

PERITONITIS BY PERFORATION OF A PARACARDIAL DIVERTICULUM: REPORT OF A RARE CASE

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ARTICLE INFO

Article History:

Received 14th August, 2019

Received in revised form 29th
September, 2019

Accepted 05th October, 2019

Published online 28th November, 2019

Key words:

paracardial diverticulum, peritonitis by
gastric perforation

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ABSTRACT

The Gastric diverticulum is a rare disease, is a pouch protruding from the gastric wall. Usually gastric diverticulum is detected incidentally by gastrointestinal study, when the gastric diverticulum has symptoms surgical resection is recommended being open or laparoscopic resection with excellent results. There is no medical therapy for this disease; however, the use of PPIs can improve some symptoms. A 64-year-old male patient with a history of intermittent epigastralgia was admitted to the hospital's emergency room in a similar case of a peritonitis by ulcer perforation, surgical exploration showed a perforated paracardial diverticulum with generalized peritonitis a wedge resection was performed with good postoperative evolution.

INTRODUCTION

Gastric diverticulum (GD) is an outpouching of the gastric wall. GDs are rare and they are commonly detected incidentally during routine diagnostic testing. Prevalence ranges from 0.04% in contrast study radiographs and 0.01% - 0.11% at oesophagogastroduodenum (OGD) The incidence of gastric diverticulum is equally distributed between males and females and typically may present in the fifth and sixth decades. However, it is worth mentioning that it may present in patients as young as 9 years old. The lack of exact pathognomonic symptoms and the vague long history of presenting complaints that can range from dyspepsia to major upper gastrointestinal (GI) bleed and perforation with generalized peritonitis make this condition a diagnostic challenge [1].

Case Presentation

A 64 year old male patient with a history of intermittent epigastralgia was admitted to the hospital's emergency room in a similar case of a peritonitis by ulcer perforation, at admission the patient was agitated with tachycardia at 122bpm, blood pressure at 105/53 febrile at 38.7°C. severe abdominal pain with bilious vomiting evolving for 24 h with generalized abdominal defense in the clinical exam. Biochemistry results were as follows: white blood cell count, 19.800/mm³; hemoglobin, 13.7 g/dL; urea, 18 mg/dL; creatinine, 0.7 mg/dL; sodium, 131mmol/L; potassium, 3.9 mmol/L; blood lipase, 122 U/L.

An abdominal CT scan was performed, which showed a pneumoperitoneum with a sub-hepatic collection and peritoneal effusion of average abundance, infiltration of mesenteric fat (figure 1). After a pre-operative reanimation, a laparoscopic surgery first showed a purulent collection in the hiatal region with a perforation of a diverticulum of the right side of the cardio-esophageal junction measuring 1.5 cm on the small curvature communicating with the gastric lumen. Then a conversion to laparotomy was made because of technical difficulty (adhesions) (figure 2); a wedge resection carrying the perforated diverticulum using a cutting staplersize 60mm. Abundant washing of the abdominal cavity with sub-hepatic drainage next to the stitches. postoperative follow-up was simple with good progress. resumption of transit and alimentation authorized 3 days later.



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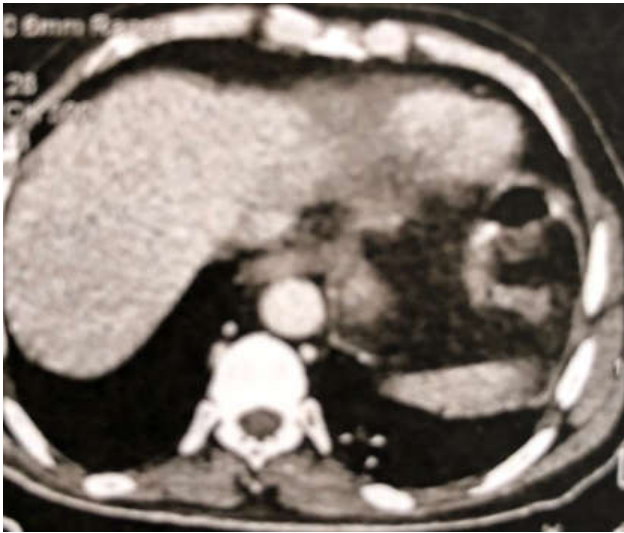


Figure 1 CT scan with pneumoperitoneum and poorly limited collection of the hiatal area

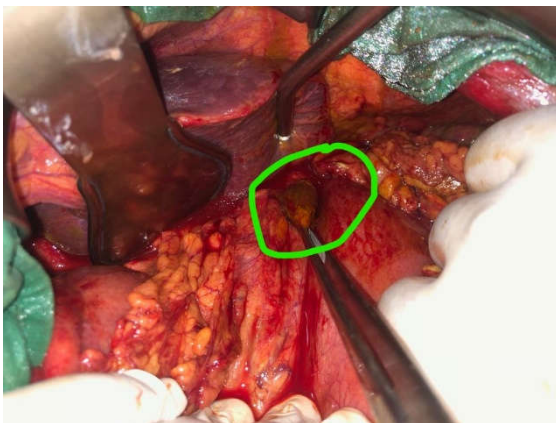
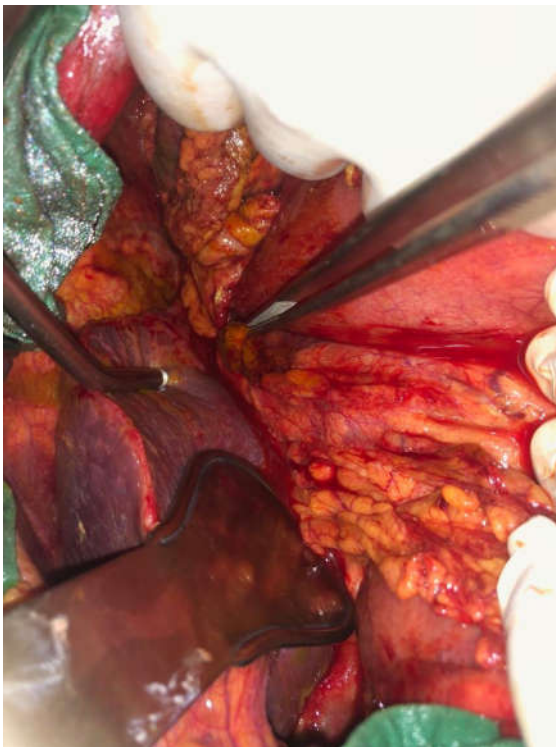


Figure 1 Perforated paracardial GD

DISCUSSION

The most common site of gastric diverticulum is the posterior wall of gastric fundus, 2 cm below the gastro esophageal junction and 3 cm. of the lesser curvature, usually measured 4 cm with a range of 3-11 cm [3]. Here are congenital and acquired diverticula, the former being the most frequent and location on the posterior wall of gastric fundus, where it is embryological origin, it is believed is due to a defect in fusion with the dorsal mesentery and the ventral mesentery with the consequent formation of diverticulum, which are acquired location generally in antrum, they have one different etiopathogenesis which is associated with inflammatory processes such as surrounding peptic ulcer, malignant disease, pancreatitis, gastric outlet obstruction, it has been observed in patients who undergo to a bypass with Roux-Y gastric they can develop gastric diverticula [2].

Gastric diverticula (GD) are outpouchings of the stomach wall that often form in the fundus, most frequently along the posterior wall. They have features similar to those of small bowel diverticula and colonic diverticula. GD are the least common gastrointestinal diverticula and are very rare anatomic abnormalities overall. In fact, they are usually discovered incidentally during routine diagnostic testing. The rates of detection vary depending upon the method used to detect them. Estimates of prevalence range from 0.04% (165/380,000) in upper gastrointestinal contrast radiographic studies to 0.01–0.11% in upper gastrointestinal endoscopies to 0.02% (6/29,900) in autopsy studies. In an early autopsy series, a prevalence of 0.1–2.6% was reported. However, this wide range of prevalence has not been supported by the most recent literature, and GD are likely far less common than 2.6%. They arise with equal distribution between men and women, and patients characteristically present between 50 and 70 years of age. Although most individuals with GD are asymptomatic, others can present with variable abdominal symptoms, including epigastric pain and discomfort, nausea, vomiting, dyspepsia, early satiety, a vague sensation of postprandial fullness, belching, halitosis, anorexia, and dysphagia. Occasionally, complications, such as ulceration, upper gastrointestinal bleeding, hemorrhage, perforation, and malignant transformation, can develop that may be life-threatening and are indications for surgical management. The rarity of this disorder, as well as the presence of a vague and nonspecific symptomatology, necessitates a high clinical index of suspicion from the internist, gastroenterologist, or surgeon [8].

Gastric diverticula are uncommon, the rates of detection by endoscopy ranging from 0.01%–0.11%. Areas of weakness caused by splitting of the longitudinal muscle fibres, an absence of peritoneal membrane and perforating arterioles may predispose to the formation of a diverticulum. Gastric diverticula are often single, varying in size from 1 to 3 cm. However, multiple and larger diverticula have also been noted, usually adjacent to the gastroesophageal junction and along the lesser curvature or posterior gastric wall. Gastric cardia diverticula may simulate a left adrenal mass; those on the posterior wall could herniate through the dorsal mesentery and fuse with the left posterior body wall. Patients with gastric diverticula are often asymptomatic, although they may present with dyspepsia, vomiting and abdominal pain. Complications such as ulceration, perforation, hemorrhage, torsion and malignancy are uncommon. The condition is diagnosed

incidentally by radiologic or endoscopic examination. There is no specific treatment required for an asymptomatic diverticulum. [9].

A thorough medical history can guide the physician about this disease, which definitely diagnosis will be always incidental to perform imaging studies, the importance of detecting it is for the potential adverse events that may occur in the short, medium and long time, such as bleeding, perforation and ultimately risk of malignancy, PPI therapy may be a reasonable option in a patient with high surgical risk, remembering that this entity occurs most often between the 5th and 6th decades of life, surgical treatment has proven to be a completely curative option with low morbidity and either laparoscopically or open surgery.[2].

There is no specific treatment when the GD is asymptomatic it is related to the degree of symptoms due to the diverticulum. In some cases, the use of PPI for a few weeks can be efficient to resolve the symptoms. however, in some patient's symptoms such as dyspepsia and epigastric pain will be refractory to inhibition of acid secretion [3].

Surgical resection is recommended when the diverticulum is large, symptomatic or complicated by bleeding, perforation or malignancy. Both open and laparoscopic resection yield good results. Palmer noted that 6 of 9 patients with symptoms caused by gastric diverticulum who underwent open surgery experienced excellent outcomes [4]. Laparoscopic resection of gastric diverticulum was first described by Fine in 1998 [5]. Since then several cases using the laparoscopic surgical approach have been reported [6]. All of these cases were successfully managed by laparoscopy, with primary resection of the true gastric diverticulum. The laparoscopic approach has been described by different authors. The most favorable approach that provides the necessary exposure is by placing the ports in a similar fashion to laparoscopic Nissen fundoplication. This includes a midline port, right upper quadrant, and 2 left upper quadrant ports. The laparoscopic dissection has been performed by either releasing the gastrocolic/gastrosplenic ligament or by mobilizing the short gastric vessels, thus gaining exposure of the superior posterior wall of the stomach. The latter is the most frequently used approach. Because all diverticula were true and located in the gastric fundus, the most direct approach was by taking down of the short gastric vessels. Simple resection of the diverticulum with a laparoscopic cutting stapler was reported to be successful [7].

CONCLUSION

Gastric diverticulum represents a diagnostic challenge for the physicians, we must make a deliberate search of this entity in imaging studies, because it can be overlooked, proper diagnosis and treatment avoid major complications such as bleeding, perforation and malignancy [2]. So the physician should keep in mind such etiology front of an acute surgical abdomen.

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How to cite this article:

Cheikh Malaaynine M.F, Rabbani K, Louzi A and Finech B (2019) 'Peritonitis by Perforation of a Paracardial Diverticulum: Report of a Rare Case', *International Journal of Current Medical and Pharmaceutical Research*, 05(11), pp 4704-4706.
