Case Report

Atypical Presentations of Hiatal Hernia in Two Pediatric Patients

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Abstract

Hiatal hernia is an uncommon condition in children. Its symptoms can vary markedly from none to life-threatening condition, thereby making its diagnosis challenging. We reported two different cases, first a 15-month-old child presenting with respiratory distress, second a 7-year-old boy presenting with resistant iron deficiency anemia. Surgical management was done in both cases, following which both of them improved. To the best of our knowledge, this is the first case report of hiatus hernia in children in this region, with such contrasting presentation. A stepwise and methodical approach to the patients led to early diagnosis.

Keywords: Hiatus hernia, iron deficiency anemia, respiratory distress

Introduction

Majority of hiatal hernias (HHs) are postulated to be congenital in childhood while in adults, most of them are acquired. Symptoms of sliding or type 1 hernias are mainly due to physiological derangement while those of para-esophageal hernias (PEHs) or type 2 hernias are of mechanical nature.[1] Sliding or type 1 HH may be asymptomatic and discovered incidentally. When symptomatic, they present as nausea, vomiting, heartburn, and abdominal pain.[2] PEHs are uncommon in children and are usually symptomatic. Recurrent respiratory tract infections, vomiting, anemia, failure to thrive, and dysphasia are the main presenting complaints of PEH.[3]

In the present report, we describe two cases of HHs (both) type 1 and 2 presenting in contrasting manner.

Case Report 1

A 15-month-old girl child was brought to the emergency department with the complaints of cough and fast breathing since 4 days. Her past medical history was significant. There was a history of fall from height 6 months back, followed by fullness in left side of chest, abdominal pain, and vomiting with altered blood, initially 1–2 episodes later 4–5 episodes per week which were associated with melena. There was no history of fever, jaundice, drug ingestion, and bleeding from any other site. On examination, the child was severely pale and afebrile, heart rate was 140/min, and respiratory rate was 58/min with intercostal and subcostal retractions. Left hemithorax was more prominent with decreased movement. On auscultation, marginally decreased breath sounds on the left side with bilateral crepitations were present. Anthropometry revealed moderate malnutrition. Rest of the systemic examination findings were unremarkable. Her blood counts revealed anemia but no thrombocytopenia. Her clotting studies, including liver function (LFT) were also normal. Stool was positive for occult blood. She was treated with antibiotics and nutritional rehabilitation. Her respiratory symptoms did not improve, and she kept having different chest signs. Chest X-ray revealed scoliosis and absent stomach bubble with normal rib cage. In view of persistence of symptoms and X-ray findings, upper gastro-intestinal endoscopy (UGIE) was done, which showed multiple strictures and ulcers in lower esophagus and stomach mucosa. Ultrasound of the abdomen revealed part of stomach herniating into the thoracic cavity. Barium swallow study confirmed the hiatus hernia (HH) type 1 [Figure 1]. Child later had fundoplication, following which her symptoms improved. She was discharged on anti-reflux measures and nutritional supplements.

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Case Report 2

A 7-year-old male child was admitted with the history of progressive pallor of 6 months duration. On admission, the child was severely pale and emaciated. There was no hepatosplenomegaly. His hemoglobin was 3.1 g/dL with normal reticulocyte count, and blood peripheral smear was suggestive of microcytic hypochromic anemia. The stool for occult blood was positive. Bone marrow examination, coagulation profile, electrophoresis, and LFT were normal. On further investigation, anti-tissue transglutaminase IgA antibody was normal, and serum ferritin was 2.9 ng/mL. Provisional diagnosis of iron deficiency anemia was made, and one unit packed cell was transfused. His mantoux test was negative. Chest radiograph revealed a homogenous opacity on right side of chest with absent fundal gas shadow [Figure 2]. Chest X-ray lateral view with Ryle's tube *in situ* revealed a large air fluid level with Ryle's tube coiling in right para-cardiac region, lying in posterior mediastinum, which was suggestive of PEH. It was further confirmed by chest-computed tomography (CT). UGIE consolidated the findings of HH and esophagitis. Surgical fundoplication procedure was performed on the patient, and he was discharged on anti-reflux measures. On follow-up, he was asymptomatic and thriving well as evidenced by adequate weight gain.

Discussion

HH is a herniation of a part or whole of stomach into thorax through esophageal opening in diaphragm. It is an uncommon condition in children, while the prevalence of HH in adults has been reported to range from 10 to 70%.[4] However, there are only few studies that estimated the prevalence of HH in children.[3] It has also been reported in neonates.[5] In children, it is mostly congenital in origin unlike adults.[1]

Four clinical types have been described, the sliding hernia or type 1, in which a part of stomach herniates into thorax; is the most common while para-esophageal type or type 2 is most prone to complications like sudden onset respiratory distress or intrathoracic gastric volvulus.

Hiatus hernia is generally asymptomatic; when symptomatic, it can simulate a respiratory, cardiac, gastro-intestinal, or hematological disorder. Our two cases exemplify this fact. Regurgitation or intermittent vomiting has been reported as the most common symptom in pediatric age group.[6] The varied clinical presentations of HH in adults include recurrent acute heart failure, chest pain, and postprandial syncope.[7-9] HH may be responsible for intermittent bleeding from associated oesophagitis, erosions (Cameron lesions), or a discrete esophageal ulcer, due to regurgitation. Cameron lesions are linear gastric ulcers or erosions on the mucosal folds at the diaphragmatic impression in patients with HH. This bleeding can be overt as in our first case or occult as in the second case, which led to iron deficiency in the patient.

In the two cases, persistence of symptoms and abnormal findings on chest X-ray, led to further investigations including barium swallow, UGIE and CT which confirmed the diagnosis of HH. Medical management of HH includes antacids, H2 receptor antagonists, and proton pump inhibitors. Surgical treatment is reserved for patients with medically refractory disease, uncontrolled bleeding from the lesions, and complications such as volvulus, incarceration, and perforation.[10] In the first case, the child had multiple episodes of overt gastro-intestinal bleeding from ulcers in lower esophagus and stomach due to recurrent regurgitation while in the second case, child had recurrent occult bleeding leading to severe microcytic hypochromic anemia; hence requiring surgery.

Conclusion

Attending physicians need to be aware of variations in the presentation of HH. A high index of suspicion and a stepwise approach is the key to diagnosis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have

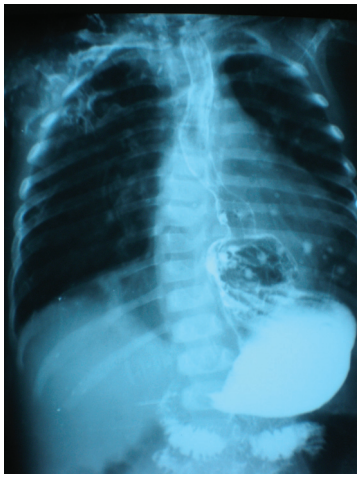

Figure 1: Barium swallow study showing hiatus hernia (HH) type 1

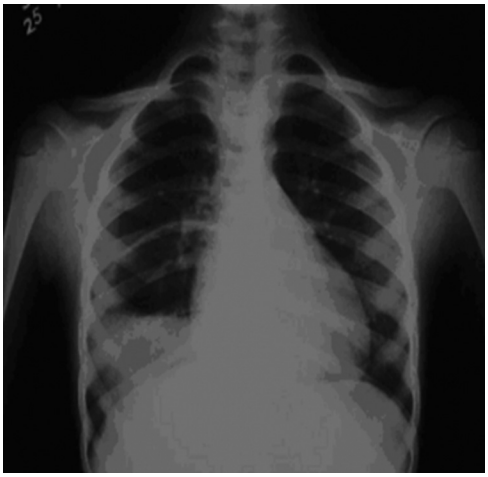

Figure 2: Chest X-ray showing a homogenous opacity on right side of chest with absent fundal gas shadow

given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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