CASE REPORT

Large Hiatal Hernia in Infancy with Right Intrathoracic Stomach Along with Left Sided Morgagni Hernia

Uzma Saeed, Naveed Mazhar and Shahla Zameer

ABSTRACT

Congenital diaphragmatic hernia is a very common intrathoracic fetal anomaly with Morgagni hernia typically seen on right side anteriorly and Bochdalek hernia on left side posteriorly, because of the protective effects of liver and heart on either side respectively. Hiatal hernias range from herniation of a small portion of stomach into thoracic cavity to herniation of entire stomach into the left thoracic cavity. Very rarely the herniated stomach has been reported in the right thoracic cavity. Early diagnosis and treatment of all diaphragmatic hernias is essential to reduce the associated morbidity and mortality. We present a very rare and interesting case of an 18 months old baby girl with reverse scenarios. She had a large hiatal hernia with right intrathoracic stomach along with a left sided Morgagni hernia in combination.

Key Words: *Diaphragmatic hernia. Hiatal hernia. Intrathoracic stomach. Morgagni hernia. Fundoplication.*

INTRODUCTION

Congenital diaphragmatic hernias occur due to absence of closure of pleuroperitoneal fold between 4 to 10 weeks of gestational age.[1] It is the most common intrathoracic, extracardiac fetal anomaly, associated with a significant rate of morbidity and mortality.[2] The incidence of congenital diaphragmatic hernia is 1/2000 live births[1] with males more commonly affected than females.[1] Herniation of abdominal viscera into thoracic cavity occurs through the diaphragmatic hiatus (sliding and rolling hiatus hernias), a congenital defect (Morgagni and Bochdalek hernias) or a diaphragmatic tear. Congenital diaphragmatic hernias occur through the foramina of Bochdalek and Morgagni. Failure of complete closure of diaphragm during development produces a defect through which abdominal contents herniated into thoracic cavity.[2]

This report describes an interesting combination in a large hiatal hernia with right intrathoracic stomach along with a left sided Morgagni hernia.

CASE REPORT

An 18 months female child presented to the pediatric medicine department with primary complaint of increasing respiratory distress for the last one month. Prior to this, the child had no significant past history and had never been admitted in any hospital for any complaint. Her barium meal examination was done at another facility and the films were sent to the radiology department for radiological opinion.

Contrast films showed stomach above the diaphragm, in thoracic cavity on right side. No abnormal rotation of the gastric curvatures was noted. On lateral films, it was seen to lie posteriorly. Rest of the opacified bowel loops were seen in the abdominal cavity (Figure 1). There were air lucencies in the lower zone of left lung field, which raised the suspicion of left sided hernia as well. An abdominal ultrasound of the child was performed which revealed a normal situs (liver on the right and spleen on the left side). The diagnosis of right sided Bochdalek hernia was made.

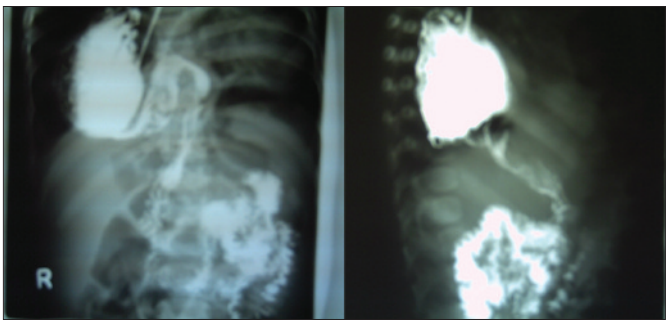

Figure 1: Barium meal showing right intrathoracic stomach posteriorly.

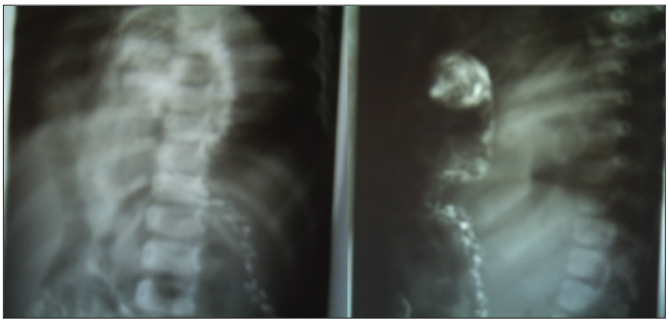

Figure 2: Barium enema showing colon in left thoracic cavity anteriorly.

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Barium enema examination was also performed under fluoroscopic control and proximal portion of descending colon along with splenic flexure were opacified in the left thoracic cavity. Lateral films were taken and these were confirmed to lie anteriorly in the thoracic cavity (Figure 2). The final diagnosis was bilateral congenital diaphragmatic hernia (Bochdalek on right and Morgagni on left side). Detailed systemic examination of the child revealed no other associated finding. All the laboratory investigations were also unremarkable.

The child was operated upon through an upper abdominal transverse incision. Per-operative findings disclosed hiatal hernia with right intrathoracic stomach and a left anterior Morgagni hernia. Fundoplication was done along with repair of left hemidiaphragm.

Postoperative X-ray showed normal lung fields with no bowel loops in the thoracic cavity on either side. The child followed an unremarkable course afterwards until discharged.

DISCUSSION

Hiatal hernias represent a heterogeneous clinical entity and cause a variety of symptoms. Failure of fusion of the dorsal mesentery and the developing stomach probably accounts for the widened esophageal hiatus. A continuum then exists that ranges from a small loculus of gastric mucosa in the chest (partial thoracic stomach) to a complete herniation of the stomach into the thoracic cavity. This abnormality has rarely been reported in infancy and, almost always, the hernia has been reported in left thoracic cavity, with right intrathoracic stomach being a rare form of congenital sliding hiatal hernia.[3,4]

Hiatal hernia should be included in the differential diagnosis of all children with emesis and failure to thrive, since early diagnosis is imperative to prevent the irreversible esophageal damage from long-standing peptic esophagitis.

Fundoplication, using an abdominal approach, is advocated to create an adequate substitute for the insufficient sphincter in gastroesophageal reflux associated with hiatus hernia. Successful repair of the hiatal hernia results in rapid improvement in the nutritional status of these children.

Bochdalek and Morgagni hernias are the least common congenital diaphragmatic hernias (CDH). The majority of Congenital Diaphragmatic Hernias occur through the foramen of Bochdalek. Herniation through the foramen of Morgagni is rare and accounts for 3% of all diaphragmatic hernias.[5-7]

The foramen of Morgagni is a persistent developmental defect in the diaphragm anteriorly between the septum transversum and the right and left costal origins of diaphragm. A hernia through the foramen of Morgagni is more commonly encountered on the right side, because of the protection provided by the heart and pericardium on the left side. Bilateral and left sided defects are quite uncommon.[5]

The common contents of the hernia of Morgagni are nearby structures like omentum, colon, stomach, liver or small bowel.[6]

Although they are usually asymptomatic, they are commonly diagnosed in early childhood. The presentation is vague and non-specific leading to a delay in diagnosis.[7] In adulthood, they are diagnosed incidentally or when they become symptomatic.

The possibility of CDH should be considered in any child presenting with respiratory distress or with symptoms suggestive of gastrointestinal obstruction,[8] associated with an abnormal chest X-ray film. Contrast studies of the gut should be a part of the diagnostic work-up of these patients[9] as life-threatening complications can be the consequences of delayed diagnosis.[5]

Because of the potential for continuous enlargement with time and visceral strangulation, surgical repair is usually recommended in Morgagni hernia, even if it is asymptomatic.[5,7,10]

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