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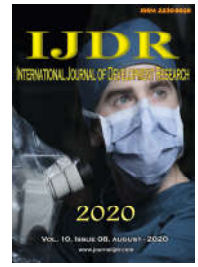
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CASE REPORT

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## AN INCIDENTAL FINDING OF PARAESOPHAGEAL HERNIA IN AN ADULT WITH RECURRENT CHEST DISCOMFORT: A CASE REPORT

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### ABSTRACT

Hiatus hernia is a structural defect in which a weakened diaphragm allows a portion of the stomach to pass through its esophageal opening into the chest when intra-abdominal pressure increases. Approximately 99% of hiatus hernias are sliding and the remaining 1% is paraesophageal. This is a twenty-two year old male student with a recurrent history of chest discomfort especially following meals. The patient had a plain chest radiograph which showed a right para-cardiac soft tissue density area which appeared to be a contrast filled antrum of the stomach above the diaphragm following a confirmatory barium meal. The patient had surgical repair of the paraesophageal hernia and subsequently became better and stable. We report this case due to its rarity, mode of clinical presentation and subsequent radiographic diagnosis.

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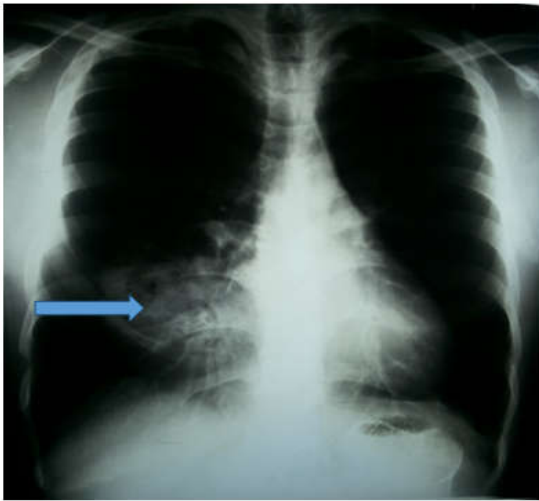
## INTRODUCTION

Hiatus hernia is a structural defect in which a weakened diaphragm allows a portion of the stomach to pass through its esophageal opening into the chest when intra-abdominal pressure increases (Ogunyemi, 2001; Kahvilas, 2008; Medinam 1988). Hiatal hernia is also defined as a condition in which parts of the abdominal contents most especially the gastroesophageal junction (GEJ) and the stomach are proximally displaced above the diaphragm through the esophageal hiatus into the mediastinum (Hyun, 2011). Three forms have been described: (a) Sliding hernia (most common), (b) Para-esophageal hernia (rolling) and (c) Mixed hernia (Medina, 1988). Approximately 99% of hiatus hernias are sliding and the remaining 1% is paraesophageal (Ogunyemi, 2001; Kahvilas, 2008; Medina, 2011). Hiatal hernias can be diagnosed by radiographic means, endoscopically or manometrically though each modality has some forms of limitations most especially those hiatal hernias less than 2cm in length (Hyun, 2011). Hiatal hernia is assumed to probably cause increased gastroesophageal reflux, though the clinical significance of hiatal hernia has been controversial for decades (Hyun, 2011; Wallner, 2018; Kahrilas, 2008; Petersen, 1991). Paraesophageal hernias are most commonly seen in the elderly females with multiple comorbidities (Huy, 2017 and Prassas, 2015). Hiatal hernia and paraesophageal hernias may be asymptomatic or present with varying symptoms such as heartburn, nausea, burping, vomiting,

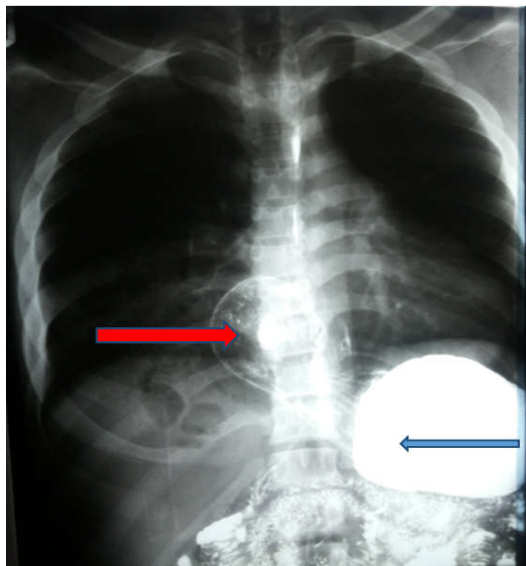
unexplained upper abdominal or chest pain, coughing and shortness of breath (Prassas, 2015 and Baiu, 2019).

## CASE REPORT

This is a twenty-two year old male student who presented on account of progressing chest pain and discomfort especially after meals for more than two years. On physical examination he looked anxious, but not pale nor dehydrated and had no finger clubbing. He appeared well fed with normal cardiovascular and musculoskeletal findings. He confessed to frequent ingestion of antacids to relieve burning chest discomfort. The patient had a blood pressure of about 110/60mmHg, a normal respiratory rate of about 15 breaths per minute, a packed cell volume of about 38%, normal white cell count (500 white blood cell count per microliter) and an ESR of 7mm/hr. The plain radiographs showed a soft tissue density mass in the right paracardiac (Figure 1) regions following the AP projection. The barium meal showed a barium filled antrum of the stomach in the chest (Figure 2) and on the cardiac shadow (Figure 3) confirming the diagnosis of a paraesophageal hiatus hernia. An abdominopelvic ultrasonography was also done on the patient which showed normal abdominal situs. The patient had a surgical repair (laparoscopic fundoplication) of the hiatus and responded well to treatment and was subsequently discharged home.



**Figure 1. An anteroposterior view of a plain chest radiograph showing a right para-cardiac soft tissue mass inferiorly (right blue arrow)**



**Figure 2. An anteroposterior view of barium meal showing the following: Contrast opacified antrum of the stomach projected over the cardiac shadow within the chest (right red arrow) and contrast opacified cardiac fundus within the abdomen (left blue arrow)**



**Figure 3. lateral projected image from a barium meal showing**

Contrast opacified gastric antrum projected over the cardiac shadow anteriorly (left blue arrow) confirming the paraesophageal hiatus hernia.

## DISCUSSION

Hiatus hernias are more common in the western countries, the frequency of hiatus hernia increases with age<sup>11</sup>. It is seen in 10% of patients younger than 40 years to 70% in patients older than 70 years. The index case is a young patient aged 22 years conforming to this literature. Burkitt et al<sup>12</sup> suggested that the western fibre depleted diet leads to a state of constipation and straining. This explains the higher incidence of this condition in western countries. Paraesophageal hernias are most commonly seen in the elderly females with multiple comorbidities<sup>8,9</sup>. The index case happens to be a young male with no associated comorbidity invariance to these literatures. Complications that are life threatening may be associated with hiatus hernias most especially para-esophageal hernias. These are gastric volvulus, strangulation and bleeding<sup>3, 13, 14</sup>. The index case however never developed or presented with features suggesting volvulus of the stomach and strangulation nor bleeding (hematemesis). The patient had a progressing chest pain and discomfort especially after meals, these are the most frequent presentations documented in the literature. This patient had a paraesophageal hiatus hernia which is reported to be the less frequent and accounting for about 1% of all cases of hiatus hernia<sup>1-3</sup>. The etiology of this is not fully known in this patient, but a congenital etiology is highly entertained since no any intra-abdominal mass or lesion was demonstrated ultrasonographically as a cause of increased intra-abdominal pressure. The diagnosis was made through a plain radiograph and barium meal; these are usually the first line of investigations as documented in most literatures. Computed tomography often plays a role thus was not done in this case. Radiography is often preferred for diagnosis over computed tomography because retrocardiac bubbles are more easily seen on a radiographic image<sup>8</sup>. Paraesophageal hernia are mostly treated by surgical repair as documented in the literature, the index case also had a laparoscopic repair of his hiatal hernia conforming to most literatures.

## CONCLUSION

Paraesophageal hiatus hernia was suspected in this adult patient with chest discomfort and soft tissue mass on plain radiograph. Further radiological examination (barium meal) was carried out for confirmatory diagnosis and prompt management was instituted.

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