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MORGAGNI HERNIA: CASE REPORT

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SUMMARY

This is a case report of an elderly woman who presented with a history of epigastric pain and persistent vomiting diagnosed initially as a duodenal ulcer, later as a pyloric stenosis and at laparotomy was found to have an anterior diaphragmatic hernia with gastric volvulus. Hernia of Morgagni occurs through a congenital defect in the diaphragm but usually presents in adulthood. It could be an incidental diagnosis or can present with obstructing symptoms of the herniated viscera. Treatment is surgical with reduction of hernia and repair of the diaphragmatic defect. If misdiagnosed, this can lead to considerable morbidity and occasionally mortality due to the obstructed/strangulated hernial contents.

INTRODUCTION

Diaphragmatic hernia is a condition where the contents of the abdominal cavity from the high-pressure abdomen herniate into the low pressure thoracic cavity through a defect in the diaphragm which could be either congenital or acquired.

There are three main types of the diaphragmatic hernia: (i) oesophageal hernia - This is the most common type of the diaphragmatic hernia. It occurs through the Oesophageal hiatus and could be sliding, paraoesophageal or more frequently a combination of both(1); (ii) posterolateral hernia through the foramen of Bochdalek:- This is the most common diaphragmatic hernia in infants and children. It occurs through a congenital defect in the diaphragm and is usually associated with hypoplasia of the lung on the affected side, leading to severe respiratory distress and requiring emergency laparotomy(2) and; (iii) anterior diaphragmatic hernia of Morgagni Larrey is through the Foramen of Morgagni or Magendi. This hernia was first described by Morgagni in 1761 followed by Larrey in 1829. The Foramen of Morgagni is a congenital defect in the fusion of gastric and costal elements of the diaphragm. This triangular defect is limited by the xiphisternum and costal wall anteriorly and diaphragm, pleura and pericardium posteriorly. This is the least common type of diaphragmatic hernia. It is usually asymptomatic in the first years of life but may present as pulmonary infection or respiratory distress in the paediatric age group. It may be associated with other congenital anomalies and its outcome improves with timely diagnosis and repair(3). Morgagni hernia is usually discovered as an incidental finding in adults when a thoracic mass of unknown origin is seen on chest x-ray. This hernia is often small and may only take the form of a pre hernia lipoma. A Computerised Tomography scan may reveal the mass to have fat density and it could be misdiagnosed as a thoracic lipoma but Magnetic Resonance Imaging can demonstrate herniation of omental fat into the thoracic cavity through

the diaphragmatic hiatus(4). This hernia has a peritoneal sac covering the herniated contents which are usually omentum and colon but occasionally stomach, small bowel or even portions of liver may herniate. If the herniating viscera contain air, a repeat chest x-ray a few hours later may show different images depending on variation of contained air. Obstruction of herniated viscera is rarely described and is difficult to diagnose before air fluid levels are demonstrated on a chest radiograph. An important differential diagnosis is delayed presentation of a traumatic hernia. There may be pain and tenderness in the right subcostal region, respiratory distress or symptoms of obstruction or strangulation of incarcerated viscera as presenting symptoms. Surgery is indicated for reduction of hernia because of the risk of obstruction or strangulation and it can be carried out either at laparotomy or laparoscopically. Contents of the herniated sac are reduced back to the abdominal cavity and repair of the defect in the diaphragm is carried out to prevent recurrences.

CASE REPORT

Mrs. S. M. a seventy one-year old female presented to her G.P. with a one week history of epigastric pain and vomiting. The epigastric pain was continuous, not relieved with antacids and caused no nocturnal awakening. The vomiting was occasional and comprised of foods and no blood or bile. There was no history of alcohol abuse or smoking and she gave no past medical history of peptic ulcer disease. She had been on NSAIDS on/off for the last ten years due to pain in her knee joints. She was also a known hypertensive on hydrochlorothiazide with good control. An oesophageal gastroduodenoscopy (OGD) revealed oesophageal reflux, antral gastritis and a large, active duodenal ulcer. An ultrasound of the upper abdomen revealed multiple gall bladder calculi but no dilatation of common bile duct or intrahepatic ducts was seen. A chest x-ray revealed mild cardiomegaly and a raised right hemidiaphragm. She was treated with H2 receptor antagonists and antacids and was lost to follow up.

She was admitted three years later under a physician with persistent vomiting for two days. This was preceded by epigastric pain, occasional vomiting and weight loss over a month's duration.

She was very dehydrated and an OGD revealed a "large stomach". The vomiting settled and she was discharged on omeprazole and domperidone only to be readmitted two days later with intractable vomiting approximately seven times a day with the last vomitus being coffee ground. She had another OGD which did not reveal much more than the previously noted "large stomach" with doubtful pyloric stenosis. A Barium meal and follow through showed a grossly distended stomach, which did not empty even on delayed films. A cup and spill deformity was described on Barium meal, suggestive of pyloric stenosis. Chest x-ray revealed a raised right hemidiaphragm and mild cardiomegally (same as reported three years earlier). An upper abdominal ultrasound again confirmed presence of calculi in the gall bladder.

In view of the diagnosis of pyloric stenosis, she was referred for a surgical opinion. The author noted a succussion splash on abdominal examination. Review of Barium meal films suggested a gastric volvulus. A preoperative OGD revealed a large stomach and a healed duodenal ulcer but no pyloric stenosis was seen. She underwent a laparotomy where a diaphragmatic hernia through the Foramen of Morgagni was found. The hernia contained transverse colon and a gastric volvulus. Reduction of the hernia was carried out with difficulty and the right diaphragmatic defect was repaired. Later the posterior wall of stomach was anchored to the first six centimetres of jejunum to prevent a recurrent volvulus. A cholecystectomy was also performed.

Postoperatively the patient was observed in the intensive care unit for two days following which she made an uneventful recovery. A repeat chest x-ray revealed reduced height of the right hemidiaphragm with a small amount of pleural effusion, which resolved on follow up.

DISCUSSION

A case report of an elderly patient who presented with intractable vomiting and upper abdominal pain is presented. She was thought to have pyloric stenosis in view of the large stomach seen on both OGD and barium meal. The latter went on to describe even a cup and spill deformity, characteristic of pyloric stenosis.

At a repeat endoscopy, the stomach was noted to be large but no pyloric stenosis was seen. Due to the symptoms of intestinal obstruction and possibility of a gastric volvulus,

a laparotomy was carried out which confirmed the gastric volvulus herniating through a defect in the anterior diaphragm (Foramen of Morgagni). Similar cases of Morgagni hernia have been described elsewhere in elderly patients who present with acute or sub-acute intestinal obstruction or as a chest infection but there are no local reported cases and on personal enquiry, these cases are extremely rare(5-7). Once diagnosed, the treatment is relatively straight forward. Reduction of the hernial contents is performed and this results in relief of obstruction. The defect in the diaphragm is repaired and measures to prevent recurrences are taken. Laparoscopic repair can also be carried out with a good success rate, especially if a pre-operative diagnosis of diaphragmatic hernia is certain. In this case, a laparotomy was performed due to uncertainty as to the cause of obstruction.

Surgical treatment is recommended in all the patients with Morgagni hernia due to the risk of obstruction/strangulation of herniating viscera(8).

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