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### RESEARCH ARTICLE

#### LATE-PRESENTING BOCHDALEK HERNIA: A RARE CAUSE OF ACUTE ABDOMINAL PAIN IN ADULTS.

**Hajar Hamri, Maha Hajji, Fatima Zahrae Laamrani and Laila Jroundi.**  
Imaging Department, Ibn Sina Hospital, Rabat, Morocco.

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#### **Abstract**

Bochdalek hernias are the most common type of congenital diaphragmatic hernia resulting from a failure of posterolateral diaphragmatic foramina closure in utero. Presentation in adults is rare and account for 5 to 30% of all congenital diaphragmatic hernias. We report a case of Bochdalek hernia in a 25-year-old man admitted to the emergency department for acute epigastric pain.

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#### **Introduction:-**

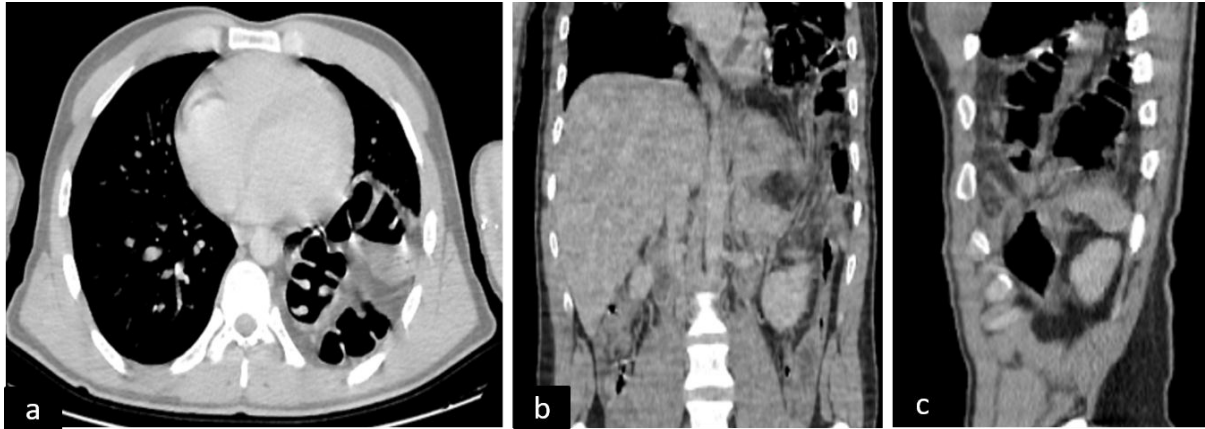
Bochdalek hernias are the most common type of congenital diaphragmatic hernia resulting from a failure of posterolateral diaphragmatic foramina closure in utero. Presentation in adults is rare and account for 5 to 30% of all congenital diaphragmatic hernias [1]. We report a case of Bochdalek hernia in a 25-year-old man admitted to the emergency department for acute epigastric pain.

#### **Case report:**

A 25-year-old man was admitted to the emergency department for acute epigastric pain that started 3 days earlier with vomiting and stool stopping. The patient has no particular medical or surgical history, history of trauma or causes of pancreatitis. The clinical examination returned to a normal temperature but a diffuse abdominal contracture. Laboratory exams recorded abnormal leucocyte count  $13 \times 10^3 / \mu\text{L}$ , CRP 7 mg/L and lipase level 25 U/L. Abdominopelvic CT was requested to rule out a surgical emergency. The CT scan showed a large left posterolateral diaphragmatic defect with hernia of the left colic angle with part of the transverse and left colon as well as the omentum, consistent with the diagnosis of left-sided Bochdalek hernia (figure 1). There was no sign of occlusion, strangulation, or perforation. The stomach, spleen, pancreas and left kidney were in place and without abnormalities. Finally, there was no abnormality of the pulmonary parenchyma adjacent to the hernia. The interrogation then revealed the notion of intense physical exercise preceding the clinical symptomatology, which explains the acute manifestation. The evolution was marked by the spontaneous disappearance of the clinical symptoms and it was decided to program a restorative laparotomy as soon as possible in order to avoid any complication.

**Corresponding Author:-Hajar Hamri.**

Address:-Imaging Department, Ibn Sina Hospital, Rabat, Morocco.



**Figure 1:** -Abdominal CT. (a) axial, (b) coronal and (c) sagittal: Left posterolateral diaphragmatic defect with herniation of colon and omentum supporting the diagnosis of Bochdalek hernia.

### Discussion:-

Diaphragm begins to develop at the fourth weeks of the pregnancy, and completes the formation in about 20 weeks. Some unknown genetic and environmental factors are responsible for the development of congenital diaphragmatic hernias (CDH). Anatomically, CDH can be classified as posterolateral (Bochdalek), parasternal right anterior (Morgagni) and parasternal left anterior (Larrey).

The Bochdalek hernia is the most common type of congenital diaphragmatic hernia, accounting for 70-75%. It occurs when the posterolateral diaphragmatic foramina fail to fuse appropriately, resulting in an intra-thoracic protrusion of the abdominal contents. This is more common on the left side (85%) than on the right (13%) or bilaterally (2%) [2-5]. Bochdalek hernia usually presents during the neonatal period; presentation in adults is rare and generally favored by raised abdominal pressure in patients experiencing obesity, pregnancy or intense exertion as in the case of our patient [6]. The symptoms vary considerably in late presenting Bochdalek hernia. Patients may have acute or chronic symptoms or remain asymptomatic [7]. In the series of Chang and al., gastrointestinal symptoms were more dominant in late presentation of CDH, especially in patients with left diaphragmatic defects, while respiratory disorders were more common in the early presenting group [8]. The size of the hernia varies and the contents of the hernia sac may vary in each case. Contents of left-sided Bochdalek hernias may include colon, stomach, spleen, small bowel, omentum, pancreas, and adrenal gland [9]. Colon is the most common intra-abdominal organs migrating through the diaphragmatic defect and may cause large bowel obstruction [10]. In the case of our patient, there was no intestinal obstruction or strangulation although the left colic angle and part of the transverse and left colon as well as the epiploon were in the thorax. Contents of right-sided diaphragmatic hernias typically include liver, gallbladder, kidney, and omentum [9]. In most cases, Bochdalek's hernia is fortuitously identified by abnormal findings above the dome of the diaphragm, such as gas-filled loops of bowel or soft tissue mass on chest X-rays. Due to the low sensitivity of the chest X-ray, these aspects can be confused with other thoracic pathologies such as atelectasis, pulmonary sequestration, anterior mediastinal mass or pneumothorax [11]. The examination of choice is a contrast-enhanced CT that not only confirms Bochdalek's hernia diagnosis, but also provides detailed information on the viscera of the hernia and the focal diaphragmatic defect. CT is also useful for eliminating intestinal obstruction, stangulation, bowel perforation or other complications depending on herniated viscera that may be associated with high morbidity and mortality. Treatment of Bochdalek hernia includes reduction of hernial contents to the peritoneal cavity after checking viability and repair of the diaphragmatic defect [5,11].

### Conclusion:-

The diagnosis of Bochdalek's hernia is essentially based on thoraco-abdominal CT scan. Any Bochdalek hernia must undergo surgery before the onset of digestive and respiratory complications, which can in some cases be fatal.

### Conflict of interest

The authors declare that they do not have any conflict of interests.

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