The management of acute gastric volvulus

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Introduction

A man of 63 years old came in our hospital’s Emergency Department with acute onset of dyspnoea, colicky pain in left lower hemithorax and upper abdomen, flatulence and a feeling of gastric loading. 6 months ago he underwent aortocoronary bypass and since then the aforementioned symptomatology was induced after fatigue. He also reported left hemi thorax injury with subsequent rib fractures 9 months before his present admission to the hospital. Diabetes Melitus insulin dependent for the last 3 months, was diagnosed 4 years ago. Surgically repaired right kidney lithiasis (1980) and umbilical hermia repair (1998). His occupation was ship constructor, had never smoked and was a mild alcohol consumer. From the family history his mother was deceased at the age of 64 by ruptures of abdominal aorta aneurysms. His father, who had 2 incidents of sigmoid volvulus, died during the 2nd episode at 72. His sister died by lung cancer in the age of 54 and his brother by cerebral stroke when he was 57 years old.

Plain chest and abdominal radiographs showed a large air bulla with 2 air-fluid levels subdiaphragmatically, with remarkable elevation of the left hemidiaphragm without total paresis of the bowel. The following step with barium revealed the air-fluid levels and the stomach horizontally placed, showing an image of Mesenteroaxial Volvulus.

The patient underwent Laparotomy under general anaesthesia, which confirmed gastric Volvulus Mesenteroaxially with no subsequent findings (fig. 1). The stomach was placed in its anatomic position and was stabilised with Gastropexy of the Cardia and the greater curvature of the stomach on the anterior abdominal wall and the diaphragm. The patient post surgically entered the intensive care unit for 24 hours and then in our department; after 5 days he exited the hospital with no complications and free of symptoms.

Discussion

Gastric volvulus is a rare entity, with only 350 cases in international bibliography in last 100 years. It can be seen in infants and adults, with greater incidence in ages over 50 years, with no prevalent sex.
The main clinical features were recorded by Brochardt and include:
- Epigastric pain with acute onset;
- Sudden vomiting;
- Debility of placing rinogastric tube (Brochard Triad).

During volvulus, the stomach rotates usually organoaxially and rarely mesenteroaxially, and even in a combination of both.

The acute form of Brochardt, while chronic obstruction of stomach, presents with milder periodical symptoms of abdominal pain and fast filling after meals with concomitant palpable epigastric mass.

Ischemia, leading to gangrene can be observed in 5-28% of acute volvulus cases.

Bochdaleik hernia is a result of the incompetence of the pleuropertitoneal membrane to attach with the other diaphragmatic segments, leaving a gap in the posterolateral side of the diaphragm, commonly on the left. It is seen more often in men and is the commonest congenital diaphragmatic hernia.

Morgagni hernia, is observed retrosternaly and is more often in women.

Other causes that may lead to either primary or secondary volvulus, include abnormal ligaments of the stomach to other adjacent organs, gastric cancers, organomegaly, peptic ulcers, inflammations or cancer spreading from neighbor hood organs and finally, elevation of the left hemidiaphragm, as seen after pneumonectomy, aortocoronary bypass, phrenic nerve paralysis.

Gastric volvulus should, in our opinion, be a possibility in the differential diagnosis in every patient with the history and symptomatology, as described. The diagnosis is made by combining plain chest radiography, barium and endoscopic study.

Gastropexy, is the therapy of choice in acute gastric volvulus, with simultaneous confronting of the possible causes, achieved either with classical laparotomy or laparoscopically. The last method, considered acceptable and safe, with minimal morbidity and less hospitalizing time, especially in populations with significant persurgical risk factors.

This surgical therapy is combined with Nissen fundoplication for prevention of gastroesophageal reflux. It is a safe method but technically more demanding and surgical experience is a necessity.

Gastro jeuno anastomosis, has been also applied in the past, for the surgical therapy of volvulus, with satisfying results.

Alternatively, in chronic types of volvulus endoscopic gastrostomy has been applied in patients with significant health problems or for the elderly.

In chronic types and in selected incidents, alpha loop endoscopic anataxis of gastric volvulus has been described as a temporary therapy, as well as the combination of laparoscopic surgery and endoscopy.

Finally, we point out that expert the classical clinical image, rare cases have been described, showing Paradoxus pulsus, tension gastrothorac and image of cardiac tamponade.

**References**

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