

Morgagni Hernia Presenting as Obstructive Jaundice

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Morgagni's hernia is rare in pediatrics, representing 1%-6% of all congenital diaphragmatic hernias (CDH). We report a young boy presented with obstructive jaundice caused by compression of common bile duct (CBD) due to stretching and rotation of second part of duodenum in right-sided Morgagni hernia. Such presentation is rarely reported in literature.

Key words: Morgagni hernia, Obstructive jaundice.

Morgagni's hernia is a type of congenital diaphragmatic hernia. Affected children are mostly asymptomatic, diagnosed incidentally by X-ray chest and confirmed by barium enema. We report a 7 year-old boy who presented with obstructive jaundice caused by compression of common bile duct (CBD) due to rotation and stretching of second part of duodenum in a right-sided Morgagni hernia.

CASE REPORT

A seven-year-old average built phenotypically normal boy presented with icterus and abdominal pain for 4 weeks. There was no bleeding diathesis, pruritus or past history suggestive of intestinal obstruction, recurrent respiratory tract infection or chest trauma. Pain in the abdomen was colicky and aggravated after food intake; it was associated with occasional nausea and vomiting.

Clinical examinations revealed mild icterus, normal growth parameters and stable vitals. Breath sounds were diminished on right side with overlying dullness on percussion. The shape of the chest and abdomen, movement with respiration and bowel sounds were normal. Rest of the systemic examination unremarkable.

Complete blood count, serum electrolytes and renal function test were within normal limits. Total

bilirubin was 6.5 mg/dL, (conjugated 4.5 mg/dL, ALT 111U/L, AST 141U/L, and high alkaline phosphatase level. Total protein was 7.3g/dL (albumin 4.3 g/dL). Prothrombin time was 13 s (control 12.8 s). Serum amylase and lipase level were within normal limit. Serology for hepatitis A and B (HB_sAg, IgM HAV) were negative. X-ray chest revealed opacities in right middle and lower zone (**Fig.1**). Ultrasonography of the chest detected gut loops which appeared to be entering the right pleural space, suggesting herniation of gut. Barium meal follow through confirmed right side diaphragmatic hernia (**Fig.2**). CT scan of chest and upper abdomen revealed right-sided Morgagni's type of diaphragmatic hernia with features of gastric outlet obstruction and the pancreatic head was being pulled up superiorly resulting in stretching and compression of retro-duodenal portion of common bile duct (CBD) and collapse of right lower lobe of lung and contralateral shift of mediastinum. Electrocardiogram and 2-dimensional echocardiography revealed no abnormality.

He was treated surgically. The abdominal contents of the thorax were brought down; the CBD obstruction got spontaneously corrected. Associated malrotation was also corrected. The defect was repaired with vertical mattress sutures of interrupted 2-0 prolene stitches. Immediate postoperative period was uneventful. The child is well on follow-up.

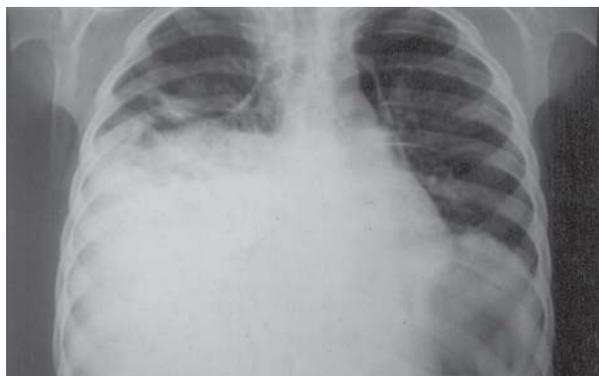


FIG. 1 X-Ray chest showing opacities in right mid and lower zone



FIG. 2 Barium meal follow through showing right sided diaphragmatic hernia.

DISCUSSION

The most common type of CDH is Bochdalek hernia (posterolateral defect) which manifests itself soon after birth. The other type of CDH is Morgagni hernia (retrosternal hernia); which occurs due to development defect caused by failure of fusion between the fibrotendinous elements of sternal and costal portion of the diaphragm. The symptoms of Morgagni hernia usually do not become apparent until attainment of adulthood, usually after 50 years of age. In younger age group it occurs predominantly in males; however, among the elderly it predominates in female. This hernia is rare in children, representing only 1%-6% of all types of CDH [1]. The reason behind rarity among the children may be that increased intra-abdominal pressure with advancing age is required to stretch the defect and cause herniation of abdominal content into thorax [2]. The diagnosis of this hernia is often delayed because most of the patients are asymptomatic; presence of hernia is detected only incidentally on chest X-ray [3]. If symptomatic, it produces variable nonspecific respiratory or gastrointestinal symptoms but rarely acute intestinal obstruction and colonic perforation as presenting features have been reported [4].

The transverse colon or omentum is the usual content of this hernia; stomach or portions of the liver are rare. Obstruction of the extrahepatic biliary system by the herniated content is thus rare. Caldeiro, *et al.* [5] coined the term “choledochal semivolvulus” to describe these findings. Obstructions of the CBD due to involvement into a

hernia sac, as well as traction and volvulus formation of the CBD, were common explanations of such biliary obstruction [6].

The diagnosis of Morgagni's hernia is usually established by chest X-ray with a lateral film to show the anteriorly placed bowel loops. This can be further confirmed by barium enema or by barium meal and follow-through because colon is usually the most common content of the hernial sac. The diagnosis can sometimes be difficult if the hernial sac contains omentum or liver [7]. USG, CT scan or MRI thorax is advocated in such a situation [3].

After the diagnosis of Morgagni's hernia, all cases should be operated to avoid the risk of bowel strangulation and perforation. We performed an open transabdominal repair of the diaphragmatic defect. Other treatment options include laparoscopic surgery [8] and video-assisted thoracic surgery [9].

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