

## **Case Report**

# **Adult Bochdalek Hernia Referred As a Case of Gastric Outlet Obstruction: A Case Report**

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## **ABSTRACT**

Bochdalek hernia is a pediatric disease, and in neonatal age group it is the most common diaphragmatic hernia. Symptomatic presentation in an adult patient is a rare condition and it might confuse the treating physician leading to a misdiagnosis. We report a case of a 65 year old female patient referred from Prince Hashim Military Hospital to King Husain Medical City as a case of gastric outlet obstruction. The preoperative diagnosis of diaphragmatic hernia was made based on upper endoscopy and radiological study. The patient made complete recovery after laparotomy and primary repair of the hernia . In this case report we discuss the clinical presentation , investigations and management of this rare condition. (Rawal Med J 2010;35: ).

## **Key words**

Diaphragmatic hernia, gastric outlet obstruction.

## **INTRODUCTION**

This congenital defect, first described by Bochdalek in 1848, is an improper fusion of the posterolateral foramina of the diaphragm that results in herniation of the abdominal organs into the chest cavity, commonly involving the left side of the diaphragm. (1) In adults, incidentally-discovered posterior diaphragmatic hernias are rare (0.17% of

patients having an abdominal CT – Scan). The great majority are small, with only 27% containing abdominal organs such as bowel, spleen or liver. (2) Reviewing the literature showed increasing cases of these congenital defects in adults that mandate comprehensive study to show the real prevalence of this disease.

## **CASE PRESENTATION**

A 65 year old female patient, a known case of hypothyroidism on L-Thyroxine replacement was referred from Prince Hashim hospital to KHMC as a case of gastric outlet obstruction .The patient was admitted through E/R with a long standing history of post prandial epigastric pain and vomiting which increased over the last few days. The patient was well hydrated, not jaundiced, afebrile & normotensive.

**Fig 1. Chest radiograph PA view showing raised left hemidiaphragm and presence of air filled bowel loops in the left chest cavity.**



Clinical examination of chest and abdomen revealed decreased air entry over the left lower lung zone with mild epigastric tenderness upon deep palpation. No masses could be palpated and the rest of examination was unremarkable. Investigations revealed a hematocrit of 41%, a white cell count of 7700/ml.

**Fig 2. Chest and abdominal CT-scan showing distended stomach with air and fluid causing elevated left hemidiaphragm .**



Thyroid function test, renal function test, serum glucose and electrolytes, and routine coagulation studies were normal .Chest X-ray (figure 1) and chest and abdominal CT-scan (figure 2) showed distended stomach with air and fluid causing elevated left hemidiaphragm .Barium meal study (figure 3) showed distended intrathoracic stomach.

**Fig 3. Barium meal study showing distended intrathoracic stomach.**



Gastroenterologist performed upper endoscopy mentioned that the stomach is full of food and fluid and could be intrathoracic .So the decision was to go for laparotomy. At laparotomy we found a big hernial defect of the posterior aspect of the left

hemidiaphragm through which the stomach, part of the left colon and spleen were herniated inside the lower part of the left hemithorax .We were obliged to do splenectomy to manage to reduce these organs intra-abdominally. The diaphragmatic hernial defect was repaired primarily using non absorbable sutures and a chest tube catheter to drain the left pleural space was inserted. The patient tolerated the procedure well, she was kept in the hospital for 4 days before she was discharged home . Follow up after 4 weeks revealed that the patient was well and no complications were detected.

## **DISCUSSION**

Bochdalek's hernia occurs approximately in 1:2000 to 1:5000 live births, more common in males, the left side more commonly affected than the right. In most of the cases it is an asymptomatic disease in the adult age group. With the widespread use of CT and other imaging studies asymptomatic BH are increasingly discovered as incidental findings. The true prevalence of BH however remains unknown, with estimates ranging from a low of 1 in 2000–7000 based on autopsy studies to as high as 6% based on the findings of early-era CT examinations.(3) In adults the condition is easily missed unless there is a high index of suspicion. It has been reported that nearly 40% of adults are misdiagnosed as having a pleural effusion for which attempted needle aspiration could be disastrous. Once the diagnosis is established, operative repair should be undertaken to prevent life-threatening complications as well as to lead to an improvement in symptoms. (4)

In classic cases, Bochdalek's hernias typically arise on the left side, contain fat or omentum predominantly and possibly other abdominal organs like stomach, bowel or spleen , and do not necessarily lead to symptoms. Varying in size and contents, they may be found in patients of any age. Identification of previously undiagnosed Bochdalek's

hernia in adults occurs most frequently when the patients are undergoing CT typically for surveillance of cancer or assessment of vague symptoms.(5)

Diagnosis is ascertained by a combination of chest X-rays, computed tomography (CT), magnetic resonance imaging (MRI), as well as upper gastrointestinal and bowel double-contrast study. Past normal chest X-rays do not exclude the presence of Bochdalek's hernia. (6) Bochdalek hernias and other congenital diaphragmatic defects can be treated by open approach or laparoscopically. Although laparoscopy has been documented in the treatment of Morgagni hernias since 1994, its reported usefulness in treating Bochdalek hernias is more recent. It has been shown to produce successful outcomes and less pain and time for recovery in the immediate postoperative period than open approaches.(7) Video assisted thoracoscopy and hand assisted thoracoscopy also used successfully to repair this type of hernia.

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