



Bochdalek Hernia Presenting in Adults As Intestinal Obstruction: A Series of Two Cases

KEYWORDS

Diaphragmatic hernia, Bochdalek hernia , Obstruction

MUND RAMANI RANJAN

ASSOCIATE PROFESSOR,
DEPARTMENT OF GENERAL
SURGERY, MKCG MCH ,
BERHAMPUR

PRIYADARSHINI PRATYUSHA

POST GRADUATE TRAINEE,
DEPARTMENT OF GENERAL
SURGERY , MKCG MCH
,BERHAMPUR

BADLANI NARESH DAYALDAS

POST GRADUATE TRAINEE,
DEPARTMENT OF GENERAL
SURGERY , MKCG MCH
,BERHAMPUR

ABSTRACT Bochdalek hernia is type of congenital diaphragmatic hernia (CDH). It occurs due to failure of posterolateral diaphragmatic foramina to fuse in utero. It is mostly a paediatric disease. In adults it is a rare entity with incidence of about 0.17%. Majority are incidental findings and asymptomatic. Obstructed diaphragmatic hernia as a cause of intestinal obstruction in adults is very rare and represents a considerable diagnostic challenge. We have reported two such cases for its rarity.

Case history-

CASE 1-

A 20 year old male presented with chief complaints of pain in abdomen and vomiting for 3 days. There was no history of trauma to chest or abdomen. On examination he was having tachycardia and his abdomen was distended and tender. His Xray of abdomen in erect position showed multiple dilated bowel loops with non-delineation of left dome of diaphragm and haziness in left lung base with bowel gas shadow in left hemithorax (figure 1). Ultrasonography of abdomen reported dilated bowel loops suggestive of intestinal obstruction. An emergency explorative laparotomy was done with a left subcostal incision. Part of the stomach, omentum, small intestine, spleen and splenic flexure of the colon were seen herniating into the left hemithorax, through postero-lateral defect in the left dome of the diaphragm. Reduction of hernial contents was done by gentle traction. All the contents were found to be non gangrenous. The diaphragmatic defect measured 8cm x 5 cm (figure 2), and primary repair was done using 2-0 prolene interrupted sutures. In addition, a mesh was reinforced over the defect and fixed with 3-0 prolene (figure 3). Intercostal drain (ICD) was inserted into the left hemithorax. He made an uneventful recovery. A year later he remains asymptomatic.



Figure 1. Plain X-ray abdomen erect AP view showing multiple air fluid levels with non-delineation of left hemidiaphragm, and bowel gas shadow (with central indentation) in the left hemithorax.

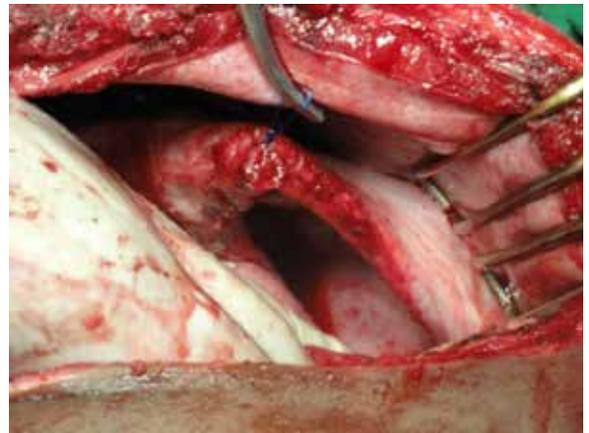


Figure 2. Defect in the Postero-lateral aspect of left dome of diaphragm

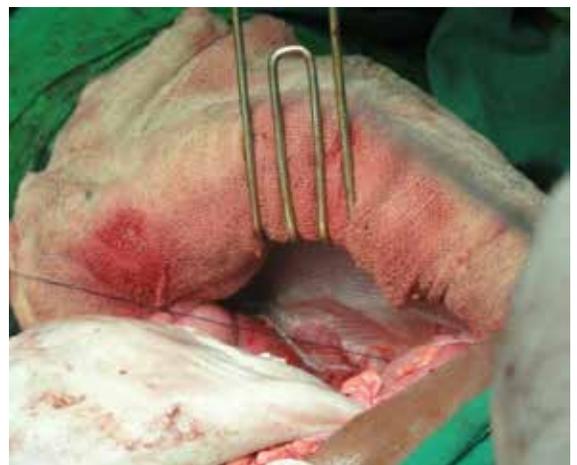


Figure 3. Prolene Mesh reinforced over the primary repair

CASE 2

A 22-year-old male presented with chief complaints of ab-

dominal pain, vomiting and difficulty in breathing. There was no history of trauma to chest or abdomen. General physical examination showed tachycardia, normal blood pressure and increased respiratory rate. Chest examination revealed a decreased breath sound on the left side. Abdomen was distended with absence of bowel sounds. Hematological and routine investigations were within normal limits. His chest X-ray showed haziness in the left lung base with fundic gas shadow in the left hemithorax. (figure 4). The patient was taken for emergency operation through a left subcostal approach. The left diaphragm was thinned out with multiple defects. The largest defect measured 6 cm × 7 cm. There was no hernia sac. Contents were omentum, portion of transverse colon, short segment of the small bowel and portion of the stomach and spleen. Contents were viable and reduced into the abdominal cavity. Defects were closed primarily with prolene 2-0 and a mesh was reinforced over the defect. Intercostal drain was kept in the left hemithorax. Post-operative period was uneventful. Patient was discharged on post-operative day 7. In subsequent follow-up patient was doing well and repeat chest X-ray was grossly normal.



Figure 4. Chest X-ray showing haziness of the left lung base with fundic gas shadow in the left hemithorax with mild contralateral mediastinal shift.

DISCUSSION-

There are two well recognised congenital sites. i.e. foramen of Bochdalek and foramen of Morgagni, where abdominal viscera can herniate into the chest. The commonest variety is Bochdalek hernia, which comprises 80-90% of defect.² Its incidence is 1 in 4000 to 5000 live births. Foramen of Bochdalek is an opening in posterior aspect of diaphragm in foetus. Foramen closes by 8th - 10th week of gestation. Failure of fusion leads to development of hernia.³ Organs commonly herniating through a right sided defect are liver, GB, kidney, omentum and from a left sided defect are colon, stomach, small bowel, omentum, pancreas, adrenal gland. Paediatric age group present clinically mostly with respiratory distress and adults with vague gastrointestinal symptoms.² Diagnosis can be made by plain radiographs in which it is mostly confused with thoracic pathologies like consolidation, middle lobe collapse, pericardial fat pad, sequestration of lung, mediastinal mass. Computed tomography is the most accurate method of diagnosing and evaluating the contents.⁴ Treatment involves surgical repair either by an open approach or laparoscopically. Laparoscopic repair is safe and feasible and confers all the advantages of minimal access surgery.⁵

CONCLUSION

Congenital diaphragmatic hernia can present rarely in

adults. Patients presenting with features of subacute intestinal obstruction without history of trauma, with significant respiratory symptoms, clinician should keep in mind the possibility of obstructed diaphragmatic hernia as a cause of intestinal obstruction. Thorough clinical examination with appropriate investigation like chest X-ray, X-ray abdomen will usually clinch the diagnosis. Prompt surgery (meshplasty) results in good outcome.

REFERENCES-

- 1 - Mullins ME, Stein J, Saini SS, Mueller PR. Prevalence of incidental Bochdalek's hernia in a large adult population. *AJR Am J Roentgenol.* 2001 Aug;177(2):363-6.
- 2 - Daniel A. Bambini. Diaphragmatic anomalies. In Robert M. Arensman, Daniel A. Bambini,
- 3 - Stephen Almond, Vincent Adolph, Jayant Radhakrishnan, eds. *Pediatric Surgery, 2nd ed.* Texas: Landes Bioscience Inc, 2009; 327-333.
- 4 - Dai H Chung. Paediatric Surgery. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL, eds. *Sabiston textbook of surgery, 19th ed.* Philadelphia: Saunders Inc, an imprint of Elsevier Inc, 2012; 1834-1835.
- 5 - Shin MS, Mulligan SA, Baxley WA, Ho KJ. Bochdalek hernia of diaphragm in adult. *Diagnosis by computed tomography.* *chest* 1987 Dec;92(6):1098-1101.
- 5 - Wadhwa A, Surendre JB, Sharma A, Khullar R, Soni V, Bajjal M, Chowbey PK. Laparoscopic repair of diaphragmatic hernias: experience of six cases. *Asian J Surg.* 2005 Apr;(2):145-50.