

CASE REPORT

A Rare Case of Gastric Diverticula on Posterior Wall associated with Cholelithiasis

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ABSTRACT

Gastric diverticulum is an extremely rare surgical condition. Most patients are asymptomatic, hence, the diagnosis is more often incidentally made than otherwise. They are usually congenital, solitary and are located on posterior wall and the lesser curvature. Patients presenting are usually between 20 and 50 years of age. Gastric diverticula harbor risk of the same complications as diverticula elsewhere in the gastrointestinal (GI) tract, such as bleeding, diverticulitis, obstruction, perforation, ectopic tissue, and malignant transformation. We present a rare case of a 48-year-old female with gastric diverticula in the posterior wall of fundus of stomach with gallstone disease which was managed surgically and a brief review of literature.

Keywords: Diverticula, Dyspepsia, PPIs, Refractory epigastric pain.

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INTRODUCTION

Gastric diverticulum is an extremely rare surgical condition and usually diagnosed incidentally in endoscopic or contrast studies of the upper gastrointestinal (GI) tract. Patients are usually asymptomatic and rarely may present with symptoms, such as epigastric fullness, pain, dyspepsia, nausea, gastroesophageal reflux, and retrosternal pyrosis.¹ Diagnosis is likely to be missed unless investigated with high index of suspicion. Here, we present a case of two gastric diverticula localized to posterior aspect of fundus and associated with gallstone disease.

CASE REPORT

A 48-year-old female presented to us with complaints of colicky epigastric and right hypochondriac pain and

dyspepsia since 1 month. Patient was not a diabetic or hypertensive and was not on any medication. She underwent vaginal hysterectomy for prolapsed uterus 7 years ago. On examination, there was tenderness in the right hypochondrium and epigastrium. An ultrasound scan was done which revealed a single gallstone of size 12 mm and no other abnormalities were noted. On upper gastrointestinal endoscopy, two wide mouthed diverticula were seen in the fundus of the stomach with stasis of food (Fig. 1). A contrast study (barium meal study) showed two diverticula on the posterior aspect of the gastric fundus on lateral view (Fig. 2). Chest radiograph showed an old fracture of the right clavicle, probably due to birth injury. Rest of the preoperative work up revealed nothing abnormal. The pathology was approached through a midline incision. Systematic inspection of abdominal viscera was done to rule out any other occult pathology. Fundus of gallbladder was obscured by adhesions which were released and cholecystectomy was done in fundus first method. Calot's triangle anatomy was normal.

The lesser sac was then entered by dividing the gastrocolic ligament and taking down the short gastric vessels. Two diverticula were found on the posterior wall of gastric fundus close to gastroesophageal junction (Fig. 3). The diverticula were closely situated and adherent to the pancreatic tissue. Adhesions were released. Diverticulectomy with a 1 cm margin on posterior wall and a two layered closure was performed. Hemostasis was

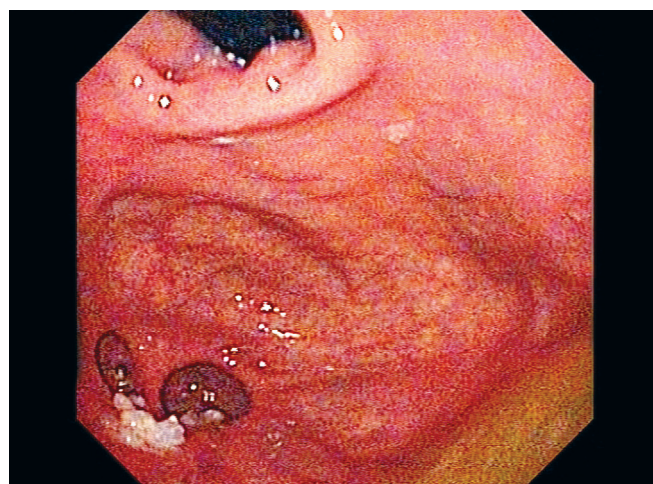


Fig. 1: Upper GI endoscopy showing mouth of the diverticula with retention of food particles

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maintained throughout the procedure and abdomen was closed in layers. Oral feeds were allowed on 3rd postoperative day. Postoperative period was uneventful and patient recovered well. At discharge the patient was completely free of symptoms. Grossly, the diverticulum was 2 × 2 cm in size with a wide mouth. Histopathologic examination of the resected diverticulum showed all three layers in its wall implying it was a true diverticulum. Cholecystectomy specimen showed chronic cholecystitis and cholelithiasis.

DISCUSSION

Gastric diverticula were first reported in 1661 by Moebius and later by Roax in 1774.² Prevalence of gastric diverticula is only 0.2% in upper GI endoscopy³ and only 0.04% among contrast study radiographs.¹ Equal incidence was recorded in both genders.⁴ Most common presentation is between 20 and 60 years age, although most patients might have had the diverticula all their life.⁴ Our patient was 48 years old at presentation.



Fig. 2: Barium meal study showing posterior location of the diverticula with retention of barium after emptying of stomach

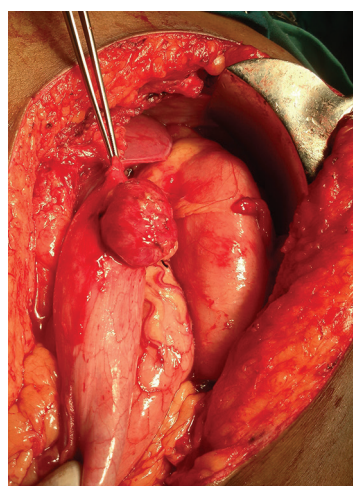


Fig. 3: Intraoperative image showing the diverticulum after reflecting the greater curvature of stomach medially

Schmidt and Walters⁵ classified gastric diverticula into congenital and acquired diverticula. Congenital diverticula are usually solitary and are true diverticula, i.e., the wall is comprised of all the layers of bowel wall. They are most commonly situated high on the posterior wall of gastric fundus close to gastroesophageal junction and the lesser curvature. Acquired diverticula (pseudo-diverticula) carry only the mucosa in their wall and are secondary to other gastric or abdominal pathologies. They may be:

- Pulsion diverticula due to increased intraluminal pressure, such as chronic cough, obesity, pregnancy, gastric outlet obstruction.⁶ A weakening of the wall from erosion due to gastric ulcer or carcinoma may also be a cause.
- Traction diverticula occur due to adhesions following intra-abdominal inflammatory conditions, such as cholecystitis, pancreatitis, and malignancies. They are also known to occur following a Roux-en-Y gastric bypass procedure,⁷ anterior lesser curvature seromyotomy for chronic duodenal ulcer.⁸

Symptoms are probably due to a combination of stasis of food and juices, obstruction and bacterial overgrowth.⁹ Hence, diverticula with a wide mouth tend to remain asymptomatic longer.¹⁰ Patients may present with complaints of vague sense of fullness and discomfort, nausea, vomiting, retrosternal pyrosis, anorexia, pain, dysphagia, mimicking common disorders, such as acid peptic disease, gastroesophageal reflux disease (GERD), refractory to proton pump inhibitors and histamine receptor blockers.⁶ Gastric diverticula harbor risk of complications similar to diverticula elsewhere in the GI tract, such as bleeding, diverticulitis, obstruction, perforation, ectopic tissue, and malignant transformation.¹¹

Gastric diverticula are often an incidental finding while investigating other common disorders, such as iron deficiency anemia, weight loss or fatty dyspepsia as in our case. Accurate diagnosis requires a high clinical index of suspicion. In upper GI contrast studies taken in lateral views or right anterior oblique views and in supine position diverticula may be seen as mucosa-lined contrast-filled outpouchings with air fluid level with retention of dye (Fig. 2). Upper GI endoscopy helps visualize the size of the neck, its location in relation to the gastroesophageal junction and allows biopsy from the diverticulum to rule out any concurrent pathology. In computed tomography (CT) gastric diverticula are seen as thin walled cystic lesions with air fluid level, located behind the stomach between the spleen, left adrenal gland and crus of the diaphragm. Because of its location diverticula on CT may also mimic left adrenal masses, accessory spleen, and pancreatic pseudocyst.¹² Upper

GI endoscopy and contrast studies are considered most reliable investigations to diagnose this rare condition.¹³

A course of proton pump inhibitors temporarily resolves symptoms which then often become refractory to medical therapy. Given the potential for complications, regular surveillance of these patients is prudent.¹¹ Large, symptomatic and complicated diverticula, however, are best managed surgically. Procedures, such as invagination of the diverticulum, partial gastrectomy have been described in the past. Currently, an open or laparoscopic diverticulectomy with primary repair is the procedure of choice. Since, its first description in 1998 laparoscopic resection of gastric diverticula has emerged as a safe procedure.¹⁴ Adequate access can be obtained by placing ports in midline, right upper quadrant and two ports in the left upper quadrant.¹⁵ In cases where the diverticulum is collapsed and elusive owing to its location or adhesions, use of intraoperative endoscopy to distend the diverticulum can be extremely useful,^{16,17} lest resection of normal part of the stomach can occur.¹⁸ Over 2/3 patients were found to remain symptom free following surgery.⁴

CONCLUSION

Gastric diverticula are extremely rare pathology and patients often present with symptoms that mimic other more common conditions. Hence, diagnosis of these cases requires a high clinical index of suspicion. Diagnosis can be established by upper GI contrast studies and endoscopic procedures. However, CT is not a reliable modality in this condition. Though no standard guidelines for management have been described for these cases it can be said that surgical, open or laparoscopic primary resection of the diverticulum is a safe and effective modality in treatment of symptomatic and complicated cases and those unresponsive to medical therapy.

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