A Rare Case of Morgagni Diaphragmatic Hernia Presenting in Pregnancy

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Abstract A case of Morgagni hernia presenting in adulthood is presented. This form of congenital diaphragmatic hernia is rare in itself and is known to present in adulthood in some cases. But presentation after having undergone three surgeries-PDA ligation, appendicectomy and a full term pregnancy followed by LSCS is even rarer. This case is therefore by any yardstick an extremely rare one.

Keywords Congenital diaphragmatic hernia · Morgagni hernia

Case Report

A 27 year old lady with 21 weeks' gestation presented with suspected cholecystitis with complaints of pain in the upper abdomen and dyspepsia of more than one week. She also had vomiting, cough and breathlessness of the same duration. She had history of similar episodes in the past which were all managed symptomatically providing temporary relief. She was a known hypothyroid on L-thyroxine. She had undergone a caesarian section with ovarian cystectomy and an appendicectomy 3 years back. She had also undergone a PDA ligation in childhood. On examination, she was dyspnoeic and tachypnoeic. Air entry was found diminished in the right lower chest with audible bowel sounds in the right inframammary area. Other systems were all within normal limits (Figs. 1, 2, 3 and 4).

With adequate protection a chest radiograph was taken which showed multiple lucent lesions ?cysts in the right

lower zone. For further evaluation, an MRI scan was done. Image quality was poor due to severe dyspnoea. It showed evidence of diaphragmatic hernia on the right side through a defect 35 mm lateral to the right sternal border with herniation of large intestine and associated fatty tissue into the thoracic cavity.

With these findings she was taken up for laparotomy. There was an anterior diaphragmatic 6 cm×4 cm defect, about 5 cm from the midline with herniation of the transverse colon and omentum. Caecum was found to be unusually mobile. Rest of the viscera were normal. The herniated bowel loop and intestine were reduced into the abdominal cavity and found viable. The defect was closed with No 1 Polypropylene sutures and a mesh sutured over the defect. The site of the mesh got reasonably well covered by the right lobe of the liver. The caecum was fixed to the right iliac fossa.

Post-operative period of hospital stay was uneventful. Foetal parameters were monitored carefully throughout the period of the surgery as well as in the post-operative period. Progesterone vaginal tablets were used peri-operatively.

Her pregnancy continued uninterrupted and she delivered a full term baby by LSCS. Both baby and mother were healthy. Post delivery, a chest radiograph was taken, which showed clear lung fields bilaterally.

Discussion

The diaphragm develops from four sources- the transverse septum, mediastinum, pleuroperitoneal membrane and the muscles of body wall. It is this complex developmental process that leads to the formation of diaphragmatic hernias. Diaphragmatic hernias have been described as congenital or acquired. Congenital hernias occur through the foramina of Morgagni and Bochdalek as well as through the oesophageal

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Fig. 1 Herniated bowel

hiatus or para hiatal. Acquired herniae are usually the result of trauma.

Parasternal or Morgagni-Larrey hernias are very rare comprising 2.5–3% of all congenital diaphragmatic hernias. They result from a small defect between the attachment of diaphragm to xiphoid process and 7th costal cartilage - the muscle free space called the Larrey space. This type of hernia was first described by Giovanni Morgagni in 1761. The incidence is 1 in 4800 live births [1]. They are more often on the right side as the strong attachment of the pericardium to the diaphragm on the left side renders its occurrence on the left side extremely rare. They usually contain omentum, colon and eventually stomach. But in a very few cases, bilateral hernias have been reported [2].

Herniation of the abdominal contents is caused by an increased intra-abdominal pressure secondary to trauma, pregnancy, or obesity; however, there is no clear evidence to consider trauma as a predisposing factor [3]. A large number appear in adult or old age. Symptoms include upper

Fig. 3 Chest radiograph post-operative

abdominal pain, bloating, discomfort after meal, vomiting, cough, dyspnoea, palpitations and retrosternal pressure [4].

Diagnosis is made by chest radiograph and CT scans. Contrast examination carried out for gastrointestinal symptoms can be perfectly normal, but computed tomography scan can be considered to be an accurate, noninvasive method of diagnosing Morgagni hernia. Magnetic resonance imaging has been also used as a noninvasive modality to distinguish Morgagni hernia from other mediastinal masses [5, 6]. Sensitivity of CT and MRI is almost 100% [7].

Surgical correction is the mainstay of treatment and elective surgery is advised even when the patient is asymptomatic in order to avoid strangulation [8]. Opinions differ regarding approach to Morgagni hernia- whether thoracic or abdominal. Transabdominal exploration and reduction of the hernia contents followed by suture closure or mesh closure depending on the size of the defect is commonly performed [9]. The presence of the liver and stomach normally

Fig. 2 Diaphragmatic defect after reduction of herniated bowel

Fig. 4 Delivery of a healthy baby at term

prevent adhesions of the gut to the mesh. Laparoscopic repair is now considered the procedure of choice [10, 11].

In this case the interesting aspect is that this patient had undergone surgery in the thorax for a PDA ligation and an appendicectomy as well as completed a pregnancy upto term and underwent an LSCS all through which this condition did not manifest.

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