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Strangulated Bochdalek Hernia, a Rare Cause of Occlusion: Case Report

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Abstract **Case Report**

We report the observation of a 48-years-old man with a congenital diaphragmatic hernia that was revealed late by an occlusive syndrome. The patient underwent a laparotomy with reduction of the hernia and closure of the diaphragmatic breach. Our objective is to review a rare etiology of intestinal obstruction, which is strangulated Bochdalek's hernia.

Keywords: Strangulated Bochdalek's hernia; adult; congenital diaphragmatic hernia.

INTRODUCTION

According to our knowledge in embryology, there are two known types of congenital diaphragmatic hernia related to incomplete fusion of the diaphragm: Morgagni's hernia on the right and Larrey's hernia on the left, which are located at the level of the anterior parasternal fissure, and Bochdalek's hernia, which is located in the posterolateral region. Morgagni's hernia is ten times more common than Larrey's hernia. However, in 95% of cases of congenital diaphragmatic hernia, it is Bochdalek's hernia that is encoutered, which can manifest on either side. Adult Bochdalek's hernia can remain asymptomatic for a long time before causing respiratory symptoms due to compression of the lung and digestive symptoms due to strangulation of the viscera.

CASE REPORT

A 48-years-old female patient with no specific medical history was presented to the emergency department with vomiting that had been occurring for 4 days, along with abdominal swelling, inability to have a bowel movement or pass gas, and mild abdominal pain. There was no fever or alteration of the general state. On the physical examination, the patient was conscious with mild abdominal tenderness.

An abdominal-pelvic CT scan revealed stomach strangulation during its passage through a left postero-lateral diaphragmatic defect which was responsible for a stomach distension upstream of the strangulation site.

Figure 1: CT scan revealing a bockdalek hernia

The patient was admitted to the operating room, through a midline laparotomy we discovered a strangulated left diaphragmatic hernia, and the hernia sac contained a large portion of the stomach. The procedure consisted of enlarging the collar, reducing the viable hernia contents, closing the defect with separate silk sutures.

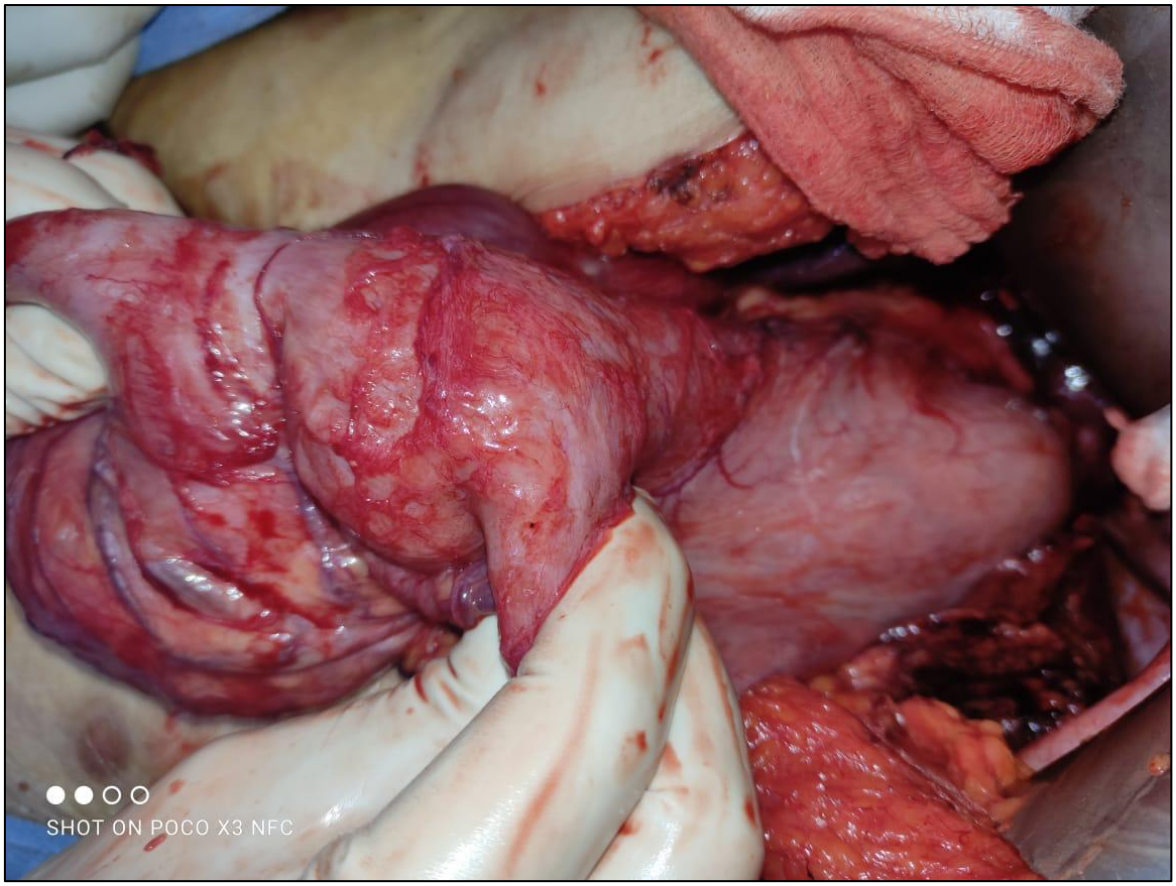

Figure 2: Reduction of Bockdalek hernia

DISCUSSION

In 1848, Professor Vincent Alexander Bochdalek described, in Prague, a form of herniation in the posterolateral region of the diaphragm. There are about 100 cases of Bochdalek hernia in adults in the English-language literature. As for newborns, Bochdalek hernia is a congenital diaphragmatic hernia affecting 1/2200 to 1/12,500 births. The prevalence in adults remains poorly known and is estimated to be approximately 0.17 to 6%, with the majority of cases being asymptomatic and mostly found in women (77%).1,2 In autopsies, the prevalence of this hernia ranges from 1/2000 to 1/7000 cases [3, 4].

Adult Bochdalek hernia can remain asymptomatic for a long time before causing mixed clinical signs, respiratory by lung compression and digestive by strangulation of the viscera, as in our observation [7].

Imaging, particularly CT scanning, is described to be the essential method of ensuring diagnosis. The diagnosis is essentially based on careful examination of the frontal chest X-ray [2, 6], which can show images of pneumonia, pneumothorax, pleural effusion, diaphragmatic masses that can lead to misdiagnosis [5]. Research on chest X-ray should be conducted in any child with atypical respiratory symptoms, digestive segments or intrathoracic air-fluid levels [1].

Thoracic CT or pulmonary MRI with contrast ingestion can also be useful [1, 4]. The most frequent digestive complications are strangulation of the stomach and strangulation of the small intestine or colon, which manifest as an obstructive syndrome like in our patient's case. More rarely, strangulation of the digestive tract can cause hemorrhagic ulceration or diastatic or ischemic perforation [8]. Perforation of the digestive tract manifests as pyopneumothorax and septic shock with sometimes sudden death [9].

Due to the severity of the complications, Bochdalek hernia should be systematically operated on even if asymptomatic [10]. Treatment for strangulated Bochdalek hernia involves reduction with closure of the diaphragmatic defect and resection of nonviable segments in case of ischemic complications. In the absence of digestive or pulmonary complications, video-assisted thoracoscopy and laparoscopy may be proposed [9].

CONCLUSION

Late-onset hernias are relatively rare and their modes of presentation are diverse. The occurrence of obstruction as a mode of revelation remains particularly rare. In the case of any atypical respiratory and/or

digestive manifestations, careful examination of chest X-ray and, if in doubt, a thoraco-abdominal CT scan, can help reveal the diagnosis. Rapid surgical management ensures a favorable outcome in the majority of cases.

REFERENCE

1. Cherifi, A., Ferrouk, O., & Boudiaf, L. (2015). Bellamine. *Un cas de hernie de Bochdalek à révélation tardive. ASFCP P-006 SFCP/Chirurgie viscérale (néonatale, digestive, thoracique, oncologique) CHU de Tizi Ouzou, Algérie*.
2. Zenda, T., Kaizaki, C., Mori, Y., Miyamoto, S., Horichi, Y., & Nakashima, A. (2000). Adult right-sided Bochdalek hernia facilitated by coexistent hepatic hypoplasia. *Abdominal imaging*, *25*, 394-396.
3. Bujanda, L., Larrucea, I., Ramos, F., Muñoz, C., Sánchez, A., & Fernández, I. (2001). Bochdalek's hernia in adults. *Journal of clinical gastroenterology*, *32*(2), 155-157.4. Shah S. Laparoscopic repair of a chronic diaphragmatic hernia. Surg Laparosc Endosc Percut Tech. 2000 Jun;10(3):182–6.
4. Wyler, S., Muff, B., & Neff, U. (2000). Laparoskopischer Verschlu einer Bochdalek-Hernie beim Erwachsenen. *Der Chirurg*, *4*(71), 458-461.
5. Mei-Zahav, M., Solomon, M., Trachsel, D., & Langer, J. C. (2003). Bochdalek diaphragmatic hernia: not only a neonatal disease. *Archives of Disease in Childhood*, *88*(6), 532-535.
6. Salacin, S., Alper, B. E. H. N. A. N., Cekin, N. E. C. M. İ., & Gülmen, M. K. (1994). Bochdalek hernia in adulthood: a review and an autopsy case report. *Journal of Forensic Sciences*, *39*(4), 1112-1116.
7. Tzeng, J. J., Lai, K. H., Lo, G. H., Hsu, J. H., & Mok, K. T. (2001). Gastropleural fistula caused by incarcerated diaphragmatic herniation of the stomach. *Gastrointestinal endoscopy*, *53*(3), 382-384.
8. Habib, E., Bellaïche, G., & Elhadad, A. (2002, March). Complications de la hernie de Bochdalek méconnue de l'adulte. Revue de la littérature. In *Annales de chirurgie* (Vol. 127, No. 3, pp. 208-214). Elsevier Masson.
9. Schwartz, A., Desolneux, G., Desjardin, M., Evrard, S., & Bechade, D. (2013). Hernie diaphragmatique symptomatique à distance d'une ablathérapie pulmonaire par radiofréquence. *Journal de chirurgie viscérale*, *150*(2), 177-178.