STRANGULATED PARAESOPHAGEAL HIATUS HERNIA: A CASE REPORT

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ABSTRACT

Strangulation of hiatus hernia is a rare event and difficult to diagnose in emergency. We are reporting a case of 14 year old girl who was diagnosed sliding hiatus hernia since childhood but due to delayed treatment presented in emergency with perforation of stomach and generalized peritonitis. She was treated successfully.

KEY WORD: Hiatus hernia, Sliding, Strangulation, Perforation

INTRODUCTION

Hiatus hernia is not an uncommon occurrence and among these, 95% are sliding type while the rest 5% are paraesophageal type[1]. Strangulation or perforation of stomach in hiatus hernia is a rare event. Carter and Giuseffi in literature survey reported 43 cases of strangulated diaphragmatic hernia in 194. Later on Pearson reported 29 more cases on the other hand literature and hence a total of 76 cases of strangulated Hiatus Hernia are reported to date[2]. Literature reveals only six cases of strangulated diaphragmatic hernia that lead to gangrene of the stomach. In 1949, Hamiltonand Phillips reported two cases of their own and three more reported in literature. Later on, Pearson et al reported a case of gangreneof stomach due to hernia[3].

In the sliding variety, due to shortness of esophagus,part of stomach and esophagogastric junction is pulled upwards from the diaphragmatic opening into the thoracic cavity. These types of hernias are mostly asymptomatic but can present clinically with regurgitation, reflux, postprandial breathlessness, early satiety and dysphagia. In Para-esophageal variety the anatomy of esophago-gasric junction is maintained. A part of stomach through the hiatal opening herniates into the thorax and comes to lie adjacent to the esophagus[1,4]. Overwhelminglythis variety of hernia represents a very small percentage of cases but still has a clinical significance which is characterized by potential for development of life threatening complications[2,5]. Elective repair of such hernias is advocated as early as possible because they often acutely present with volvulus, strangulation, rupture or gangrene of intrathoracic stomach which is a grave emergency if left untreated[2,4].These cases must therefore be diagnosed and treated by elective surgery if patient fit for surgery[4]. Hence, early diagnosis and prompt surgical treatment must inflexibly be the aim[5]. We present an interesting case of a young girl who has been diagnosed with diaphragmatic hiatus hernia since long and has underwent almost all sorts of investigations there could possibly be but still presented in an acute condition to us. Our patient's presented with one of the complications of paraesophageal hiatus hernia.

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CASE HISTORY

The patient, a 14 year old, malnourished girl has been consulting various physicians for post prandial regurgitation, vague intermittent abdominal pains, iron deficiency anemia and occasional episodes of vomiting since last ten years. She has been continually referred from one center to the other after being managed symptomatically untilshe developed sudden severe pain in the center and left side of chest along with multiple episodes of coffee ground vomiting. A nasogastric deflation was performed by the treating physician and the patient was once again managed conservatively for the next 15 days. During this time, her plain x-ray chest, USG abdomen and upper GI endoscopy and upper GI contrast study (Fig -1) was performed which yet again confirmed her diagnosis of hiatus hernia but also gave a suspicion of concomitant gastric volvulus. On further investigations i.e., CT scan and MRI abdomen, gastric volvulus was ruled out. For the next four months, she was provided with symptomatic treatment until she developed acute boring pain and multiple episodes of vomiting and was referred in emergency to our hospital. On receiving her in the emergency department, she had a toxic appearance and was found to be tachycardia, tachyponic, while systemic examination disclosed generalized abdominal tenderness and mild distension and rigidity. Plain x-ray erect abdomen revealed free gas underneath the diaphragm (Fig -2). An emergency exploratory laparatomy, on the suspicion of a perforated viscus was performed with a rooftop incision. A 6cm x 7cm hernia defect in the right crus of the diaphragm was seen with the fund us of stomach, spleen and part of transverse colon being the contents of the herniated sac. Perforation of the posterior wall of the stomach was present along with presence of free fluid in the peritoneal cavity. The gastro-esophageal junction was intact. Debridement of the necrotic edges of the perforation was performed and it was repaired in two layers. Contents of the herniated sac were reduced back and the defect was closed with non-absorbable sutures. Peritoneum was flushed with 5 liters of N saline and a drain was also placed. The patient was managed in ICU to keep her under proficient surveillance. She recovered uneventfully. Post operative upper GI contrast study showed no leakage and free passage of contrast into duodenum (Fig- 3).

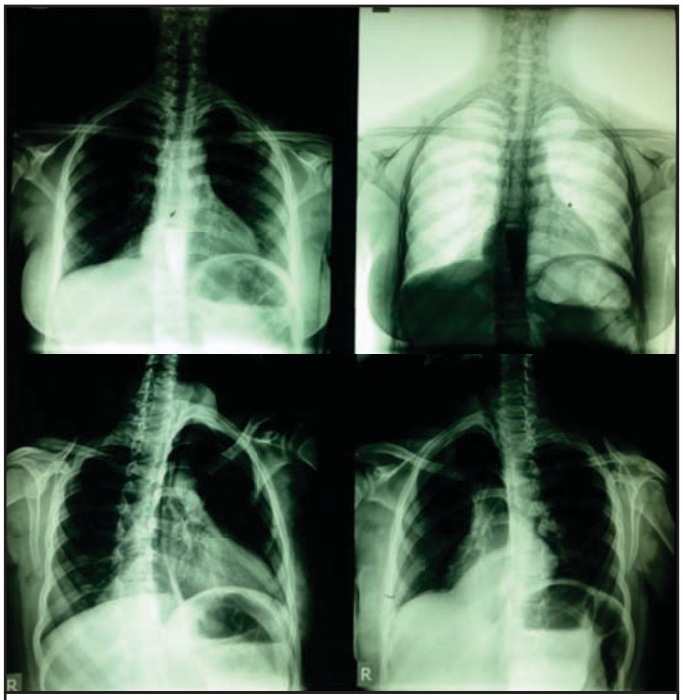

FIG - 1: DIFFERENT VIEWS OF UPPER GI CONTRAST STUDY SHOWING DILATED LOWER END OF ESOPHAGUS WITH HOLD UP OF CONTRAST. NO VISIBLE SPLENIC SHADOW SEEN UNDER LEFT HEMIDIAPHRAGM. A PERSISTENT SOFT TISSUE OPACITY ADJACENT TO RIGHT CARDIAC BORDER

FIG-2 : X-RAY CHEST SHOWING RAISED LEFT HEMIDIAPHRAGM WITH MARKED QUANTITY OF AIR UNDER DIAPHRAGM. THERE IS HERNIATION OF DILATED GUT LOOP IN RIGHT CHEST.

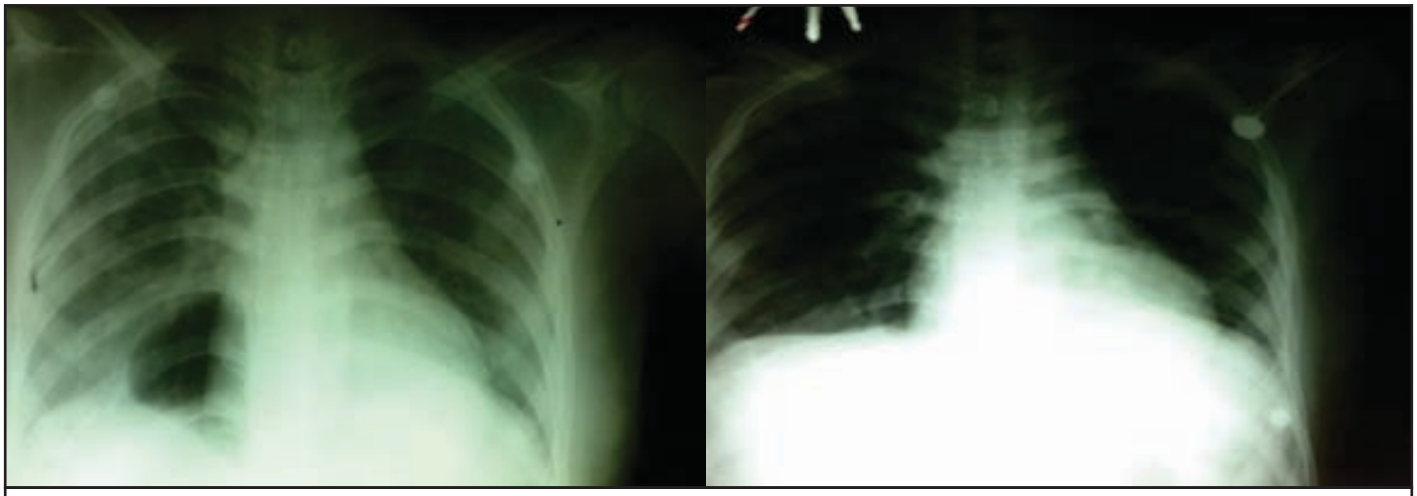

FIG - 3: GASTROGRAFFIN STUDIES ON 14TH POST OPERATIVE DAY SHOWING NO LEAKAGE AND PASSAGE OF CONTRAST INTO DUODENUM.

DISCUSSION

Hiatal hernia is a special variant of hernia having migration of stomach through esophageal hiatus of the diaphragm. They are 4 types of hiatus hernia i.e. sliding (type I), paraesophageal with organo-axial rotation (type II), combining elements from both previous types with meso-axial rotation of stomach (type III) and complex hernia (type-IV) which contains abdominal viscera herniating through the hiatus into the thoracic cavity other than the stomach [6,7]. Type- IV hernia represents at most 5-15% among all the other types[6].

Para-esophageal hernia is strongly associated with obesity and somewhat surprisingly majority of these hernias are often asymptomatic while some present clinically with gastro-esophageal reflux[8]. Only up to one third of the patients may present with life threatening complications such as hemorrhage, acute volvulus with obstruction or perforation of stomach. Clinically, the main presenting feature of this condition is acute epigastric pain and vomiting usually following a large meal[9]. Other presenting symptoms may include dysponea, belching or acute chest pain. Risk factors causing perforation in para-oesophageal hernia are larger size, advanced age and incarceration[8,9]. To minimize the chances of delayed or miss diagnosis, it is essential that such presentation and risk factors should be kept in mind. The estimated annual probability of a patient with a paraoesophageal hernia requiring

emergency surgery is around 1%. [7].

Although, incarcerated hiatus hernia is a rare presentation but it is important to consider them in differential diagnosis in acute medical and surgical presentations because the outcome of a delayed or missed diagnosis may be disastrous. A large proportion of patients reporting in emergency department comprises of acute chest and epigastric pain which commonly include acute coronary syndromes, chest infections, visceral perforation, aortic aneurysm and acte pancreatitis. X-ray chest is helpful in diagnosing and differentiating these pathologies from hiatus hernia such as left sided pulmonary effusion, visible large hernia above the diaphragm and pneumo-peritoneum or pneumo-mediastinum[4]. Due to the heterogeneity in clinical presentation and clinical assessment, liaison between physician and surgeon is of paramount importance to reach the diagnosis. Traditionally, to treat these hernias electively or in emergency, a laparatomy is performed but since these hernias are now frequently repaired laparoscopically in emergency as well as both electively since last decade [5,10,11].

Diagnostic difficulties are evident because epigastric pain is associated with a many cardiac, thoracic and abdominal pathologies as differential diagnoses. Unfortunately, physicians rarely consider perforated hiatus hernia as a differential diagnosis in this scenario. To rule out different pathologies, routine bloods, serum amylase, cardiac enzymes, blood gases, lactate and ECG, are very helpful. Chest X-ray is very important in providing the first clue but sometime due to non visibility of pneumo-peritoneum or visible hernia in thorax and pleural effusions it fail to give initial diagnosis [2,12]. CT scan is helpful to build up a diagnosis and can be very important in establishing the final diagnosis when a clinician is aware of the gravity of the presentation but is unsure of the diagnosis and subsequent management plan. For diaphragmatic hernia the CT scan is usually the confirmatory and investigation of choice[2,9]. In emergency, patient usually present with a classic triad of retching, epigastric pain, and failure to pass a naso-gastric tube [6,12].

An acutely strangulated paraoesophageal hernia represents a real challenge in management for all the on-call surgeons [7,13]. Treatment includes early resuscitation, a definitive airway, and emergent surgery to prevent ischemic necrosis of the stomach owing to strangulation, gastric perforation, and serious cardio-respiratory decompensation [9]. In emergency cases, surgery by laparatomy and proceeding as necessary, depending upon the findings, is the correct approach. Emergency surgery in complete gastric volvulus involves hiatal defect repair after reduction of volvulus. In cases of gastric perforation or infarction Partial gastrectomy may be required [6]. Sleeve gastrectomy could be an alternative useful surgical technique in managing acute complications of paraoesophageal hernia, especially in obese patients [7].

It is recommended in literature that due to its possible life threatening complications the para-oesophageal hiatus hernia should be repaired electively as early as possible. The current recommendations for planed elective repair are mostly due to the possibility of impending complications including ischemia, hemorrhage and perforation. In large hiatus hernia, gastric torsion may end up with fatal complications with considerable frequency, so, the elective repair is recommended in case of incidental diagnosis except in the moribund patient [6]. At the other end, some surgeons are of the opinion that the elective for surgery is debatable because the annual incidence life threatening complications requiring surgery is still low. Optimal elective hiatus hernia repair comprises of sac excision after reduction of hernia contents followed by defect repair. In case of a large defect, the prosthetic mesh reinforcement may be required [10]. To accommodate the esophageal shortening, the Nissen fundo-plication may be done but this may have a potential risk of distal esophageal dysmotility [6]. Other than the traditional thoracic or abdominal approach, majority of cases are now treated with excellent results through laparoscopic approaches [5,10,14]. Pierre has reported in their study over 200 consecutive patients who underwent laparoscopic repair of paraesophageal hiatus hernias with 0.5% mortality, low morbidity and only 2.5% recurrence rate [10]. At the other end due to changing in trends in treatment and awareness, majority of sliding hernias are treated early especially in specialized centers, as a result of which serious complications of this entity are not very common in the developed countries [11,13].

CONCLUSION

Strangulation of a hiatus hernia is not very common. It is imperative that the diagnosis of strangulated hiatus hernia should also kept in mind in any case of ambiguous upper abdominal or lower thoracic pain. Early diagnosis is essential for adequate therapy, whereas procrastination spells catastrophy for the patient.

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