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Case Report

Rolling Non Reducible Intra Thoracic Gastric Hiatus Hernia causing Cardiogenic Shock

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Abstract

Para oesophageal (type II) hiatus hernia is a rare anatomical condition and is differentiated from the more common sibling (type I) hiatus hernia. Patients with clinical symptoms associated with para oesophageal hiatus hernia should undergo operative repair as there is a risk of developing life threatening complications in these hernia. We report a case of symptomatic rolling hiatal hernia in a middle aged woman, who developed a life threatening volvulus resulting in cardiogenic shock.

Keywords: Non reducible gastric fundal and part of the greater curvature hernia, rolling hiatus hernia, para oesophageal hernia.

Introduction

Rolling hiatus hernia is very rare para oesophageal hernia.(type II hiatus hernia). The other type I hiatus hernia also known as sliding hiatus hernia is a very common entity. Unlike type I hiatal hernia, in type II rolling hiatal hernia the gastro-oesophageal junction is in the normal subdiaphrmatic location (1.5 cm above the hiatus) (6). The etiologies of the hiatus hernia are due to rupture of the phrenico-esophageal membrane. The sliding hiatus hernia is reducible in erect position (6). In both the entities peristalsis ceases in the herniated thoracic part, but peristalsis exists in the remaining abdominal part of the stomach. Usually patients are asymptomatic. In the presence of gastro-oesophageal reflux there may be symptoms of esophagitis (4).

Case report

A fifty year old woman, an agricultural worker by occupation was admitted to a medical college hospital with discomfort in the lower left part of the chest. There was no difficulty in intake of food and fluids and there was no history of vomiting. An erect chest x-ray of the chest in PA view was suggested which revealed an absence of fundal gas in the normal subdiaphragamatic location (Fig.1). The patient was further investigated with barium meal under fluoroscopic technique (Fig.2,3) and confirmed that she was suffering from non -reducible rolling intra thoracic gastric hernia. The fundal and part of the greater curvature of the stomach was in the intra thoracic region and the gastro-oesophageal junction is in the normal sub diaphragmatic location. The barium contrast can be seen the intra thoracic part of the stomach (fundal and the part of the greater curvature) and also in the intra-abdominal part of the greater curvature and lesser curvature. The barium is seen in the pyloric antrum and duodenum suggesting no evidence of volvulus. There was no evidence of an ulcer or a mass.

The patient was initially admitted under the department of medicine. As the radiological investigations suggested a non reducible para oesophageal hiatus hernia, she was recommended to be referred to surgery department. The patient had cardiogenic shock

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and was resuscitated and further managed in the intensive care unit. An emergency bedside sonography of the abdomen revealed an increase in the size of the herniated part of the fundus and greater curvature of stomach. A volvulus was suspected and reasoned to have caused pressure effect on the cardia leading to arrhythmia and cardiogenic shock. The patient recovered and chose not to be further treated in the hospital. Further information on the outcome of the hiatus hernia in the patient in not available.

Discussion

The rolling gastric hiatus hernia (type II) is a true para oesophageal hernia as it is covered by the peritoneum unlike the sliding hiatus hernia (type I).[5] In the sliding hiatus hernia there is widening of the muscular hiatal tunnel and circumferential laxity of the phreno -esophageal membrane, allowing a portion of the gastric cardia to herniate upward into the posterior mediastinum. The clinical significance of type I hernia is in their association with reflux disease. They are the most common type and accounts for 95% of the all the hiatal hernia.[5] The type II hernia results from a localized defect in the phreno-esophageal membrane while the gastro-oesophageal junction remains fixed to the pre aortic fascia and the median arcuate ligament. The gastric fundus serves as the leading point of herniation.[5] The end stage of both the types of hiatal hernias occurs when the whole stomach migrates up into the chest by rotating 180 degree around its longitudinal axis with the cardia and the pylorus as fixed points.[6] The risk factors attributed for the condition are heavy weight lifting, frequent hard coughing, violent vomiting, hard sneezing and straining.

The diagnosis of rolling hiatus hernia is done by barium swallow study under the fluoroscopic control with special radiographic techniques like erect, prone, trendelenburg positions. To know the hernia is reducible or non-reducible further techniques used are increased pressure on the chest by asking the patient to take a deep inspiration.[3] If the herniated parts of the stomach is not sliding down into the abdomen from the chest through the paraesophageal hiatus defect it is known as non-reducible gastric rolling hernia. It is an indication for surgical intervention before the development of complications such as volvulus, strangulation, incarceration and perforation.[1] In this case of rolling gastric hiatus hernia volvulus and cardiogenic shock could have been prevented if early surgical management was undertaken Ultrasonography with color Doppler can diagnose these complications and perforation. Only in reducible hiatus hernia close observation can be considered with medical therapy.[2]

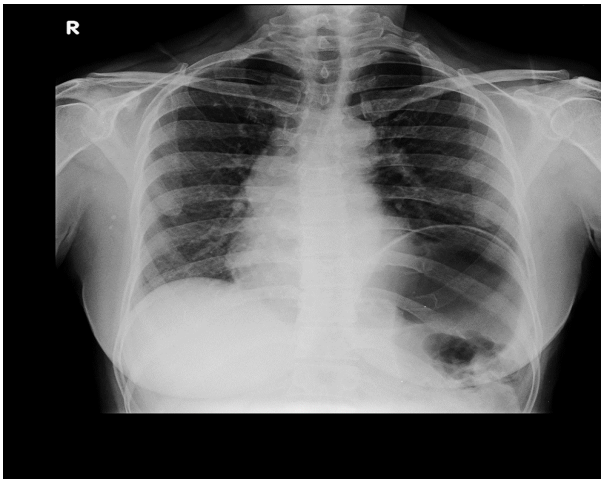

Fig 1. Chest x-ray erect (PA view) showing herniation of the gastric fundus into the left hemithorax in paracardiac region.

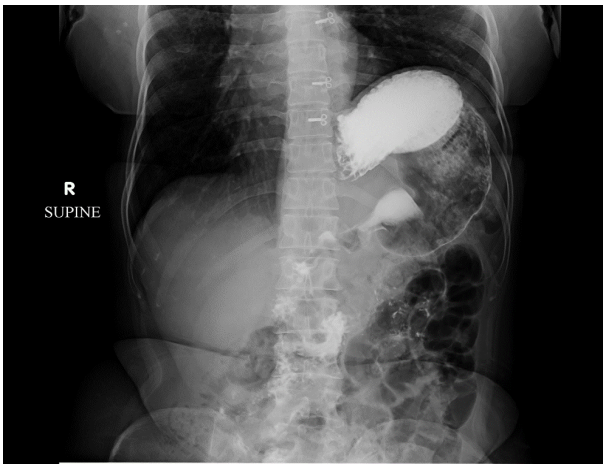

Fig 2. Barium meal study in trendelenburg position showing normal subdiaphrmatic gastro-oesophageal junction. Contrast is seen in the intra-thoracic fundus and the part of the body of the stomach. Remaining part of the body and pyloric antrum are in the normal abdominal location.

Fig 3. Barium meal study left lateral erect view is showing non-reducible herniation of gastric fundus and part of the body of the stomach through the para oesophageal hiatus. Remaining gastro-oesophageal junction is in the normal subdiaphrmatic location.

Conclusion

Suspicion of rolling gastric hiatus hernia in a routine chest x-ray should prompt a barium swallow or barium meal study for confirmation. Further special radiographic techniques should be used to determine reducible or non-reducible hiatus hernia. Non-reducible hiatus hernia, should undergo immediate surgical intervention to prevent life threatened complications such as volvulus, strangulation, incarceration and perforation.

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