ORIGINAL RESEARCH PAPER

Volume-8 | Issue-8 | August - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PARAESOPHAGEAL HERNIA WITH GASTRIC HERNIATION COMPLICATED BY TRACHEAL AND BRONCHIAL COMPRESSION

Gastroenterology

Pranay Srivastava MD

Miral Subhani* MD *Corresponding Author

Davinder Singh MD

Paresh Sojitra MD

Paul Mustacchia MD

KEYWORDS

INTRODUCTION

The distal portion of the esophagus where it transitions to the gastric cardia, an area commonly referred as the gastroesophageal junction (GEJ), is anatomically sealed and anchored by the phrenoesophageal ligament surrounding the esophageal hiatus of the diaphragm. With each peristaltic contraction of the longitudinal muscles of the esophagus, the GEJ and the gastric cardia are proximally displaced through the stretched phrenoesophageal membrane, until the portion is brought back by the elastic recoil of the membrane at the end of a swallow. However, when the integrity of the elastic membrane is compromised through excessive esophageal muscle contraction, increased abdominal pressure, or surgical complications, the same abdominal content can pathologically herniate through the hiatus into the posterior mediastinum, classified as paraesophageal hernias (PEH). Type I sliding hiatal hernia, which constitutes 95% of hiatal hernia cases, is defined by the migration of the GEJ and the proximal gastric cardia above the esophageal hiatus into the thoracic cavity. Types II-IV, all which consists of the minority 5% of cases. Types IV, smallest sub-catergory of the PEH, include herniation of the GEJ along with the gastric fundus, specifically with other abdominal organs. Herein we present rare case of paraesophageal hernia complicated by tracheal and bronchial compression.

Case Presentation

84-year-old hispanic female presented to the emergency department with complaint of worsening shortness of breath at rest and on exertion for several days associated with palpitations and midsternal chest pain radiating to the epigastric region with intermittent nasusea and vomiting that spontaneously resolves. Past medical history includes chronic volvulus of the stomach, congestive heart failure with ejection fraction 45%, hypertension, and unprovoked deep venous thrombosis status post IVC filter placement, not on anticoagulation due to prior history of gastrointestinal bleeding. Pertinent physical exam findings revealed decreased breath sounds on bilateral lower lung fields and +2 bilateral lower extremity edema. Laboratory findings showed WBC 5.5, HGB 11.9, HCT 36.6, platelets 185. Electrolytes and hepatic function panel were within normal limits except bicarbonate, 35. X-ray images of the abdomen and pelvis performed were equivocal suggesting vascular crowding and shallow lung volumes. CT pulmonary angiogram was performed and ruled out pulmonary embolism, however, found to have luminal narrowing of the trachea and bilateral proximal mainstem bronchi with dependent density likely representing aspiration; and total herniation of stomach into the chest along with fat and the tail of the pancreas. Patient was started on pantoprazole (PPI) and recommended to elevate head of bed to 45 degrees. No surgical intervention was necessary as per surgical evaluation, and conservative medical management was recommended. On ambulatory follow up, patient symptoms had significantly improved symptoms.

DISCUSSION

The diagnosis of PEHs can be challenging due to their low incidence and it lack in documentation in literature along with non-specific symptoms that can be easily missed from the initial differential diagnosis. This case was unique due to the rare occurrence of type IV hiatal hernias. Although most patients with type IV hernias are asymptomatic, others have symptoms that range from dysphagia, epigastric discomfort, dyspnea, nausea, vomiting and chest pain, as seen in this case. Some patients may also present with chronic iron deficiency anemia due to Cameron lesions, which are linear erosions of gastric mucosal folds at the location of diaphragm constriction. Due to the wide range of symptoms, diagnosis becomes delayed and complicated due co-morbidities that mimic or overlap in nature. Differential diagnoses for hiatal hernias include, but are not limited to, gastroesophageal reflux disease (GERD), esophagitis, esophageal motility disorder, functional dyspepsia and coronary artery disease (CAD). In extreme cases, the herniated stomach can rotate around its longitudinal axis resulting in an organoaxial volvulus in the intrathoracic cavity. Evaluation with upper endoscopy may visualize portion of the stomach herniating upward through the diaphragm. Barium swallow is the most sensitive diagnostic test but CT or MRI of the chest may reveal retrocardaic air-fluid levels within paraesophageal hernias or other organs within the hernia sac. Surgical repair is indicated in patients with symptomatic paraesophageal hernias but management in asymptomatic patients is controversial. Most experts advocate against surgical intervention as the annual risk of developing symptoms requiring emergency surgery is less than 2% and the mortality rate from elective repair is approximately 1.4%. In patients with gastric volvulus, obstruction, strangulation, uncontrolled bleeding, perforation and respiratory compromise should be evaluated for emergent repair. In our patient, she was started and maintained on PPI's that substantially alleviated her symptoms.

CONCLUSION

Our case is unique in that the pancreas is rarely involved in a Type IV hernia, which more than likely would require surgical intervention, unlike this patient who improved with medical management only. This case also adds to literature about these rarely forming hernias, and their management.

REFERENCES:

1. Kahrilas RJ. Hiatus hernia causes reflux: Fact or Fiction? Gullet 1993; 3(suppl):21
2. Gray SW, Rowe JS Jr, Skandalakis JE. Surgical anatomy of the gastroesophageal junction. Am Surg 1979;45:575, with permission.
3. Skandalakis JE, Gray SW, Rowe JS Jr. Anatomical Complications in General Surgery. New York: McGraw-Hill, 1983, with permission.
4. Townsend: Sabiston Textbook of Surgery, 19th ed.; Chapter 44 - Hiatal Hernia and Gastroesophageal Reflux Disease
5. Wichterman K., Geha A.S., Cahow C.E., Baue A.E. Giant paraesophageal hiatus hernia with intrathoracic stomach and colon: the case for early repair. Surgery. 1979;86(September (3)):497–506.[PubMed]
6. Makris, Marinos C. et al. "Type IV Paraesophageal Hernia as a Cause of Ileus: Report of a Case." International Journal of Surgery Case Reports 6 (2015): 43–45. PMC. Web. 26 Feb. 2018.