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Bochdalek hernia and repetitive pancreatitis in a 33 year old woman



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ABSTRACT

INTRODUCTION: Bochdalek hernia presentation in adulthood is rare. The presentation in newborns is the most common, manifesting with data from respiratory failure secondary to pulmonary hypoplasia, requiring urgent surgical intervention with high morbidity and mortality.

PRESENTATION OF CASE: We present the case of a 33 year old woman admitted in the emergency room with severe abdominal pain in the left upper quadrant and disnea. After physical examination and laboratory test we diagnose mild acute pancreatitis. The patient haven't coelitisias by ultrasound or any risk factor for pancreatitis. Initially she received medical treatment and was discharged after one week. After four weeks she presented the same symptoms in two different occasions, with severe and mild pancreatitis respectively. A computed tomography report a left posterolateral diaphragmatic hernia. In spite of the rare association of pancreatitis and Bochdalek hernia, we realized it as the etiology until the second event and planned his surgery. We made a posterolateral torachotomy and diafragmatic plasty with a politetrafluoroetileno mesh and after a 6 months follow up she has coursed asymptomatic.

DISCUSSION: The high rate of complications in this type of hernia requires us to perform surgical treatment as the hernia is detected. In this case it is prudent medical treatment prior to surgical correction despite this being the origin of the pancreatitis, because the systemic inflammatory response added by the surgical act could result in a higher rate of complications if not performed at the appropriate time. There is no precise rule to determine the type of approach of choice in this type of hernia which thoracotomy or laparotomy may be used.

CONCLUSION: Bochdalek hernia is a rare find in adults who require treatment immediately after diagnosis because of the high risk of complications. When presented with data from pancreatitis is recommended to complete the medical treatment of pancreatitis before surgery to obtain the best results, unless it exist another abdominal complication.

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1. Introduction

The Bochdalek hernia occurs when the abdominal contents herniate through the posterolateral segment of the diaphragm. The diaphragm is formed by four embryologic elements, including the septum transversum, pleuroperitoneal membranes, mediastinal dorsal mesentery of the esophagus, and the body wall muscles. The failure in fusion of this four elements by the 8th week of gestation generate a posterolateral diafragmatic hernia.^{1,2}

It has a reported incidence between 1 in 2000 and 1 in 5000 live births, with 70–90% left sided, generally manifested in the neonatal period with respiratory insufficiency.

The presentation in adult life is a rarity, with an incidence between the diafragmatic hernias of 0.17–6%, with only about 130 cases reported in the literature.³ The diagnose usually is in the context of other gastrointestinal complications like incarceration, with laparotomy as the procedure to damage control and hernia repair.^{2,4,5}

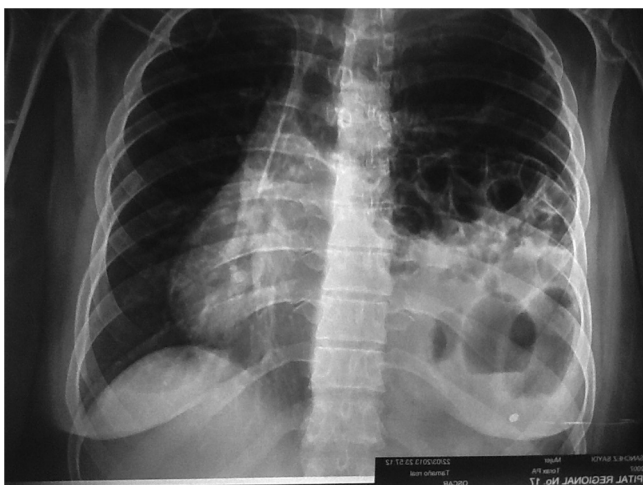


Fig. 1. Toracic AP x-rays presenting a 50% collapsed left lung, ipsilateral costodiaphragmatic angle absent and intestinal loops occupying the cavity.

2. Presentation of case

A 33 year old woman was admitted in the emergency room for severe abdominal pain of 24 h of evolution, localized in the epigastrium and upper left quadrant, associated with vomiting. Laboratories report a lipase of 780 U/l, leucocytosis of 17,500 cells/mm³, severe base deficit and hidroelectrolitic disorders. The chest x-rays present a partially collapsed left lung and intestinal loops (Fig. 1).

Computerized tomography (TAC) show a left posterolateral diaphragmatic defect, with loops of colon occupying the left torax and traction of the spleen, stomach and pancreas to it.

The classical risk factors for pancreatitis were discarded and treatment for pancreatitis was established, resulting in a good outcome and hospital discharge 2 weeks later, with idiopathic pancreatitis as the main diagnosis.

After one week the patient returns to the emergency room with a severe pancreatitis, receiving medical treatment with 3 days in the intensive care unit (ICU). A favorable evolution was developed, with liquid diet tolerance 7 days after that, but intolerance to diet progression.

After a week she presented decrease in retching and appropriate tolerance to normal diet. We programmed her surgery, a diaphragmatic plasty, two weeks later.

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We made a diaphragmatic plasty by a left posterolateral thoracotomy. We found mesenterium, colon and small intestine free in torax, with a diaphragmatic defect of about 10 cm, and an absent lateral border to suture the politetrafluoroetileno mesh, reason why we anchor the mesh to the 7th rib. Incidental appendicectomy was developed (Fig. 2).

Patient was treated in the ICU for two days, and 10 days in hospitalization after that, for pain and postoperative ileus management. After 6 months follow up the patient is asymptomatic.

3. Discussion

Bochdalek hernia in adults is rare. It is dictated that in the moment of diagnosis the defects must be corrected by the high risk of fatal complication, with a 33% of mortality.⁶ The presentation on the right side is less frequent because closure of the pleuroperitoneal canal in this side occurs sooner than the left. The presentation



Fig. 2. Anchorage of dual mesh to the posterolateral diaphragmatic border.

and diagnosis of this hernias is incidental during images studies by other pathologies or in the course of an abdominal emergency secondary to incarceration.⁷

We treated this patient initially by the pancreatitis but we don't realize that the Bochdalek hernia was the etiology of the pancreatitis and for this reason once the pancreatitis was resolved initially she was discharged with the diaphragmatic plasty programmed four weeks later. When she returns for pancreatitis we propose the intermittent ischemia as the principal mechanism of repetitive pancreatitis, precipitated by traction of structures to the thorax.

In the case of pancreatitis as an initial complication, surgical resolution should not be precipitated because the systemic inflammatory response increase morbidity and mortality as observed in other pathologies. Adult patients with Bochdalek hernia usually don't present with respiratory compromise as in the case of infants, so conservative treatment of pancreatitis appears to be well tolerated. Once limited pancreatic process, surgical resolution can be developed, before considering any temporary hospital discharge by the high risk of complications.

The management of a diaphragmatic defect can be developed by a laparotomy or thoracotomy, by an open or laparoscopic approach. We decided thoracotomy as the best option by the convenience of separating adhesions between thoracic contents and the hernia sac. It has been reported a 62% to 90% of Bochdalek hernias don't have hernial sac but is not the rule.⁸ Other authors prefer the laparotomy because the abdominal approach is better when other possible complications such as obstruction, strangulation or perforation of abdominal viscera is present, but it wasn't in this case.

Conflict of interest statement

There is no conflict of interest of any author of the paper.

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Ethical approval

This is a case report.

Author contributions

Luis Angel: Pre and postoperative care, surgery realization, design, writing paper, edition. Reyes David: pre and postoperative care, surgery realization, edition; Laura: Data collection and analysis; Abraham: writing paper; Stephanie: paper traduction; Grecia: edition.

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