography revealed a left ventricular ejection fraction of 65%. Carotid Doppler ultrasonography and exercise stress testing were unremarkable. After exclusion of cardiac pathology, the patient was referred for gastroenterology department.

Physical examination revealed a soft, non-tender abdomen without guarding, rebound tenderness, or organomegaly. Laboratory investigations showed normal liver function tests and serum calcium levels. Abdominal ultrasonography demonstrated no pathological findings.

Upper gastrointestinal endoscopy revealed linear erosions exceeding 5 mm in the distal esophagus, consistent with Grade B esophagitis. The Z-line was located at 36 cm, and the diaphragmatic hiatus was crossed at 39 cm, indicating a hiatal hernia. The lower esophageal sphincter appeared loose. The fundus and corpus were hyperemic, and biopsies were obtained. The

antrum was hyperemic, and an antral web was identified in the prepyloric region (**Figure 1**). The pylorus, duodenal bulb, and second portion of the duodenum were normal. Histopathological evaluation of gastric biopsies revealed no evidence of Helicobacter pylori infection or mucosal atypia.

Based on these findings, the patient was diagnosed with Grade B esophagitis, hiatal hernia, lower esophageal sphincter laxity, superficial pangastritis, and antral web. Medical treatment with proton pump inhibitors (PPIs) was initiated. During follow-up, the patient reported significant clinical improvement, particularly a reduction in dysphagia and reflux symptoms.

DISCUSSION

Gastric antral web is a rare condition, most commonly congenital, and typically diagnosed in early childhood due to obstructive symptoms. However, in cases of partial obstruction, symptoms may remain mild and nonspecific, allowing the condition to remain undetected until adulthood (1).

Adult patients with antral web most commonly present with refractory gastroesophageal reflux, dyspepsia, epigastric pain, and dysphagia rather than classical gastric outlet obstruction. Morales et al. reported that most adult antral webs are non-obstructive and incidentally detected during endoscopic evaluation for persistent reflux symptoms (2). The clinical findings in our case are consistent with these observations(3).

The pathophysiology of symptoms in such patients is multifactorial. Impaired antral peristalsis and delayed gastric emptying increase intragastric pressure, thereby exacerbating reflux symptoms. However, in this patient, the presence of a hiatal hernia and lower esophageal sphincter laxity likely played a primary role in gastroesophageal reflux, while the antral web contributed as an additional aggravating factor. Similar findings have been reported in previous adult case reports, emphasizing the importance of thorough endoscopic examination of the prepyloric region (4).

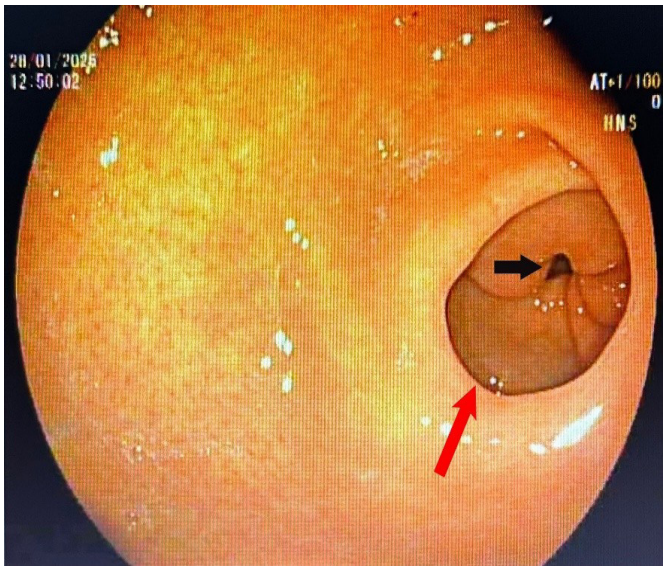

Figure 1. Upper gastrointestinal endoscopy showing a membranous antral web in the prepyloric antrum (red arrow) adjacent to the pylorus (black arrow).

Management of gastric antral web depends on the degree of obstruction and symptom severity. In mildly symptomatic or non-obstructive cases, medical therapy with proton pump inhibitors may be sufficient. In patients with persistent or severe symptoms, endoscopic treatment options such as balloon dilation or needle-knife incision have been reported to be safe and effective. Surgical intervention is rarely required and is generally reserved for refractory cases (5-7).

In the present case, the patient responded well to medical therapy alone, supporting the notion that not all antral webs require invasive treatment. Recognition of this condition and appropriate patient selection for intervention are essential for optimal management

CONCLUSION

Gastric antral web is a rare but clinically execarbating factor of dysphagia and refractory gastroesophageal reflux in adults. Its nonspecific presentation and coexistence with other reflux-promoting conditions may delay diagnosis. Careful endoscopic evaluation of the prepyloric region is essential in patients with persistent symptoms. Early recognition and appropriate management can result in significant symptom resolution and improved patient outcomes.

DECLARATIONS

Ethics Committee Approval: Ethics committee approval was not required for this case report in accordance with institutional policies. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

Consent to Participate: Written informed consent was obtained from the patient for participation in this case report.

Availability of Data and Materials: All relevant data are included in the article. Additional data are available from the corresponding author upon reasonable request.

Competing Interests: The authors declare that they have no competing interests.

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Authors' Contributions: All authors contributed to the conception and design of the study. Data collection and analysis were performed by the authors. All authors contributed to the interpretation of the results and the preparation of the manuscript. All authors read and approved the final manuscript.

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