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Case Report

A Presentation of A Left-Sided Pseudo Bochdalek Hernia

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Abstract

The continuity of the diaphragm can be disrupted by congenital or acquired defects, as well as by traumatic injuries [1]. There are two well-recognized congenital sites where abdominal viscera can herniate into the chest. One is the foramen of Morgagni, which is a hernia located in the anterior part of the diaphragm, involving a defect between the sternal and costal attachments. The other is the foramen of Bochdalek, located in the dome of the diaphragm posteriorly. The most commonly involved organ in such hernias is the transverse colon [2]. Our patient was a 68-year-old male who presented with a chief complaint of left upper quadrant abdominal pain lasting for one year. Computed Tomography (CT) of the chest and abdomen revealed a left posterolateral diaphragmatic hernia with herniation of the left colic flexure. The patient subsequently underwent robotic-assisted surgery.

Keywords: Bochdalek hernia; Hernia of the upper diaphragm; Robotic hernia repair

Introduction

Ninety percent of all Congenital Diaphragmatic Hernia (CDH) cases are located at the posterolateral or ‘‘Bochdalek’’ location [3]. The Bochdalek hernias (BH) are rare. This type of hernia was first described in 1754 by McCauley and subsequently studied and named after the Czech pathologist Vincenz Alexander Bochdalek (1801-1883) [4]. Newborns with CHD typically present with respiratory distress. Clinical scenarios at birth range from immediate, profound respiratory distress with concomitant respiratory acidosis and hemodynamic instability, to an initial stable period with delayed respiratory distress, to an asymptomatic newborn. Initial signs associated with respiratory distress include tachypnea, chest wall retractions, grunting, cyanosis, and /or pallor. Occasionally, CDH may be completely asymptomatic and is discovered only incidentally. Patients who present later in life have an excellent prognosis due to milder or absent associated complications, such as pulmonary hypoplasia and CDH-PH [3]. BH are the most common CDHs, most usually occurring in newborns and young children. However, in a substantial number of cases, they remain undiagnosed. Symptoms can appear for the first time in late adulthood as the hiatus increases in size [4]. Symptomatic Bochdalek hernias in adults are relatively rare, but the incidence of asymptomatic Bochdalek hernias found on autopsies in adult has been estimated to be in between 0.014-0.05% [5].

Case Report

The patient was a 68-year-old man, 199 cm tall and weighing 70 kg, with a BMI of 17.7. He had no history of cardiac or pulmonary illness, nor any nicotine or alcohol consumption. His past medical history was unremarkable. There was no history of abdominal or thoracic trauma. He presented with recurrent cramping pain in the left upper abdomen that had been ongoing for approximately one year. He experienced more than eight episodes of pain during this period, each lasting 2-3 days, with a Visual Analog Scale (VAS) pain score of 4-5/10. The pain was aggravated by physical exertion and after eating but was relieved by rest and painkillers. Clinical examination revealed mild tenderness in the left upper abdomen during deep palpation. Blood tests, including a full blood count and biochemistry, were normal. An Esophago-Gastro-Duodenoscopy (EGD) revealed no abnormalities. A contrast-enhanced CT scan of the chest and abdomen showed a left (BH) with herniation of the left colic flexure (Figure 1).

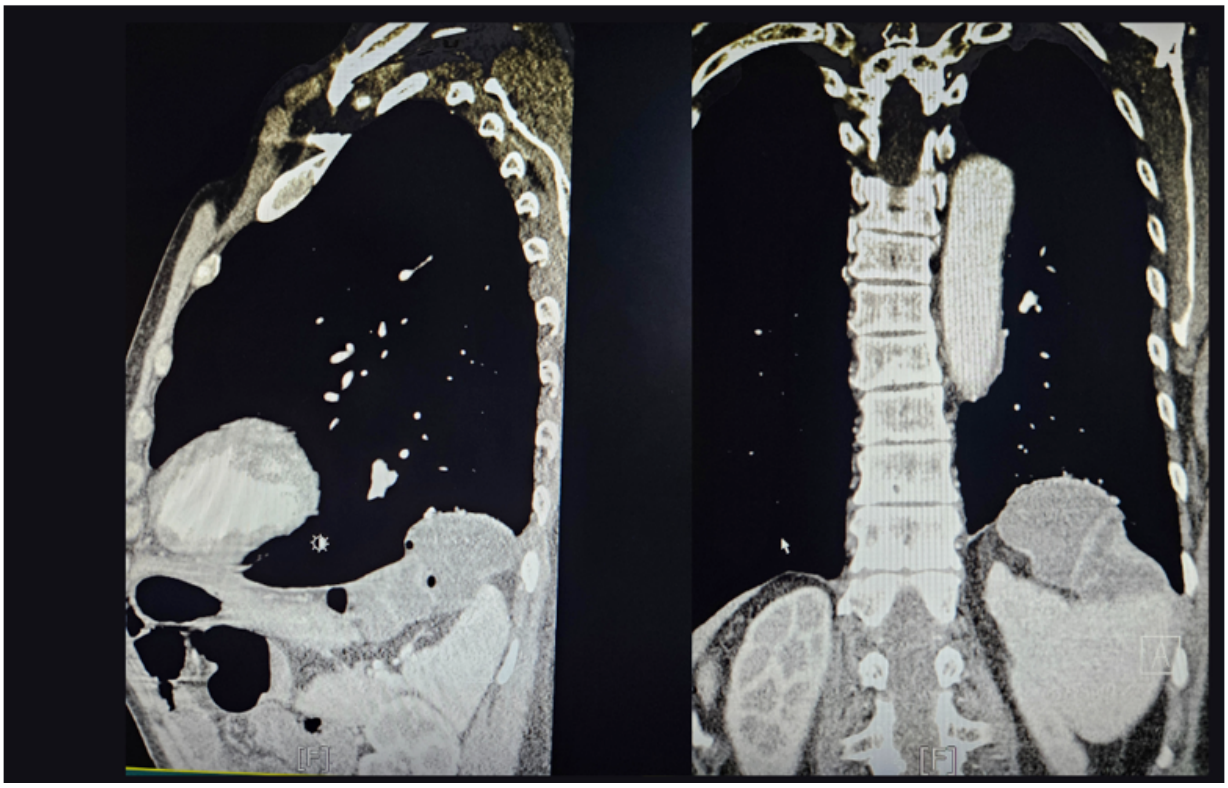

Figure 1: Sagital und coronal CT scan showing a posterior defect at the left hemidiaphragm, 75 x 68 mm hernial orifice with herniation of the left colic flexure.

The patient underwent a robotic-assisted laparoscopy under general anesthesia in the Fowler position, using the Da Vinci X robotic-assisted system. A single 8-mm trocar was placed above the umbilicus for the optic camera, with 8-mm trocars positioned in the right and left midclavicular lines below the umbilicus. A 10-mm port was placed at the left anterior axillary line for the first assistant. Upon initial assessment of the abdominal cavity, a significant finding was noted: marked displacement of the spleen, descending colon, and transverse colon into the left thoracic cavity, appearing to be pulled upward. The stomach, transverse colon, and spleen were repositioned caudally, and the thoracic aperture was visualized. A thorough search for a hernia was conducted, but no hernia was found (Figure 3). The patient recovered well from anesthesia and was transferred to the ward in good condition. Postoperatively, a colon contrast enema was performed, which showed an elongated colon without further translocation of the transverse colon or left colic flexure (Figure 2). The postoperative course was uneventful. The patient was able to eat on the day of surgery and was discharged after four days. At discharge and during the three-week follow-up, the patient remained symptom-free.

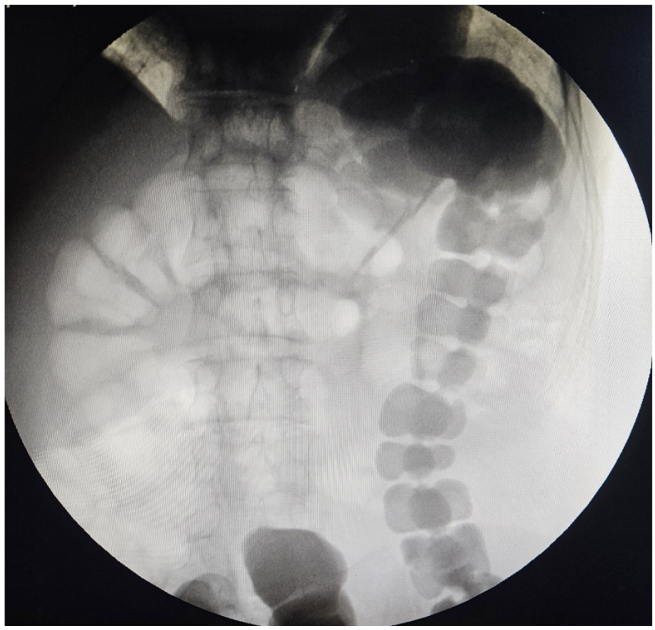

Figure 2: Barium enema shows elongated Colon.

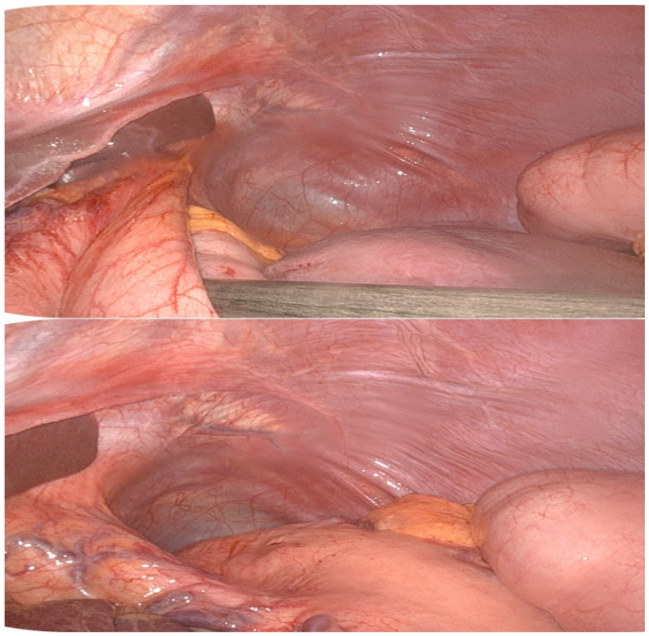

Figure 3: Robotic assisted Image of left Hemidiaphragm.

Discussion

Congenital Diaphragmatic Hernia (CDH) presents within the first hours of life in 5 to 25% of cases. The presenting symptoms may be quite non-specific and more likely gastrointestinal in origin rather than respiratory. Bochdalek hernia (BH) should be considered in infants presenting with respiratory distress, vomiting, and abdominal pain [6]. BH in adults is rare. Its presentation, hernia contents, and aggravating factors are inconsistent, making diagnosis challenging [7]. Radiological imaging, especially CT scans of the thorax and abdomen, plays a crucial role in diagnosing and excluding other differential diagnoses. It helps identify diaphragmatic defects, and the presence of a continuous density above and below the diaphragm's discontinuity suggests a diaphragmatic hernia [8]. Our patient had been complaining of recurrent left-sided upper abdominal pain, particularly postprandial, for about a year. An abdominal and chest CT revealed a left-sided BH with herniation of the left colic flexure, without evidence of strangulation. Due to the patient's clinical symptoms and the CT-confirmed left-sided BH, the patient underwent robotic-assisted surgery. The left side of the diaphragm was thoroughly explored, and an extensive search for a hernia was conducted, but none was found (Figure 3). No further surgical measures were necessary.

Conclusion

A minimally invasive, robotic-assisted surgical approach was the appropriate measure for our patient. Clinical complaints, along with diagnostic tools such as abdominal and chest CT scans, should be used to confirm the suspected diagnosis of a (BH) in advance. Further publications and individual case reports may help validate our experiences.

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