

Case Report

Sub-Acute Gastric Volvulus: A Case Report

Paras KP¹ (✉), Ashish K², Ashwani K², Pankaj G², Nikhil M²

¹Department of Surgery, Government Medical College, Amritsar 143001 Punjab, India.

²Department of Surgery, Rajindra Hospital and Government Medical College, Patiala – 147001, Punjab, India.

Abstract

Gastric volvulus is a rare condition. Organoaxial gastric volvulus (along longitudinal axis of stomach) occurs acutely, has characteristic symptoms and may be easily detected with upper gastrointestinal (GI) contrast studies. In contrast, subacute, intermittent cases present with intermittent vague symptoms from episodic twisting and untwisting. The main aim of this report was to highlight the fact that early diagnosis and treatment of gastric volvulus should be undertaken to prevent fatal outcome in patients with chronic vague abdominal symptoms.

Keywords: Gastric volvulus, gastropexy, organoaxial, subacute, upper GI contrast

Correspondence:

Paras Kumar Pandove 38, Hembagh Colony Officers Enclave, Patiala 147001 Punjab, India. Tel: +919814507559 Fax: 01752226855 Email: drpandovepk@yahoo.co.in

Date of submission: 21 Nov, 2012

Date of acceptance: 11 Mar, 2013

Introduction

Gastric volvulus is an uncommon clinical condition, which was first described by Berti in 1866 (1). Gastric volvulus are of two types, organoaxial and mesenteroaxial volvulus. Organoaxial volvulus occurs along the longitudinal axis in about two third of cases. Mesenteroaxial volvulus occurs along the vertical axis in about one third of cases. Organoaxial volvulus is associated with a diaphragmatic defect. Ischaemia, necrosis and perforation of the stomach is due to strangulation and closed loop obstruction which occurs in torsion of the stomach beyond 180° as a result of complete volvulus. Mortality rate is very high in these cases (2, 3). So, it is necessary to diagnose the condition in early course of disease, to allow for early surgical intervention. However, in subacute cases, the diagnosis is less apparent because of non-specific symptoms and in which diagnosis may be missed during the well interval even by the imaging studies. We here present a case with history of vague abdominal symptoms i.e. epigastric pain presenting for last two-year which is subsequently diagnosed as subacute organoaxial gastric volvulus on barium study.

Case Report

A 45-year-old male patient had two-year history of intermittent epigastric pain with no evidence of ischaemic heart disease on investigations and other abdominal investigations were normal. The pain used to appear after consumption of heavy meal, lasted for about 1-2 hour before subsiding. However, pain was not associated with vomiting. Initially the period of remission lasted for about 6-8 months, but in these last few months before admission attacks were more frequent and constant. During the current admission, he presented with 20-days history of epigastric discomfort, nausea and vomiting. There was no history of malena or hematemesis. The reviews of other systems were non-contributory. Physical examination revealed mild epigastric tenderness. Succussion splash and visible gastric peristalsis were conspicuously absent. Chest and abdominal radiographs revealed no abnormalities. Upper GI contrast study was done which showed organoaxial gastric volvulus (Fig.1). Upper G.I. Endoscopy was normal with clear visualization of the pylorus. CT scan abdomen was done to rule out secondary causes of gastric

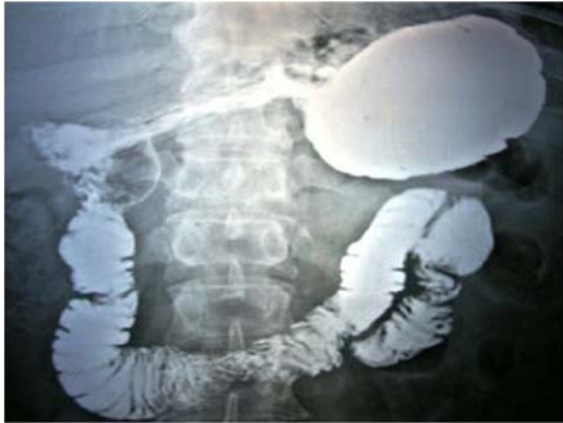


Figure 1: Barium study showing organoaxial type of gastric volvulus

volvulus like hiatus hernia, eventration of diaphragm, adhesive bands.

On laparotomy, stomach was of bigger size with heavy omentum. However, no adhesive band was present between diaphragm and stomach. Grossly the stomach was healthy and there was no associated hiatus hernia or diaphragmatic hernia. Retrocolic non-anastomotic gastrojejunostomy and anterior gastropexy with anterior parietal peritoneum was performed. He was discharged in satisfactory condition on the 10th postoperative day. Patient is on regular follow-up for the last two year and he is doing well.

Discussion

Gastric volvulus can be divided into various types depending upon the axis of rotation. Type 1 (organoaxial) volvulus seen in up to 59% of cases. It involves rotation of the stomach along its longitudinal axis. In Type 2 mesenteroaxial volvulus (29%), the stomach rotates along the vertical axis. Type 3 volvulus (2%) have features of both organoaxial and mesenteroaxial while Type 4 volvulus (10%) does not fall in any of the above mentioned category(4).

In acute gastric volvulus patient presents with acute epigastric pain, retching without vomiting and failure to pass a nasogastric tube into the stomach (Borchardt triad) (3). Sometimes abdominal pain and vomiting may be associated with upper GI bleeding (3).

Subacute cases of gastric volvulus may present with symptoms i.e. early satiety, waterbrash and intermittent upper abdominal distension. These cases may also present with features of gastroesophageal reflux or with intermittent dysphagia (2, 5). Intermittent epigastric pain may be as a result of partial torsion and detorsion of stomach in our case.

Plain X-rays abdomen erect view of mesenteroaxial volvulus may depict two air-fluid levels with the antral fluid level positioned superior to the fundus air fluid level (3) while in organoaxial volvulus a single air fluid level is seen in the horizontally placed stomach. The diagnosis of gastric volvulus should be confirmed with upper gastro-intestinal contrast study by using either barium or gastrografin, both are sensitive and specific specially when performed with torsioned stomach. These studies may show the degree of rotation and obstruction. In this patient, upper GI contrast study showed organoaxial type of gastric volvulus (Fig.1). On endoscopy, because of gastric volvulus there is disturbed gastric anatomy with inability in negotiating the stomach and pylorus which is diagnostic of gastric volvulus. In this case, endoscopy did not reveal above findings. CT scan was also normal. Usually gastric volvulus is associated with diaphragmatic eventration, hiatus hernia, and adhesive bands etc., which were not present in our case.

Management of gastric volvulus includes derotation of the volvulus followed by assessment of viability of stomach. For viable stomach anterior gastropexy or gastrostomy and repair of predisposing factors if any present is required to prevent the recurrence of symptoms. For gangrenous volvulus subtotal or total gastrectomy is required depending on the extent of viability. The laparoscopic approach is preferred in high risk and elderly patients because it provides the advantage of a shorter median hospital stay (2,6). The untwisting of the viable stomach is done with the help of gastroscope which is followed by fixation endoscopically with percutaneous endoscopic gastrostomy (PEG) (7).

Conclusion

Gastric volvulus is a relatively rare condition with fatal outcome having mortality rate of 30-50 %. Majority of the patients present with vague upper abdominal symptoms. Upper GI contrast study may prove useful as it provides early diagnosis. The early diagnosis and management of the condition in patients with chronic nonspecific and vague upper abdominal symptoms will be helpful in preventing the fatal consequences, when there is an index of suspicion for this condition.

References

1. Berti A, Singolar attortigliamento dele' esofago col duodeno seguita da rapida morte. *Gazz Med Ital* 1866; 9: 139.
2. Teague WJ, Ackroyd R, Watson DI, Devitt PG. Changing patterns in the management of

- gastric volvulus over 14 years. *Br J Surg* 2000; 87(3): 358-361.
3. Wasselle JA, Norman J. Acute gastric volvulus: pathogenesis, diagnosis, and treatment. *Am J Gastroenterol* 1993; 88(10): 1780-1784.
 4. Wastell C, Ellis H. Volvulus of the stomach. A review with report of 8 cases. *Br J Surg* 1971; 58(8): 557-562.
 5. Cozart JC, Clouse RE. Gastric volvulus as a cause of intermittent dysphagia. *Dig Dis Sci* 1998; 43(5): 1057-1060.
 6. Palanivelu C, Rangarajan M, Shetty AR, Senthilkumar R. Laparoscopic suture gastropexy for gastric volvulus: a report of 14 cases. *Surg Endosc* 2007; 21(6): 863-866.
 7. Tsang TK, Walker R, Yu DJ. Endoscopic reduction of gastric volvulus: the alpha-loop maneuver. *Gastrointest Endosc* 1995; 42(3): 244-248.