https://doi.org/10.22516/25007440.1518

Case report

Prepyloric gastric diverticulum as a cause of upper gastrointestinal bleeding and acute abdomen: A case report and literature review

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OPEN ACCESS

Citation:
Guzmán-Chaparro EA, Porras-Escobar SA, Castro-Galvis C. Prepyloric gastric diverticulum as a cause of upper gastrointestinal bleeding and acute abdomen: A case report and literature review. Revista. colomb. Gastroenterol. 2026;41(3):376-378.
https://doi.org/10.22516/25007440.1518

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Received: 05/01/2026
Accepted: 11/03/2026

Abstract

Introduction: Gastric diverticula (GD) are uncommon outpouchings of the gastrointestinal wall. Their prepyloric location is exceptionally rare (prevalence 0.01%-0.11%), creating a diagnostic challenge because it can mimic acute obstructive abdomen or visceral perforation. **Case presentation:** This is the case of a 68-year-old man who presented with fever, hematemesis, and abdominal distension after undergoing an endoscopy. Computed tomography studies and a new endoscopic examination identified a 5 mm prepyloric diverticulum with signs of impending perforation. **Discussion:** Unlike fundic diverticula, prepyloric diverticula are usually acquired and carry a higher risk of inflammatory complications. Symptoms appearing after an invasive procedure suggest that mechanical factors may exacerbate this underlying pathology. **Conclusion:** Clinicians should consider prepyloric diverticulum in the differential diagnosis of gastrointestinal bleeding and acute abdominal pain. Identifying submucosal ulceration on high-resolution imaging is key to early diagnosis and prevention of severe complications.

Keywords

Diverticulum, gastrointestinal bleeding, hematemesis.

INTRODUCTION

Gastric diverticula are uncommon findings that affect both sexes equally. Although 75.4% are congenital and located in the cardia, acquired diverticula, or "pseudodiverticula," are located in the antrum and are usually associated with chronic inflammatory processes such as peptic ulcer disease[(1)]. The relevance of this case lies in its presentation as an emergency following a minimally invasive procedure.

CASE PRESENTATION

A 68-year-old man with a history of hypertension, chronic gastritis, and type 2 diabetes mellitus presented with an acute illness characterized by fever (38 °C), hematemesis, and progressive abdominal distension following an outpatient esophagogastroduodenoscopy (EGD).

EGD revealed patchy erythema and submucosal petechial pinpoint lesions in the gastric body. In the prepyloric region, a 5-mm-diameter diverticular opening was identified along the lesser curvature, raising suspicion of a contained ulcer perforation (**Figure 1**).

Subsequently, contrast-enhanced computed tomography (CT) of the abdomen and pelvis was performed. It showed mucosal thickening and irregularity along the greater curvature and in the pyloric antrum, with evidence of submucosal ulcers. An incidental 12-mm cystic lesion was

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identified in the pancreatic body, suggestive of a mucinous cystadenoma (**Figure 2**).

Close follow-up was subsequently undertaken because of suspected gastric wall involvement. Perforation of the prepyloric diverticulum was ruled out, and the patient was followed on an outpatient basis with conservative management.

DISCUSSION

Most gastric diverticula are asymptomatic. However, 13% to 40% may present with abdominal pain or serious complications such as upper gastrointestinal bleeding[2-4]. The diameter of the diverticular opening is a clinical determinant. Narrow openings, such as the 5-mm opening in this patient, facilitate the retention of gastric contents, which exacerbates inflammation and increases the risk of perforation[2-5].

Unlike cases in which conservative management is appropriate because the diverticulum is an incidental finding, the correlation between postprocedural fever and the finding of a contained perforation in this patient warranted closer clinical follow-up.

CONCLUSION

The diagnosis of a prepyloric gastric diverticulum requires a high degree of clinical suspicion. The combination of endoscopy and CT is the reference standard for characterizing these lesions and distinguishing a "true" diverticulum from an acquired diverticulum associated with gastric ulcers, which is an uncommon cause of upper gastrointestinal bleeding[1,2,5].

Informed consent and ethical considerations

This report was prepared with the patient's permission. The confidentiality and anonymity of the patient's information and identifying data were ensured. Written informed consent was obtained from the patient for the use and publication of clinical information and photographic and imaging material for scientific and academic purposes.

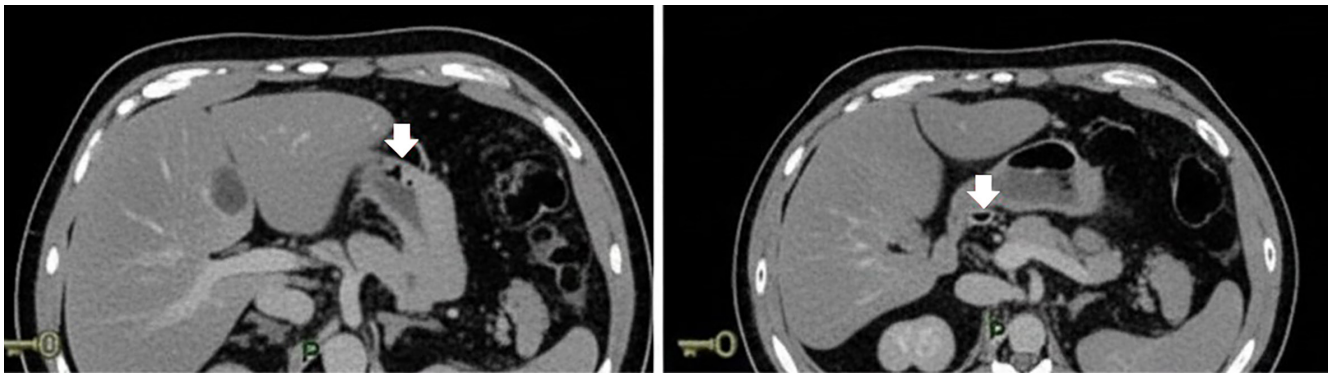


Figure 1. Upper gastrointestinal endoscopy showing a 5-mm-diameter "diverticular" opening along the lesser curvature, apparently corresponding to a contained ulcer perforation (white arrows). Images courtesy of the authors.

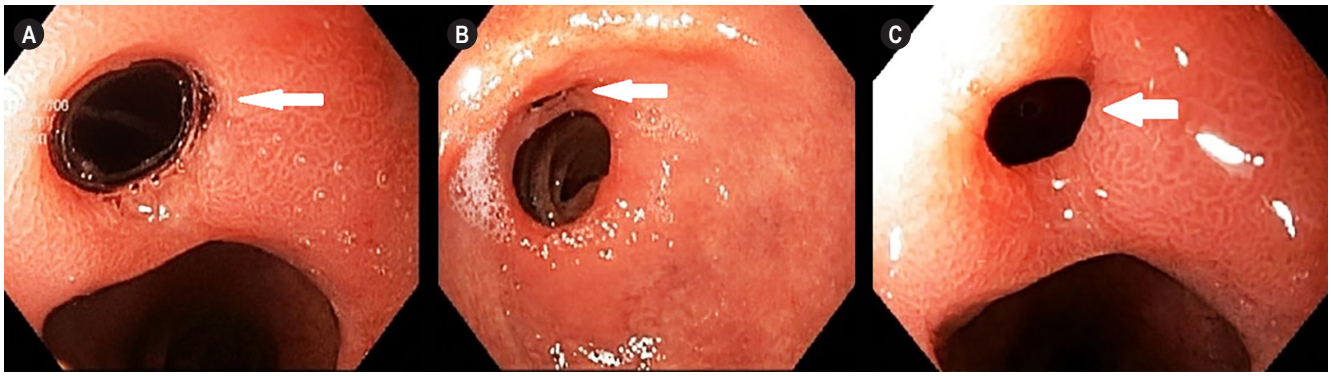


Figure 2. Contrast-enhanced computed tomography of the abdomen and pelvis showing gastric mucosal thickening and irregularity involving the body and antropyloric region, with evidence of submucosal ulcers and no findings of gastric perforation (arrow) on the axial image (**A**), and a cystic lesion in the pancreatic body, probably representing a mucinous cystadenoma, on the axial image (**B**). Images courtesy of the authors.

Conflicts of interest

The authors declare no conflicts of interest.

Use of artificial intelligence

The authors declare that no artificial intelligence (AI)-assisted tools or technologies were used.

Funding

The authors declare that no funding was received.

Author contributions

- Study design and conception: Eider Armando Guzmán-Chaparro, Sara Alejandra Porras-Escobar, and Carlos Castro-Galvis.
- Data acquisition: Eider Armando Guzmán-Chaparro and Sara Alejandra Porras-Escobar.
- Data analysis and interpretation: Eider Armando Guzmán-Chaparro, Sara Alejandra Porras-Escobar, and Carlos Castro-Galvis.
- Manuscript drafting: Eider Armando Guzmán-Chaparro, Sara Alejandra Porras-Escobar, and Carlos Castro-Galvis.
- Critical revision of the manuscript: Sara Alejandra Porras-Escobar.

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