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Case Report: The Diaphragmatic Hernia: A Rare Cause of Intestinal Obstruction

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Abstract **Case Report**

We present the case of a 22-year-old patient, with congenital diaphragmatic hernia, diagnosed at an advanced stage due to an occlusive syndrome observed on the CT scan, revealing colonic distension upstream of a strangulated Bochdalek's diaphragmatic hernia. The patient underwent laparotomy, where the hernia was reduced, and the diaphragmatic rupture was closed. The purpose of this article is to highlight a rare cause of intestinal obstruction, which is strangulated diaphragmatic hernia, when the diagnosis and detection of complications are confirmed through CT scan, allowing for early management.

Keywords: Congenital diaphragmatic hernia, intestinal obstruction.

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INTRODUCTION

Acute intestinal obstruction is a frequent occurrence in emergency settings, with causes dominated by adhesions in the small intestine and tumor pathology in the colon. However, there are rare etiologies that radiologists should be familiar with, and in this article, we will focus on strangulated Bochdalek hernia as one such etiology within this category [1, 2].

CASE

This concerns a 22-year-old patient with no notable medical history, admitted to the emergency department for diffuse abdominal pain, along with a cessation of bowel movements and gas for 2 days. There was no history of trauma. Clinical examination revealed generalized abdominal rigidity. A thoraco-abdomino-pelvic CT scan, before and after the injection of iodinated contrast, was performed and revealed colonic distension reaching 10 cm, predominantly air-filled, upstream from an area of caliber disparity corresponding to the strangulation of the left colic angle as it passed through a left postero-lateral diaphragmatic defect (Figure 1 et 2). This was associated with peri-colonic infiltration, occupying the entire left pulmonary hemi-field, resulting in passive atelectasis of the pulmonary parenchyma, along with a deviation of mediastinal elements toward the contralateral side (Figure 3 et 4).

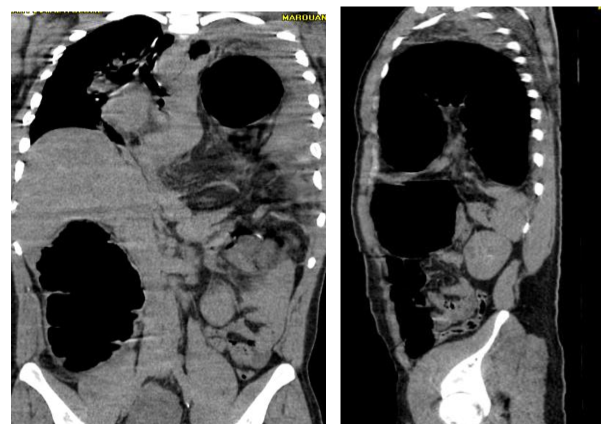


Figure 1: Coronal (A) et sagittal (B) sections: showing the caliber disparity zone at the level of a left postero-axial diaphragmatic defect

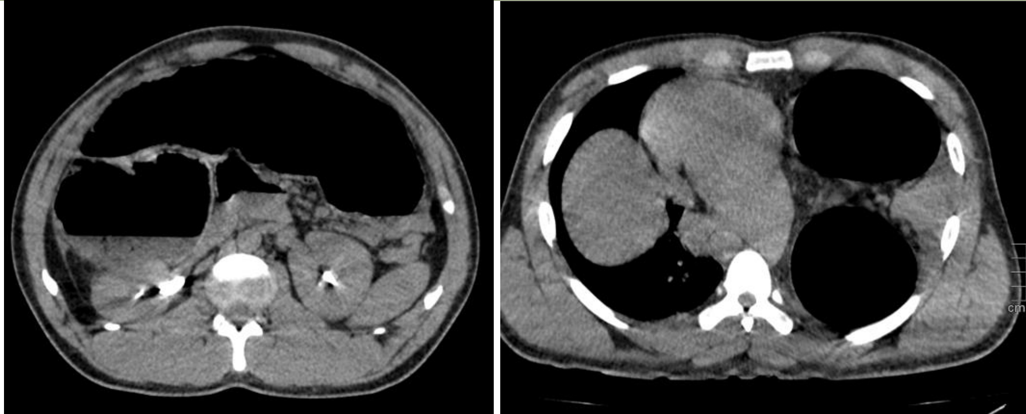
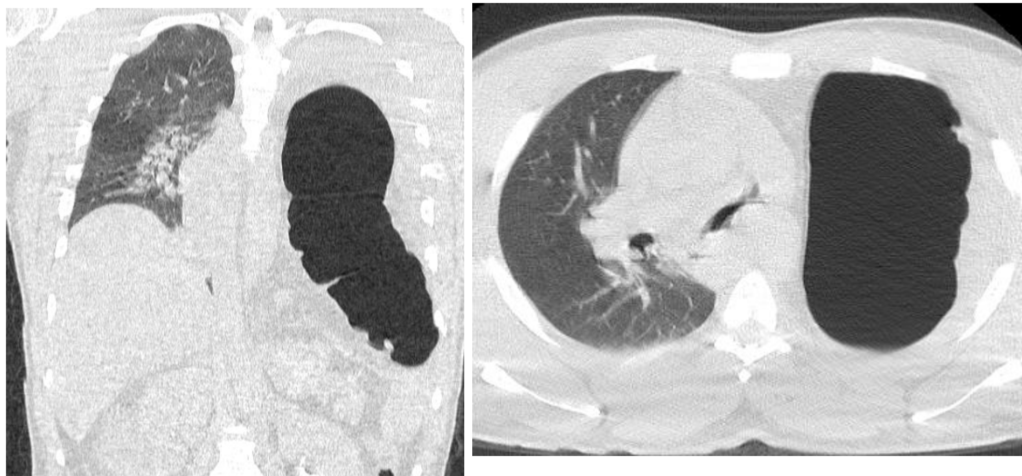


Figure 2: Axial (B) section: showing colonic distension with predominantly air-fluid content



Figures 3 and 4: Coronal (C) and axial (D) sections: showing passive atelectasis of the left pulmonary hemi-chamber with deviation of mediastinal elements to the contralateral side

DISCUSSION

The congenital diaphragmatic hernia can manifest late in 10 to 30% of cases, posing a diagnostic challenge [2]. The adult Bochdalek hernia (BH) may remain asymptomatic for an extended period before giving rise to a combination of clinical signs, these can include respiratory symptoms due to lung compression and digestive symptoms caused by visceral strangulation, as observed in our patient [3, 4].

On a chest X-ray, a Bochdalek hernia (BH) may be indicated by the presence of an intrathoracic gastric air pocket in the case of a gastric hernia, or the existence of basithoracic digestive loops [1]. However, chest X-ray has its constraints, including the potential for spontaneous hernia reduction and the existence of a significant Bochdalek hernia [1].

The CT scan remains the gold standard for diagnosis, allowing for the identification of intra-thoracic viscera, precise localization of the hernia neck, and, less commonly, the detection of a contralateral Bochdalek hernia [2, 5].

The most frequent digestive complications involve the strangulation of the stomach, the small intestine or colon, presenting as an obstructive syndrome, similar to our patient's case. Less commonly, strangulation of the digestive tube may result in hemorrhagic ulceration or diastatic or ischemic perforation [4].

A surgical intervention is imperatively recommended, due to the severity of complications, and even in asymptomatic cases. The treatment in case of strangulation consist to reduce the hernia, closing the diaphragmatic defect, and resecting nonviable intestinal segments [5].

CONCLUSION

Bochdalek hernia represents an uncommon source of adult intestinal obstruction. Its diagnosis should be considered when faced with unexplained respiratory or digestive symptoms. The thoraco-abdominal CT scan confirms the diagnosis and reveals digestive complications, often requiring urgent intervention.

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