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CASE REPORT

An 81-year-old gentleman with symptomatic Bochdalek hernia

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Abstract

An 81-year-old gentleman with congenital polycystic kidney disease presented to his primary care physician with dysphagia, gastroesophageal reflux refractory to medical management, and 11.25 kg weight loss in a 6 mo-period. A barium swallow misdiagnosed a paraesophageal hernia for a Bochdalek hernia. Herein, we highlight how a Bochdalek hernia may be disregarded in the differential diagnosis and how providers can resort to a more common diagnosis, a paraesophageal hernia, which is more frequently encountered in old age and whose radiologic appearance might mimic a Bochdalek hernia.

Key words: Polycystic kidney disease; Paraesophageal hernia; Bochdalek hernia; Diaphragmatic hernia; Diaphragmatic hernia repair

Core tip: Bochdalek hernias are seldom encountered in elderly patients. Hence, our goal is to briefly shed light on this less common hernia of the diaphragm and highlight its diagnosis and current treatment options, which are very different from that of a paraesophageal hernia, a common misdiagnosis.

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INTRODUCTION

Congenital diaphragmatic defect, a hernia of Bochdalek, is a rare defect resulting from the failure of the posterolateral diaphragmatic folds to fuse *in utero*[1]. While often devastating in neonates who present with life-threatening respiratory distress, these hernias may occasionally remain asymptomatic, and the defect will not be recognized until later in life. Typical symptoms of a Bochdalek hernia include abdominal pain, dyspnea, gastroesophageal reflux, nausea, and vomiting[1,2]. On physical exam, patients may exhibit diminished breath sounds and presence of bowel sounds in the chest[3]. However, many patients remain asymptomatic, and the diagnosis is made only incidentally through routine imaging for other reasons. Moreover, polycystic kidney disease may be considered as indicator of a soft tissue disease with enhanced risk for hernias. The incidence of late-onset Bochdalek hernias has not been clearly determined, although reported rates range from 0.17% to as high as 12.7%[4,5]. Symptomatic patients are typically males with left-sided defects[3].

Frontal and lateral radiographs of the chest may demonstrate loops of bowel with air fluid levels in the chest with concomitant elevation of the hemidiaphragm; however, it may be difficult to appreciate the presence of a hernia on plain films, especially with coexisting thoracic pathology, such as atelectasis, consolidation, or an anterior mediastinal mass[6]. Moreover, chest radiographs may reveal no abnormalities despite the presence of the defect, particularly if the herniation is intermittent and the patient is asymptomatic. As a result, chest computed tomography (CT) scan is considered the test of choice to confirm the diagnosis[7]. A barium swallow can also be an

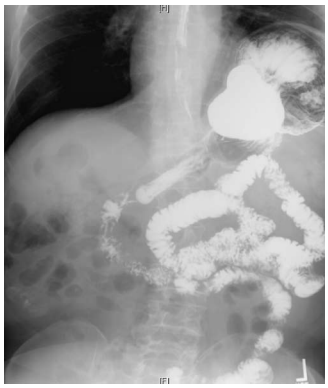

Figure 1 Barium swallow showing a left sided Bochdalek hernia with herniated gastric fundus.

adequate diagnostic test, as in the case herein presented, which was initially incorrectly diagnosed in another hospital as a paraesophageal hernia.

CASE REPORT

An 81-year-old gentleman with congenital polycystic kidney disease presented to his primary care physician with dysphagia, gastroesophageal reflux refractory to medical management, and 11.25 kg weight loss in a 6 mo-period. After an upper endoscopy ruled out any organic abnormalities, he underwent a barium swallow, which is shown in Figure 1. Subsequently the patient was referred to our center for treatment of a paraesophageal hernia, although the barium swallow clearly demonstrates a Bochdalek hernia. As Bochdalek hernia is seldom encountered in patients in their 80s, the health care providers disregarded this eventuality in his differential diagnosis and resorted to a more common diagnosis, a paraesophageal hernia, which is more frequently encountered in old age and whose radiologic appearance might mimic a Bochdalek hernia. Hence, our letter has the goal to briefly shed light on this less common hernia of the diaphragm and highlight its diagnosis and current treatment options, which are very different from that of a paraesophageal hernia.

DISCUSSION

Although there are no well-established indications for surgery, given the risk of incarceration and strangulation, repair of the hernia is advised regardless of symptomatology[3]. Traditionally, surgery has been performed either via laparotomy, particularly in the emergency setting, or thoracotomy, which is often the approach of choice in chronic hernias due to the dense adhesions of the herniated stomach in the chest[1]. Minimally-invasive techniques, particularly thoracoscopy, may also be utilized; thoracoscopy provides the surgeon excellent visualization of the herniated viscera and eases the difficulty in lysing adhesions to the thoracic cavity[1,7,8]. Interrupted, nonabsorbable sutures are typically used in the repair with mesh placement in larger defects[1,3]. Both open and minimally invasive approaches have yielded excellent results with no reported reoccurrences found among the literature[3]. Our patient underwent a left thoracotomy with lysis of dense adhesions along the fundus of the stomach and reduction of the herniated viscus back into the abdomen. The diaphragmatic defect was repaired with an oval-shaped Gore-Tex, DualMesh patch. The patient was discharged home on post-operative day 5 with complete resolution of his symptoms and no recurrence on follow-up imaging. At one year, he is doing well.

In summary, although rare, a hernia of Bochdalek may need to be considered in the differential diagnosis for patients in the old age who have foregut symptoms. A careful and unbiased interpretation of radiologic tests is essential to recognize the disease and perform the correct operation.

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