

Strangulated Bochdalek Hernia: A Rare Cause of Bowel Obstruction in Adult

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ABSTRACT

Bochdalek hernia is a rare form of diaphragmatic hernia which is infrequently diagnosed in adults and strangulation is the more frequent revelation mode. We report a case of Bochdalek strangulated hernia complicated with bowel obstruction in a 42-years-old female patient. She underwent laparotomy allowing the reduction of the content of hernia in abdomen with primary closure of the defect. The outcome was uneventful.

Keywords

Bochdalek hernia, Strangulated hernia, Adult, Computed tomography, Laparoscopy, Thoracoscopy.

Introduction

Bochdalek hernia is a rare pathological entity among diaphragmatic hernias. It is the result of incomplete closure of diaphragmatic postero-lateral parts during embryogenesis between the 9th and 10th week of amenorrhea [1,2]. It is a congenital defect often early diagnosed in neonates.

Adulthood diagnosis is rare. Given the rarity and non-specificity of symptoms of Bochdalek hernia in adults, the diagnosis is difficult and delayed. Consequently, in most cases, Bochdalek hernia is diagnosed after complication onset [1,2].

The objective of this work is to report a case of right strangulated Bochdalek hernia in a 42-year-old female patient admitted to regional hospital of Metz-Thionville and to review scientific literature.

Case report

A 42-year-old female patient without relevant medical history was admitted for dyspnea, abdominal pain, vomiting and gas and feces absence since a few hours before admission. Upon admission, clinical examination found apyrexia, good general condition, abdominal distension, painful abdomen, free hernial

orifices, superficial polypnea, thorax with normal morphology and presence of breath sounds in the right hemithorax. Further clinical examination was without findings.

Face to this clinical picture, acute intestinal obstruction, pleuro-pneumopathy, strangulated hiatal hernia and pulmonary embolism were evoked as diagnosis hypothesis.

Thoraco-abdominal CT scan showed right strangulated diaphragmatic hernia (Figure 1). We decided to perform surgery. Due to the caecal distension, we performed laparotomy. Emergency exploratory laparotomy found right colon, caecum and appendix sliding up into the thorax through the right postero-lateral defect (Figure 2).

The diagnosis of strangulated right Bochdalek hernia was confirmed. Intestinal loops reduction was performed with difficulty needing to cut the border of diaphragmatic defect. The intestinal loops were healthy but the appendix was ischemic. A diaphragmatic primary closure and appendectomy were performed. A right thoracic drain was placed. Outcome of surgery was simple.

At the follow-up visit after 1 month, the patient clinical condition was satisfying with a normal control thoraco-abdominal CT scan (Figure 3).



Figure 1: CT scan picture of right Bochdalek hernia in our patient (blue arrow).

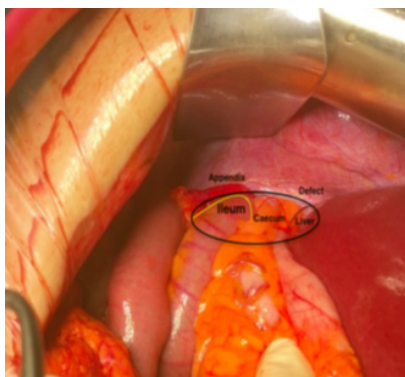


Figure 2: Peroperative view.



Figure 3: Normal thoraco-abdominal CT scan picture in our patient (1 month after surgery).

Discussion

Bochdalek hernia was described for the first time in 1848 in Prague by Professor Alexander Bochdalek [1]. It is the result of incomplete closure of lateral and posterior part of the diaphragm during embryogenesis.

This disease is rarely diagnosed in adults, with an actual prevalence unknown estimated between 0.17 and 6% of diaphragmatic hernias [2,3]. In scientific literature, left predominance in female is the rule [3,4]. Bochdalek hernia is often diagnosed in neonates during the first days of life. Symptoms may be respiratory (dyspnea, thorax pain, recurrent respiratory infections, cough) or abdominal (abdominal pain, nausea, vomiting) [5,6].

This malformation is found lately in adults and this may be explained by the obstruction of diaphragmatic hernial orifice by abdominal organs such as liver and spleen [7]. This may remain asymptomatic for a long time and may be discovered by a complication such as strangulation of hernia like in our patient.

A lot of complementary examination allow the diagnosis of Bochdalek hernia (thorax X-ray, abdominal X-ray without preparation, thoraco-abdominal scan, thoraco-abdominal MRI). However, the gold-standard is thoraco-abdominal double contrast CT scan [8,9].

Treatment is mainly surgical with reduction of hernial content, estimation of its vitality and closure by simple suture or prosthesis. The surgery may be performed by laparotomy, thoracotomy, laparoscopy or even better thoracoscopy [9].

The two last surgery procedures were less invasive and allow decreasing post-surgery complications and duration of hospitalization. However, thoracoscopy is considered as better to control potential adherence and to reduce easily the hernia content into the abdomen [10-12].

Conclusion

Bochdalek hernia is a rare form of diaphragmatic hernia rarely diagnosed in adult. Its major complication is strangulation and the malformation is frequently found out further to this complication. Treatment has greatly improved with the use of laparoscopy and thoracoscopy.

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