

# Symptomatic Bochdalek Hernia in Adult

## CASE REPORT

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## Abstract

**Background:** The congenital malformation of the posterolateral portion of the diaphragm is called the Bochdalek hernia, and was first described in 1948 by anatomy professor Bochdalek. The diagnosis in adults is extremely rare, being in the majority, an occasional finding in a chest x-ray.

**Case:** The authors report a Bochdalek Hernia case in an adult patient, with complaints of dyspnea and epigastralgia refractory to pharmacological treatment. The diagnosis was confirmed after a chest CT scan.

**Conclusion:** Bochdalek hernias are extremely rare in adults, commonly diagnosed in childhood. The importance of recognition of its diagnosis is crucial, so it should be always among differential diagnoses in radiology, due to the range of complications that may affect the patients.

## Introduction

The Bochdalek hernia (HB) is a congenital defect located in the posterolateral diaphragm portion due to incomplete obliteration of the foramen situated in this region. It was first described by the anatomy professor Bochdalek in 1848 [1]. The defect is extremely rare, with an estimated incidence in one case every 2,200-12,500 live births [2].

### Keywords

Bochdalek Hernia; Adults.

A wide range of complications related to Bochdalek hernia have been reported, including migration of the stomach, intestines, gallbladder, liver and spleen [3]. Late presentation of HB is uncommon, occurring on the left portion of diaphragm in 88-97% of cases [4]. They are usually asymptomatic when diagnosed in the adult, being an element of casual finding in a chest x-ray performed for another reason [5].

The aim of the present study is to report the case of late presentation of Bochdalek hernia in the left portion of diaphragm, in a symptomatic adult patient. Due to its clinical complications, it should be included among the differential radiological diagnosis.

## Case report

Patient is male, 57 years old, sought the Hospital Porto Dias, Belém, Pará, Brazil, for the accomplishment of Chest Computed Tomography (CT). Asked about the indication of the exam, the patient reported dyspnea and long-standing postprandial epigastralgia, refractory to pharmacological treatment, but with spontaneous improvement after a few hours. While the patient was being examined, the presence of abdominal organs were observed in the posterior portion of the left phrenic hemicupula.

### (Figure 1 & 2)

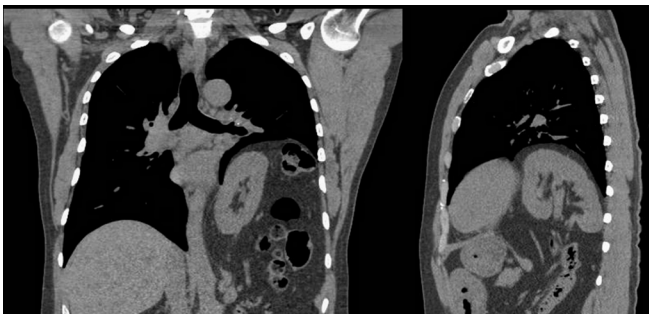
After the end of CT, the patient was questioned prior history of chest or abdominal trauma and previous surgeries, and denied any antecedent. Correlating its clinical history with the imaging findings, it was diagnosed Bochdalek's Hernia (HB) and suggested in the report the referral to the surgical service, to reduce the hernia.

## Discussion

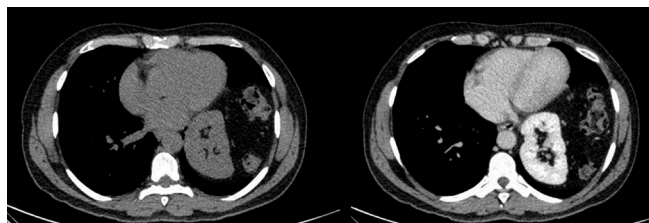
Bochdalek hernia is rare in adults and accounts for 0.17-6% of all diaphragmatic hernias. It is predominant in women and in the left diaphragm portion [6], being in this case, reported to the left, but in a symptomatic man. The diagnosis of Bochdalek hernia in adults is difficult, since many patients are asymptomatic. Therefore, there is an underdiagnosis [7].

Most congenital BHs are associated with respiratory insufficiency [8] that becomes evident during the first weeks of life, being among the most frequent causes of respiratory distress in neonates. As in adults, most BHs are usually asymptomatic, their detection is incidental [9]. Symptoms, if any, are typically imprecise. Patients usually report chest pain or gastrointestinal symptoms [10], as the patient in this case, who reported complaints of postprandial epigastralgia refractory to pharmacological treatment, and dyspnea. It could often lead to a wrong diagnosis.

**Figure 1:** Chest CT scan showing mesenteric fat, left kidney, splenic angle of the colon and part of the body/tail of the pancreas. Coronal and sagittal, respectively.



**Figure 2:** Chest CT, transverse section at T7-T8 level, showing mesenteric fat and left kidney.



Surgical treatment is necessary due to the complication range related to this hernia type, which, although often asymptomatic, may lead to tissue strangulation [10], pneumothorax and intestinal necrosis [11].

## Conclusion

Bochdalek hernias are extremely rare in adults, presenting asymptomatic or non-specific symptoms, which make their diagnosis difficult to suspect. The importance of the recognition of its diagnosis, which must be among the differential diagnosis in radiology, is crucial because of the complication range related to this pathology. The Bochdalek Hernia treatment is surgical, aiming its reduction. The classic radiological examination with contrast and the computerized axial tomography confirms the diagnosis.

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## Contribution

Luis Eduardo Almeida de Souza, Karlla Lorena dos Santos Anjos, Danielle Oliveira de Sousa, Gabriel de Jesus da Fonseca Loureiro, Deborah Marques Centeno, Yana Cardoso de Lima, Rodrigo da Silva Cordeiro, Felipe Teixeira Lisboa, João Paulo da Silva Machado, Karen Giovana Leal Matos, Mauro Carvalho Vieira: literature review, data interpretation, writing, translation and concept of the manuscript.

Mauro Carvalho Vieira: Concept and orientation regarding the manuscript, data acquisition and methodological review of the manuscript.

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## Conflict of interest

The authors declare that there are no conflicts of interest in this case report.

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