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Case Report

An Unusual Presentation of Congenital Diaphragmatic Hernia in Post Operative Post Partum Period

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ABSTRACT

Congenital Diaphragmatic hernia is an uncommon entity in adults, and rarely seen in pregnancy or during labor. Traumatic Diaphragmatic hernias following blunt or penetrating thoracoabdominal injury is a much more commonly encountered entity in adults.
Pregnancy related Diaphragmatic hernias are associated with high complicated outcomes. Establishing diagnosis in such cases is challenging and results in higher morbidity and mortality if surgical intervention is delayed. We report a case of non traumatic diaphragmatic hernia in a 22-year-old post caesarean, post partum women with uneventful history.

Keywords: congenital diaphragmatic hernias, pregnancy, trauma, caesarean section, post partum period.

INTRODUCTION

Diaphragmatic hernia is the herniation of abdominal contents into the thorax due to a defect in the diaphragm. The incidence is 1 in 2,500 live births and accounts for 8% of all major congenital anomalies. [1] It can be congenital (CDH) occurring due to a defect in the development of diaphragm or acquired following trauma or iatrogenic.

Bochdalek hernia is the most common type of CDH. Majority of such hernias occur on the left side of the diaphragm. [2] This type of hernia is commonly seen in infants presenting as severe respiratory distress and rarely in adults. CDH presenting in the post-partum period is an unusual entity with life threatening consequences. Due to atypical presentation, there is often a delay in the diagnosis and timely surgical intervention in such cases. A thorough knowledge of such an entity helps in the early diagnosis and prompt management, hence a case report.

CASE REPORT

A 22-year old primipara, post caesarean section was admitted in the surgical emergency with complaints of increasing breathlessness and left sided chest pain of 10 days duration. Her antenatal history was uneventful. She had undergone an elective caesarean section 15 days back for breech presentation, and the baby cried

immediately at birth. The peri-operative period was uneventful.

On examination, she was afebrile; hemodynamically stable, and tachypneic. The trachea was deviated to the right with decreased air entry in the left hemithorax. Abdomen was soft, non tender, Caesarean section wound healthy. Blood investigations were unremarkable. Chest x-ray showed air fluid level in left hemithorax suggestive of hydropneumothorax (Figure 1). A chest tube drain was inserted, no fluid was aspirated, however; air column movement was present confirming the position of chest tube in the thorax. She was partially relieved of her respiratory symptoms.

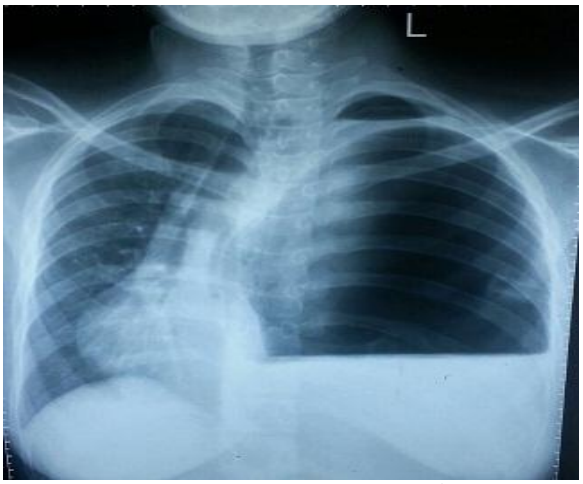

Figure: 1- CXR showing gross mediastinal shift to right side, air fluid level in the left chest suggestive of hydropneumothorax.

The patient was not tolerating oral feeds and developed severe non bilious vomiting on the second day of admission to hospital. A NG tube was inserted and patient was kept nil orally. All causes of vomiting were ruled out. Repeat CXR showed the presence of ryles tube in the thorax, with air fluid level (Figure 2). Diaphragmatic hernia was suspected and an emergency plain chest CT was performed that showed stomach with multiple bowel loops and spleen lying in the left thoracic cavity at the level of the heart thus confirming the diagnosis (Figure 3).

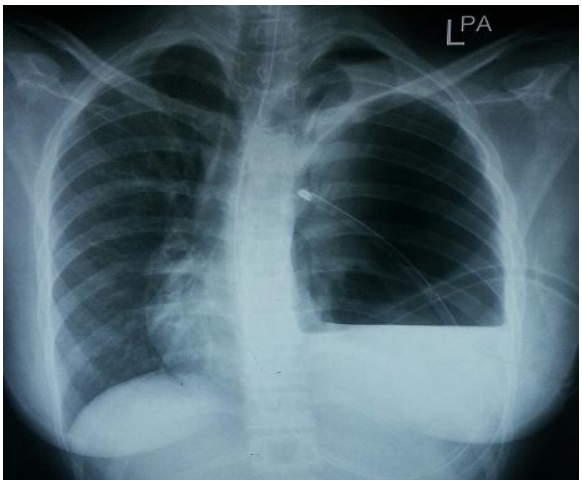

Figure: 2- CXR showing Ryle's tube in the left chest, Icd tube is also seen.

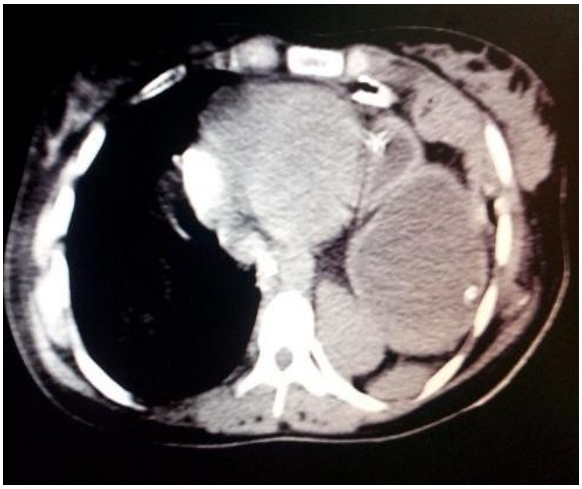

Figure: 3- Plain CT chest showing stomach with Ryle's tube and bowel loops in the left hemithorax.

Patient was immediately taken up for emergency laparotomy. A large posterior wall defect of approximately of size 7-8cm was noted in the left hemidiaphragm (Figure 4) with herniation of entire stomach, greater omentum, splenic flexure of colon, and an abnormal bilobed large spleen with its pedicle (Figure 5). All the contents were reduced back into the peritoneal cavity. Defect was closed by prolene sutures (Figure 6) and reinforced by placing a mesh (Figure 7). Intra operative period was uneventful. A repeat CXR showed a well-

expanded left lung. Patient recovered well and is under regular follow up.

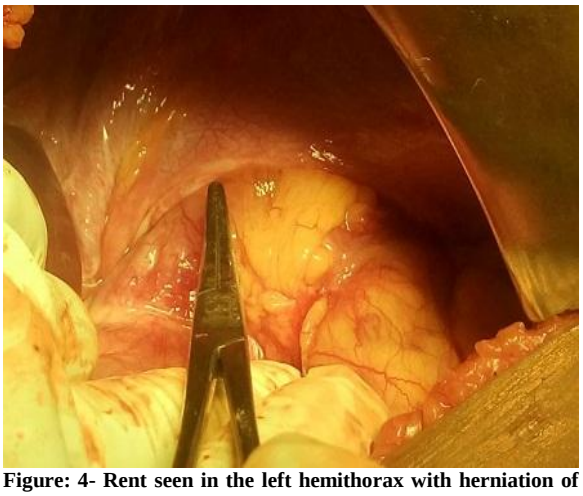

Figure: 4- Rent seen in the left hemithorax with herniation of abdominal contents into left hemithorax.

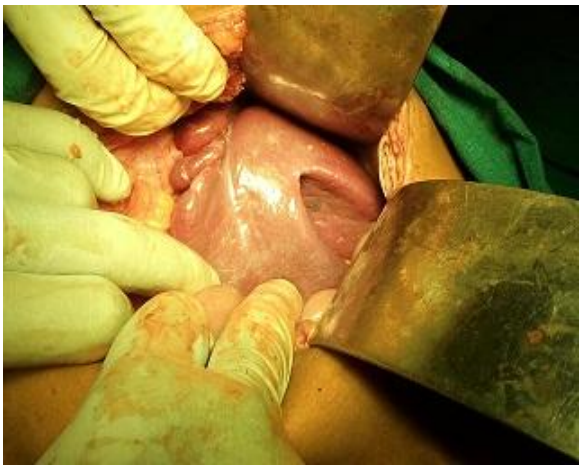

Figure: 5- An enlarged bilobed spleen.

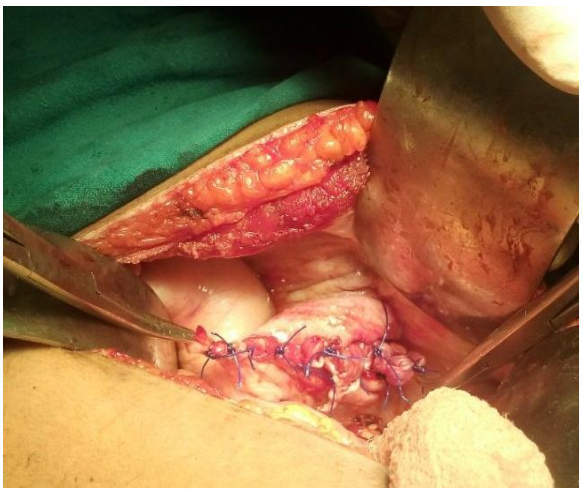

Figure: 6- Closure of hernia defect with polypropylene sutures.

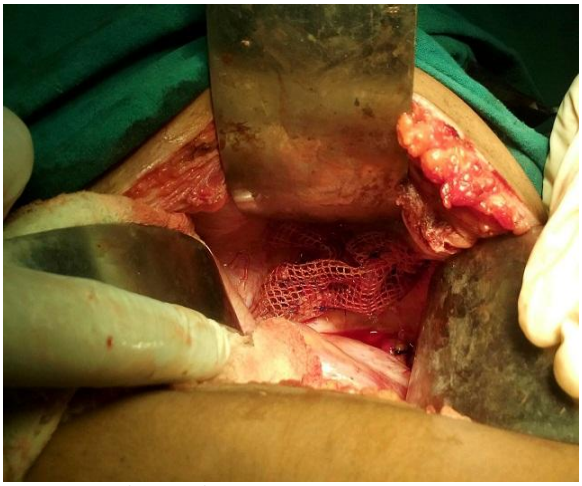

Figure: 7- Defect reinforced with a mesh.

DISCUSSION

Bochdalek's hernia is more common in neonatal period and is associated with significant hypoplasia of both lungs involving the bronchial, alveolar and vascular components, with rise in the pulmonary vascular resistance. [3] The pathogenesis of the pulmonary hypoplasia in CDH is not fully known, but appears to have both a primary component, i.e., the hypoplasia occurs along with the diaphragmatic defect, and a secondary component, i.e., arising from competition for thoracic space particularly in the lung ipsilateral to the hernia. [4] Hence such infants present with life threatening respiratory distress and have a high mortality. However; in adults prognosis is better as the lungs are well developed by the time herniation occurs and there is no increase in the pulmonary vascular resistance.

Adult CDH is rare, the cause for such delayed presentation is not known. Perhaps the defect is present but becomes symptomatic only with a rise in intra-abdominal pressure later in life [5] mostly occurring after a heavy meal, diving, intercourse, ingestion of beer and retching, physical exertion and pregnancy**.** In our case either rise in the intra abdominal pressure

would have been the cause or it might be a preexisting hiatal hernia increasing in growth during pregnancy and becoming symptomatic in the post-partum period as reported by Lococo et al. [6]

Only few case reports of diaphragmatic hernias during the peri-partum period are documented. [7-12] A review of the literature, conducted in 2006 by Eglinton et al, [10] compiled a modest number of 37 cases. During the following years, a lot of reports were published. CDH in pregnancy has a varied clinical presentation. Common symptoms that bring the patient to the hospital are sharp epigastric or left chest pain and unremitting nausea with vomiting. Nevertheless, the clinical presentation of CDH during pregnancy can range from being totally asymptomatic throughout pregnancy to acute intestinal obstruction during any trimester as greater amount of viscera is displaced into the thorax by the enlarging uterus or sudden acute presentation in the post partum period.

Missing the diagnosis is not uncommon and sepsis and death has been reported following insertion of chest tube in suspicion of hydropneumothorax. [3] Presentation as a surgical emergency is the commonest however; CT scanning and MRI can diagnose asymptomatic CDH in adults. Operative repair is the treatment of choice even in asymptomatic patients to avoid later complications like strangulation of the stomach or bowel.

CONCLUSION

We report this case to emphasize the possibility of such rare surgical emergency during pregnancy or post partum period. Delay in diagnosis can result in both fetal and maternal mortality in up to half of cases. [13] A thorough knowledge of variable presentations of Diaphragmatic hernias and high degree of suspicion is required for diagnosis of this rare but treatable condition.

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