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RESEARCH ARTICLE

LAPAROSCOPIC REPAIR OF BOCHDALEK HERNIA IN A 25YR OLD MAN

¹*Dr. Mushtaq Chalkoo, ²Dr. Aizul Khursheed Wani, ³Dr. Tajamul samad and
⁴Dr. Mehraj-ud-din Ganaie

¹Professor, Laparo-endoscopic surgeon Government Medical College Srinagar

²Registrar, Deptt of surgery, Government medical college Srinagar

³PG scholar, Government medical college Srinagar

⁴Post Graduate, Scholar Government Medical College, Srinagar

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*Corresponding author:

Mushtaq Chalkoo

ABSTRACT

Bochdalek Hernia (BH) is a rare variety of Diaphragmatic hernia. It's non-specific presentation delays its diagnosis and makes patient vulnerable to potential risk of complications. The presenting symptoms include Abdominal, 62 percent, Respiratory, 40 percent, Obstructive (vomiting/abdominal distension) 36 percent, Strangulation, 26 percent; 14 percent of them are asymptomatic. They are managed by surgical intervention; surgical approach involves laparotomy, thoracotomy, and combined thoraco-abdominal approach. However, Laparoscopy and Thoracoscopy have yielded promising results and better short term outcome. Here in, we present a case report of 25 yr old man presenting with intestinal obstruction without any chest symptoms managed successfully with Laparoscopic repair and mesh placement with a good result and short hospital stay associated with minimal morbidity and mortality.

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INTRODUCTION

We are reporting a case of a 25-year-old male approached to A/E with clinical presentation of SAIO. The patient was admitted, investigated and managed for the same. The detailed and thorough investigations were performed to establish the cause of obstruction; meanwhile patient was put on conservative management for SAIO. The patient responded to conservative management and got deflated within 24 hours of starting of treatment. Patient's baseline investigations that included complete blood count, liver function tests, kidney function tests were done and reported normal. X ray and CECT Chest, abdomen and pelvis (Img.1,2) performed on the patient showed the left sided congenital diaphragmatic hernia associated with acute mesentero-axial gastric volvulus. Patient was electively planned for Diagnostic Laparoscopy. The hernia was reduced with contents being stomach, omentum and transverse colon (Fig.3). The defect was repaired using 30 cm 2°0 Non absorbable barbed suture in 2 layers and supplemented with a Composite Mesh (Fig. 6,7).

The ipsilateral thoracic cavity was entered laparoscopically to evaluate the status of left lung. The left lung was shrunken with some amount of blood in pleural cavity and ITCO was put in (Fig.5). Postoperative period was uneventful. X ray chest done on 1st POD, reported normal and patient was discharged on 3rd POD.

DISCUSSION

Congenital diaphragmatic hernia is a rare variety of diaphragmatic hernia that results from the abdominal contents herniating into the chest during embryological development. The presenting symptoms include Abdominal, 62 percent, Respiratory, 40 percent, Obstructive (vomiting/abdominal distension) 36 percent, Strangulation, 26 percent, 14 percent of them are asymptomatic (1). Morgagni-Lary that accounts for 1-3 percent of all diaphragmatic hernia (2) is often diagnosed early while as Bochdalek type of hernia presents with abdominal symptoms (3).

Diagnosis is primarily made through imaging. Morgagni hernia is confirmed by chest and abdominal computer tomography. The chest radiogram is not the preferred imaging because hemiated contents are generally radiolucent. A significant number of these patients with BH are misdiagnosed due to a combination of the rarity of this condition in adults and the varied clinical presentation. The incidence of misdiagnosis has been reported to be 38%.[4] Chest radiograph may however reveal a particular bowel content, air fluid level in chest cavity, varied lucency in the chest or deviation of the heart and mediastinum. The role of CT as a diagnostic modality in establishing a preoperative diagnosis is well established (5) however other modality that may also assist in diagnosing, especially when the CT is equivocal include, Esophagogastroduodenoscopy (EGD), Gastrograffin study; These may also include fluoroscopy, bronchogram, and pulmonary angiography and MRI (6). Minimally invasive techniques have been reported to result in reduced morbidity and might also improve the ease of hernia reduction, hemostasis, and adhesiolysis (7). Laparoscopy has become a standard treatment for diagnosis and correcting this hernia with reducing of hernia contents, repairing of defect with or without placement of mesh (8). We are reporting a case of a 25-year-old male approached to A/E with clinical presentation of SAIO. The patient was admitted, investigated and managed for the same. The detailed and thorough investigations were performed to establish the cause of obstruction; meanwhile patient was put on conservative management for SAIO. The patient responded to conservative management and got deflated within 24 hours of starting of treatment. Patient's baseline investigations that included complete blood count, liver function tests, kidney function tests were done and reported normal. X ray and CECT Chest, abdomen and pelvis (Img.1,2) performed on the patient showed the left sided congenital diaphragmatic hernia associated with acute mesentero-axial gastric volvulus. Patient was electively planned for Diagnostic Laparoscopy. The hernia was reduced with contents being stomach, omentum and transverse colon (Fig.3). The defect was repaired using 30 cm 2'0 Non absorbable barbed suture in 2 layers and supplemented with a Composite Mesh (Fig. 6,7). The ipsilateral thoracic cavity was entered laparoscopically to evaluate the status of left lung. The left lung was shrunken with some amount of blood in pleural cavity and ITCD was put in (Fig.5). Postoperative period was uneventful. X ray chest done on 1st POD, reported normal and patient was discharged on 3rd POD.

Peri –Operative Images

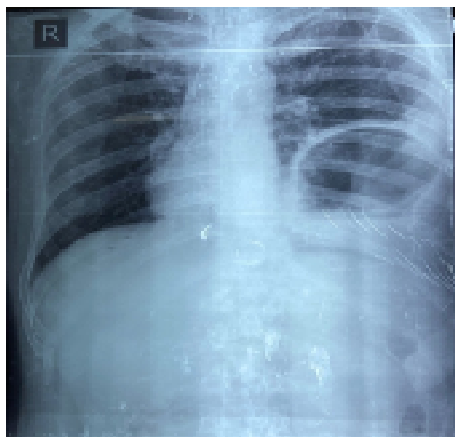


Image 1: Plain X- ray film of abdomen and chest A-P view on admission showing bowel gas in the left thoracic cavity

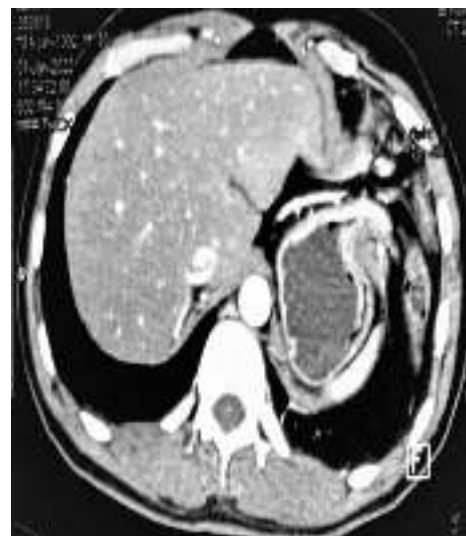


Image 2. CECT chest, abdomen, pelvis showing wing left diaphragmatic defect with herniation of stomach, splenic flexure of colon in left thoracic cavity

Peri –Operative Images



Fig. 1. Laparoscopic port placement for Repair of left Congenital Diaphragmatic Hernia

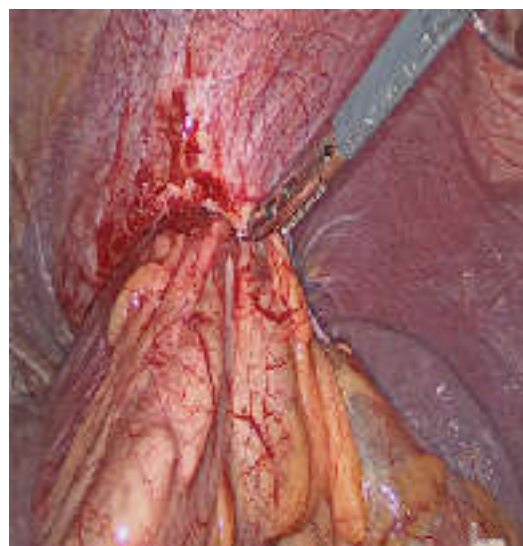


Fig. 2. Diagnostic Laparoscopy showing contents of hernia and defect



Fig. 3. Reducing the contents of the hernia



Fig. 4. Congenital Diaphragmatic Hernia defect

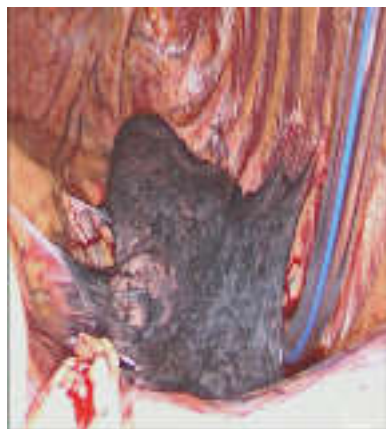


Fig. 5: Shrunken Left Lung above the hernia defect



Fig. 6. Primary Closure of Diaphragmatic Hernia defect

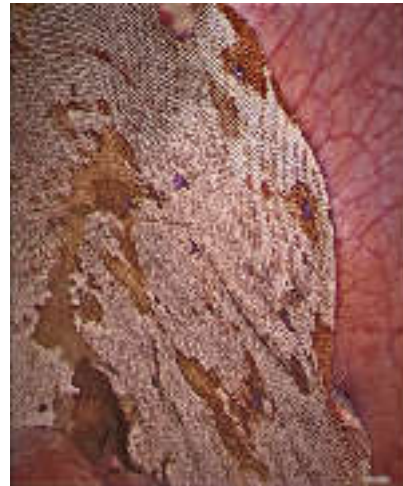


Fig. 7. Re-Enforcement of defect by Composite mesh



Fig. 8. Post Op picture after Laparoscopic Repair of the CDH

Conclusion

Diaphragmatic hernias commonly present in childhood and are rare in adults. The diagnosis is confirmed with a chest and abdominal CT. Laparoscopic and thoracoscopic techniques of surgery for the management of diaphragmatic hernia have taken over the conventional open methods due to less invasion better diagnosis and less blood loss shorter hospital stay with less morbidity and mortality.

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