

GASTRIC DIVERTICULUM: A RARE CAUSE OF DYSPEPSIA

Wu Lily P¹, Asare OK², Clegg-Lampsey JNA²

¹Department of Surgery, Korle-Bu Teaching Hospital, Accra, ²Department of Surgery, School of Medicine and Dentistry, University of Ghana, Accra

Summary

Objective: Diverticular disease of the stomach is uncommon and rarely suspected in all cases of upper gastro-intestinal pathology. The aim of this report is to demonstrate gastric diverticulum as an uncommon cause of upper gastrointestinal symptoms. The literature in Ghana shows no documented record; and we therefore seek to highlight gastric diverticulum as a possible differential diagnosis when evaluating patients with dyspepsia.

Case Report and Intervention: We present a case of a 26 year old man who presented to the outpatient clinic with a 2-year history of recurrent epigastric pain and dyspepsia. This patient had previous upper

gastrointestinal endoscopies which were normal. The recurrence of his symptoms necessitated a referral to Korle-Bu Teaching Hospital, a tertiary hospital, where the diagnosis of gastric diverticulum was confirmed at endoscopy. He was managed with proton pump inhibitors. Treatment is largely conservative, except in complicated cases such as bleeding and perforation where surgery is indicated.

Conclusion: Gastric diverticulum is rare in Ghana. A high index of suspicion is required to make a diagnosis especially in symptomatic patients with apparently normal gastric mucosa at endoscopy.

Key Words: Gastric diverticulum, Epigastric pain, Dyspepsia, Proton pump inhibitors, Endoscopy.

Introduction

Diverticular disease occurs commonly in the large intestine. Less commonly it may be found in other parts of the gastro-intestinal tract. Its presence in the stomach is rare.

The world-wide reported incidence of gastric diverticulum is estimated to be between 0.01 to 2.6% depending on the method of detection¹. Incidence at autopsy is about 0.02% while by gastrointestinal contrast studies it is about 0.04%². Males and females are equally affected and the age at presentation is usually between 20 to 60 years. Gastric diverticulum can however affect children³

There are two types of diverticula namely, congenital or true diverticula and acquired or false diverticula. The congenital type develops during the third to seventh week of embryogenesis where the fusiform stomach is transformed into an adult form. A 90° rotation of the stomach occurs together with the duodenum, pancreas and dorsal mesentery. The dorsal mesentery then fuses with the posterior body wall. A herniation of the posterior wall of the stomach through the dorsal mesentery prior to fusion results in a diverticulum⁴.

Acquired diverticulum is thought to result from increased intraluminal pressure or external traction of an inflamed or diseased portion of the stomach wall⁴.

Most patients with gastric diverticula are asymptomatic. However, few patients present with symptoms. The commonest symptom is vague upper abdominal pain⁵. Other symptoms include dyspepsia, nausea, vomiting, hematemesis and weight loss⁶. Significant numbers of patients with gastric diverticulum also have other gastrointestinal conditions that may explain their symptoms⁵.

Gastric diverticulum is diagnosed by upper gastrointestinal endoscopy or upper gastrointestinal contrast studies. Occasionally abdominal computer tomography scan may be the mode of diagnosis in complicated cases such as perforation with abscess formation^{4, 5}. Many cases are diagnosed while patients are undergoing endoscopy for other reasons.

Currently there is no clearly defined protocol for treatment of asymptomatic cases. However in symptomatic cases, proton pump inhibitors or histamine receptor blockers are administered for 2-4 weeks. In complicated cases such as large diverticulum of more than 4cm in size⁵; bleeding, perforation and malignant change, surgical intervention is employed⁷ with laparoscopy being the preferred approach^{5, 7}. Intra-operative gastroscopy may be required to assist in locating the diverticulum.

CASE REPORT

A 26 year old man was referred for endoscopy from a district hospital on account of suspected peptic ulcer disease. He had a 2-year history of epigastric pain associated with meals. Two previous upper gastrointestinal endoscopies performed on account of his symptoms had been reported as normal.

There was no history of non-steroidal anti-inflammatory drug abuse or significant alcohol use. He had no history of hematemesis, coffee ground vomitus or melaena. His symptoms over the previous 2 years

Corresponding Author: Dr Asare Offei K
Department of Surgery, School of Medicine and Dentistry, University of Ghana, Accra
Tel: +233 24 4871291

Email Address: asareoffei@gmail.com

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had been relieved by taking proton pump inhibitors for one week. The pain worsened a week prior to presentation and necessitated the referral for further evaluation at the Korle-Bu Teaching Hospital.

On examination, he looked well hydrated, and was not pale or jaundiced. His blood pressure was 120/70mmHg and had a pulse of 84 beats per minute with good volume. His respiratory and cardiovascular systems were normal. The abdomen was soft with mild tenderness at the epigastrium but no guarding or rebound tenderness. He had no melaena on digital rectal examination. His full blood count showed haemoglobin concentration of 12.3g/dl and a normal white cell count. He was prepared for gastro-duodenoscopy the next morning.



Figure 1: Esophago-Gastro-Duodenoscopy showing moderate proximal gastritis and a 6cm diverticulum (arrow) at the fundus of the stomach.

There were no ulcers, tumors or active bleeding seen. He was subsequently managed on oral proton pump inhibitors for four weeks with good clinical response.

DISCUSSION

Gastric diverticulum is an uncommon condition encountered in clinical practice. It may be congenital or acquired. Congenital forms of gastric diverticulum are usually found near the esophagogastric junction and constitute about 72% of all cases⁸. It is a true diverticulum. The acquired diverticulum is a false diverticulum with only mucosa and submucosa forming its wall⁹. This patient's diverticulum was located at the fundus, the region normally associated with the congenital form of gastric diverticulum. It measured 6cm in diameter, larger than the commonly reported size of 1-3cm in the literature⁷.

Gastric diverticulum is usually asymptomatic with a few patients having symptoms of dyspepsia, epigastric pain, foul smelling belching. Other symptoms may be due to complications such as bleeding and perforation. Our patient had a 2-year history of dyspepsia for which two previous endoscopy findings were normal.

As we experienced in this patient, the diagnosis of gastric diverticulum usually occurs as an incidental finding at endoscopy performed for other reasons¹⁰; in this case, for peptic ulcer disease. This collaborates the trend in the literature regarding the diagnosis being an incidental finding⁸, rather than a suspected diagnosis. The patient's symptoms improved after four weeks' treatment with proton pump inhibitors for proximal gastritis; the diverticulum may probably be a risk factor. It is unclear whether there is any association between gastritis and diverticulum as we found only one report in the literature where both conditions coexist¹¹. He has since not had any symptoms within the last eight months. Our approach towards this patient is conservative even though he has a large diverticulum. The decision for surgical intervention in large symptomatic diverticula lacks adequate evidence in the literature, although it appears to be a risk factor for complications. Some authors recommend surgical resection when the diverticulum is large, symptomatic or complicated by bleeding or perforation¹². At endoscopy, the scope can be used to distend the diverticulum to mimic the patient's symptoms^{4, 13}. This helps in the selection of symptomatic patients who may benefit from surgical resection. We intend to follow him up routinely once a year⁶, in order to diagnose any complication that may occur. Our approach is informed by the belief of some authors that, the need for surgical resection for symptomatic large diverticula depends on the severity of patients symptoms⁴. In our patient, we did not estimate the symptoms to be severe enough to warrant resection at this stage.

CONCLUSION

Gastric diverticulum is a rare clinical entity which might explain a few of the symptoms of the upper gastro-intestinal tract. Treatment is largely conservative except in large symptomatic and complicated cases such as perforation and bleeding.

A high index of suspicion is required in the diagnosis of gastric diverticulum, especially when a patient presents with recurrent epigastric pain and foul smelling belching which subsides on therapy with proton pump inhibitors. In many instances, an unsuspecting endoscopist may miss the diagnosis. Long term follow up is recommended so as to identify possible complications.

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