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Initial Missing of Congenital Diaphragmatic Hernia and Managing Its Complications

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ABSTRACT

We present hernia which was asymptomatic for many years. There was failure of diagnosis until CECT done. After diagnosis patient quickly resuscitated and immediately rushed to emOT for exploration through hockey stick incision (left subcoastal and some part of right subcoastal medially). Hernia reduced and repaired. In immediate postoperative patient was resuscitated for her hypotension and myocarditis and later on for loculated empyema. Finally patient was discharged after prolonged treatment for 2 months.

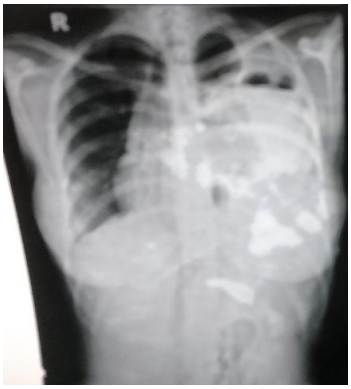
Keywords: Congenital, Diaphragmatic, Hernia

INTRODUCTION

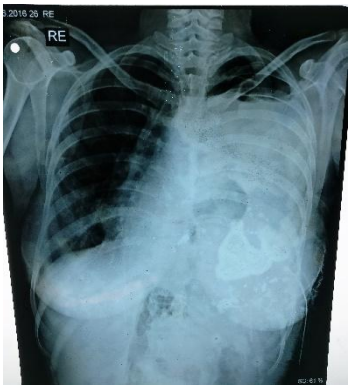
Bockdalek hernia is commonest congenital diaphragmatic defect in posterior part because of lack of closure of pleuroperitoneal membrane during 8- 10 weeks of IUL. It was first described by the Czechoslovakian anatomist, Vicent Alexander Bochdalek in 1848. It usually present during 1st few hours of life with severe respiratory failure. It is infrequent in adults. There it is incidental finding on chest x-ray. Below we present a case who experienced nonspecific symptoms, failure of diagnosis on initial investigations, delay in treatment, unusual complication, and prolonged morbidity.

CASE REPORT

A 22 year old female delivered a 7 months baby who had expired soon after the birth. She presented with complain of pain in epigastrium last 20 days associated with decrease feces and flatus, green colored vomiting on-off containing food particles. She also has chest pain more on left side, constant, dull aching, not relieved in any position, not associated with palpitation and sweating. She also has breathlessness insidious in onset, continuously progressive, equal in all position. She was admitted in private hospital and had chest tube insertion, when they diagnosed white out in Xray (Fig A) as massive pleural effusion. The tube was removed before her shifting to PGIMS, Rohtak in chest and TB dept. Again chest tube was inserted. She had CECT thorax done and was diagnosed having diaphragmatic hernia. (Fig C, D, E)



A



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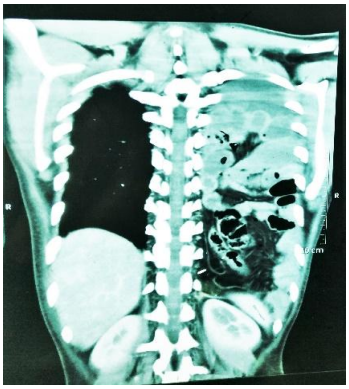

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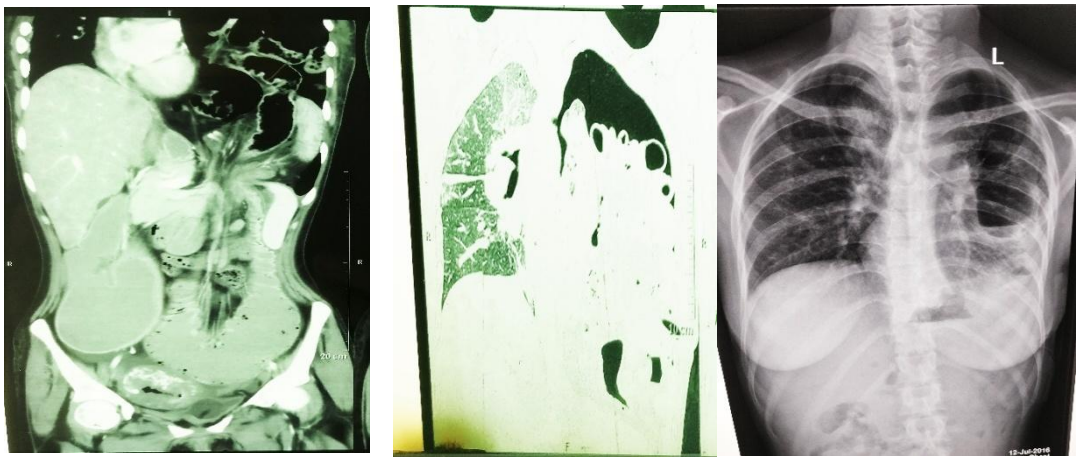

D E F

Fig A white out of left side of lung field, mediastinium shift and left hemidiaphragm elevated; Fig B similar finding with chest tube in situ; Fig C & D coronal CECT showing gut len in left hemidiaphragm; Fig E CECT coronal section left side lung field absent; Fig F post chesttube removal showing loculated collection.

Now she was transferred to surgery department. Patient general condition was poor, pulse was feeble, BP was not recordable, very minimal air entry on left side, and abdomen was scaphoid, non-tender. Laboratory test results showed leukocytosis, elevation of lactate and of the lactate dehydrogenase, normal cardiac enzymes and type I respiratory failure. Patient was resuscitated and had exploratory laparotomy in emergency OT. There was a diaphragmatic defect of 5cm on left side, entire small bowel, ascending colon, transverse colon, omentum had herniated and was adhered in left thoracic cavity. Left lung was collapsed. Iatrogenic perforation were noted in loop of jejunum at 30cm distal to DJ which was adhered to ICJ, 2nd perforation in proximal transverse colon with pregangrenous changes in length of about 5cm, 3rd perforation 1x1cm size in distal transverse colon. Patient diaphragmatic hernia defect repaired, 1st and 3rd perforations were primarily repaired and pregangrenous transverse colon resected and anastomosed. Post-surgery patient had tachycardia of about 150-180 and BP of 66/32mmhg and was on inotropic support for 3 days in ICU. Patient continued to have tachycardia and fever was diagnosed myocarditis on ECHO. Patient chest tube was removed after 20 days post-surgery. She again had fever and was diagnosed to have loculated collection (Fig F), so a collection bag was attached to drain it out. Finally patient was discharged after 1 month post-surgery on 26th June.

DISCUSSION

Congenital diaphragmatic hernia presenting in adulthood is very uncommon. They mainly occur because of persistent pleuroperitoneal canal presents as left sided defect (Bochdalek) or through parasternal foramen (Morgagni). Bochdalek hernia (BH) occurs before intestine return back o abdomen from the yolk sac between 8 &10 weeks of IUL. If hernia formation preceded lung development than pulmonary hypoplasia occurs presenting severe respiratory distress at birth. The overall prevalence of BH IS 6% in adulthood, only 5% will be diagnosed in childhood or adulthood. Most frequent organ displaced is stomach, followed by colon, spleen, small intestine, ureter. BH mainly presents as gastrointestinal (abdominal pain, nausea, vomiting, constipation) or respiratory (chest pain, dyspnea, wheezing) symptoms and episodes of incarceration with serious consequences.

Because of missed diagnosis or treatment delay, there can be serious complications due to strangulation. BH presentation with severe symptoms in strangulation has been reported in 46% of cases, and mortality in these cases has been as high as 32%. Diagnosis can be made with hollow viscera in chest cavity in CXR, CECT, and definitive diagnosis with barium or gastrograffin meal and enema. Strangulation and incarceration are absolute indication for surgery, a laparotomy incision represents best approach because it allows better access to abdominal viscera after reduction especially resecting of infarcted viscus or doing gastropexy in cases of gastric volvulus.BH elective repair can be done with minimum invasive surgery i.e. laparoscopically and video assisted thoracoscopic techniques.

Pregnancy had led to aggravations in her symptoms. She was missed diagnosed as pleural effusion and her treatment was delayed. She went in septicemic shock. Diaphragmatic herniation was detected on CECT. Surgery was done to reduce and repair the hernia and repair the gut perforation. She had myocarditis because of gut adhesiolysis from pericardium and pleural gut contents spillage. After her recovery from myocarditis she had loculated empyema due to poor chest conditions. However she recovered completely with intensive ICU care and aggressive treatment.

CONCLUSION

Congenital diaphragmatic hernias are an uncommon diagnosis among adult populations because they are mainly recognized in infancy. They can be easily detected with a chest X-ray, in most cases incidentally although some adult patients may present with symptoms due to hernia complications. The knowledge of this anatomic defect presenting among adults is crucial for the identification and management and CECT is the investigation of choice in missed cases. It should be surgically corrected to avoid complications or to correct them if they are already present.

CONFLICT OF INTEREST

The authors declare there are no conflicts of interest.

FUNDING

None.

ETHICAL APPOROVAL

Written informed consent was obtained from the patient for publication of this case report.

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