

Adult Bochdalek Hernia: An unusual presentation and diagnostic dilemma

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Abstract

Bochdalek hernia is a rare condition in adult and usually diagnosis is missed. It is usually mistakenly diagnosed as TB, pleural effusion, empyema, lung cyst and pneumothorax. Delayed presentation is not uncommon. We present a case of 18 year old male patient who was misdiagnosed as having left sided pleural effusion with TB and associated gastritis for three days and later referred to our institution. Diagnosis was established by physical examination, chest x-ray and chest CT- scan. Per operatively a gangrenous ileal segment was seen of about 10 cms which was later resected. The Hernia was later closed with Prolene sutures.

Keywords: Bochdalek hernia, Tuberculosis

1. Introduction

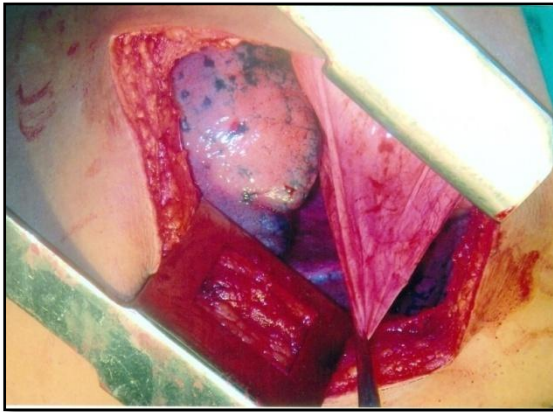
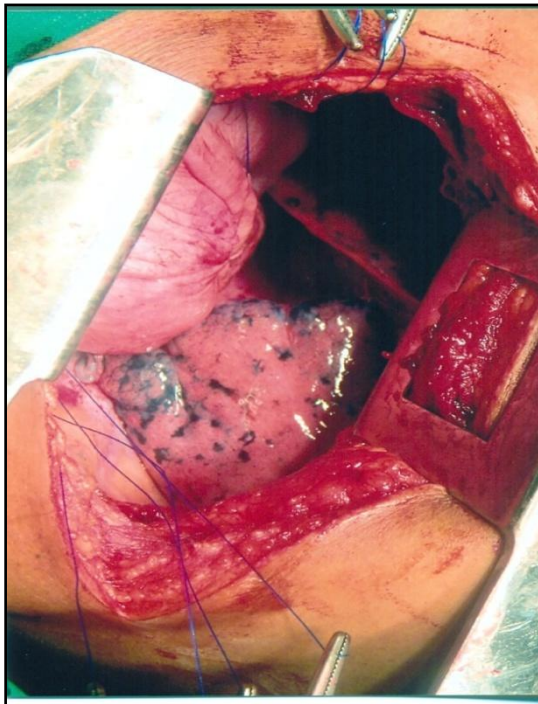
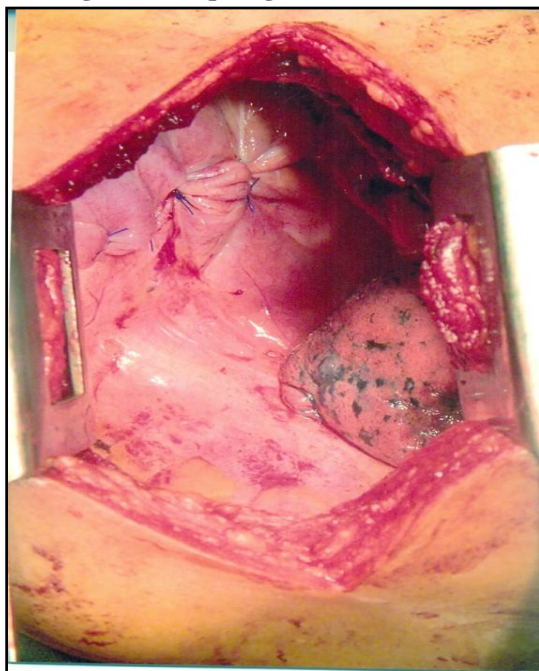
Since Bochdalek hernia is the result of congenital defect in the posterolateral part of the diaphragm. The pleuroperitoneal canal located posterolaterally remains as an opening between the pleural and peritoneal cavities. This usually gets closed by 8th week of intrauterine life[1]. Failure to close leads to formation of Bochdalek hernia. Bochdalek hernia is the commonest congenital diaphragmatic hernia, commonly in left side. Bochdalek hernia presenting in adult is very rare[2][3]. Adult Bochdalek hernia presents with respiratory symptoms, subacute intestinal obstruction, strangulation and incidental findings[4].

2. Case Report

A 18 year old male boy presented with cough, breathlessness, mild epigastric pain since 3 days and vomiting since one day. Cough was nonproductive and pain was confined to epigastric region. Vomiting was non bile stained. No h/o trauma, no h/o acid peptic disease, no h/o TB, no h/o fever.

On physical examination, pt was in shock, dehydrated, tachypneic and disoriented. Blood pressure was not recordable with feeble pulse. Pt was resuscitated with IV fluids and other general measures. Abdomen was soft, no distention with mild tenderness in epigastric region. No free fluid in peritoneal cavity and bowel sounds was sluggish. Trachea was shifted to right side. Chest examination revealed reduced breath sound in left chest and dull on percussion. Apex beat was shifted to right side. X-ray showed left side complete haziness. CT-scan showed bowel and spleen in the left chest with a defect in the left diaphragm.

Patient was prepared for surgery. Laparotomy was done with upper midline incision. A defect measuring about 6 cms x 6 cms was present in the Postero lateral part of left diaphragm. Transverse colon, jejunum, ileum and spleen were present in the left chest. Gangrene of about 1 feet of ileum was present. Gangrenous segment was resected and anastomosis was done. No hernial sack was present. No ladd's band was identified. Defect in the diaphragm was closed with No-1 prolene sutures in layers.

Figure 1: Spleen in left chest**Figure 2: Intra operative view****Figure 3: Diaphragmatic defect closure**

Chest tube was placed in the left chest. Abdomen was closed after putting an abdominal drain. Patient was put on post-operative elective ventilation. Patient recovered uneventfully and later chest x-rays showed lung expansion.

3. Discussion

Bochdalek Hernia was described first in 1754 by Mc culley. In 1848 Bochdalek described in detail the embryological aspects of Bochdalek hernia[5][6]. B-H hernia is the commonest type of diaphragmatic hernia[7]. Small Bochdalek hernia which is asymptomatic may remain undiagnosed until adulthood[8][9]. In adult incidence has variably been reported to be between 0.17% reported by Muller's et al[10] to as high as 6% by Gale et al[11]. Exact cause for Bochdalek hernia is not known, it has been associated with antenatal use of thalidomide, quinine, nitrofenide, antiepileptic and Vit A deficiency. Adult Bochdaleks hernia can present as breathlessness, recurrent chest infections, persistent cough, absent breath sounds and apparent dextrocardia[3][12][13]. Our patient had breathlessness for 3 days and absent breath sound in left side. It can also present with bowel perforation, Bowel strangulation[3]. It can also present with subacute intestinal obstruction[14][15]. Our patient had only vomiting to suggest as subacute intestinal symptoms only on the day of presentation to our hospital without any abdominal sings. On laprotomy gangrene of a segment of ileum was present. Adult B-H can be wrongly diagnosed as pleural effusion, empyema, lung cyst and pneumothorax[4][15]. Our patient was diagnosed as having left sided pleural effusion with TB and associated gastritis for three days and later referred to our institution. If the hernia is not diagnosed in acute phase, the patient may enter an asymptomatic phase and develop chronic or intermittent gastrointestinal or respiratory symptoms[16]. Progressive herniation with subsequent bowel obstruction and infraction causes acute complications. Our patient had Heal gangrene and was in shock. A confining sack may also allow patient to survive infancy and later presents with symptoms in adulthood[8][17]. It is also believed that spleen may sometime plug the defect and delay the onset of symptoms[17]. Bochdalek hernias have reportedly been associated with lung hypoplasia, extralobar sequestration and cardiac defects. The degree of hypoplasia directly affects the survival of patients[12]. In left sided hernias, there is always an associated non-rotation of the mid gut[1]. Our patient had no sequestration of lung or associated cardiac defect or duodenal obstruction.

Diagnosis should be established by physical examination and investigations. In the adults diagnosis is usually missed until there is a high index of suspicion. Thomas et al have found that nearly 38% of adults are misdiagnosed in this way[4]. Our patient was misdiagnosed as having respiratory pathology as he was not having any gastrointestinal symptoms for first three days. Important investigations include chest x-ray, fluoroscopy, sonography, chest CT and MRI¹⁷. Rarely air, dye, water-soluble contrast or radionuclide peritoneography and liver-spleen scintigraphy is also done¹⁸. On CT scan of chest most common finding is abrupt discontinuity of the diaphragm, herniation of the abdominal contents into thorax and waist like bowel constriction known as the 'collar sign'[18]. Surgical approach can be done either through abdominal or thoracic route. Subcostal and left vertical rectus incisions have been preferred by some[1]. The abdominal route has the advantage of correcting the associated malrotation or duodenal obstruction at the same time. The Bochdalek hernia defect should be closed with nonabsorbable interrupted sutures if the defect is big it can be closed with nonabsorbable mesh. Laparoscopic repair of the hernia is also reported[19].

As a conclusion, patients must be evaluated in detail. Cautious examination and strong index of suspicion are needed to reach at a correct diagnosis.

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