PATIENT WITH CONCURRENT PARAESOPHAGEAL AND LEFT DIAPHRAGMATIC HERNIAS

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INTRODUCTION

• A paraesophageal hernia (PEH) is a type of hiatal hernia that occurs in approximately 5% of all hiatal hernias.1
• Risk factors for PEH include conditions that increase intra-abdominal pressure; i.e., chronic cough, chronic constipation, heavy physical labor, etc.1
• Gastric volvulus is a rare complication of PEH where ≥ 50% of the stomach undergoes rotation in the hernia sac.1,2
• Three types of gastric volvulus: organoaxial type, mesoaxial type, and a combination of the two. The organoaxial type is the more common type with the rotation being along the long axis of the stomach.1,2
• Diaphragmatic hernias are not as common in adults as they are in children, as a congenital defect is the cause. In adults, it is termed an acquired diaphragmatic hernia, and is more commonly attributed to blunt or penetrating trauma.3,4
• Also referred to as a traumatic diaphragmatic hernia (TDH) they are often missed in the acute stages in 12-46% of cases3 and can present in later stages with increased morbidity and mortality.4,5
• Classification of phases of TDH:4
  - Acute phase: time of the original trauma to recovery from the incurred injuries
  - Latent phase: time from recovery from initial injury, at which time patients may or may not be symptomatic
  - Obstructive phase: when the herniated viscus becomes incarcerated
• Presentation of TDH varies widely, with symptomatology seen in Figure 1.

DIAGNOSTIC IMAGING

CT scan results:4
• 3 pt on posterior diaphragmatic defect on the left containing the splenic remnant, a tail of the pancreas
• 7 cm paraesophageal defect containing 2/3 of the stomach which had undergone organoaxial volvulus

Based on the results of the CT scan and after further discussion with the patient and his family, surgical intervention was scheduled on a semi-urgent basis.

FIGURE 1. Symptomatology4

TMBI - Most Common Presenting Symptoms

- Gastrointestinal
  - Nausea
  - Vomiting
  - Early satiety
  - Postprandial pain
  - Intestinal (partial) obstructive symptoms
- Pulmonary
  - Shortness of breath at rest or on exertion
  - Decreased Exercise tolerance
- General
  - Chest or abdominal pain/discomfort

PATIENT MANAGEMENT

The patient underwent robotic repair of both paraesophageal and left diaphragmatic hernias with possible splenectomy.

POST-OPERATIVE COURSE

- POD0
  - Patient is alert and in no acute distress
  - Pain is well controlled
  - On a clear liquid diet and receiving IV fluids
  - Chest tube in place in the left chest wall without air leak and connected to suction
  - Utilizing an incentive spirometer
  - On heparin for DVT prophylaxis

- POD0+1
  - Plan to remove the chest tube approved by Surgeon
  - No acute distress after chest tube removal with clear lung sounds, no crepitations
  - CXR in 36h after removal to rule out pneumothorax
  - Soft mechanical diet
  - Pain control and antibiotics
  - Heparins for DVT prophylaxis

- POD2
  - Patient discharged home
  - Discharge medications: acetaminophen 325 mg tablet 3 times a day (975 mg total) po Q8H x 4 days
  - Follow-up with Surgeon in outpatient clinic in 2 weeks for wound check

DISCUSSION

• Initial presentation of both PEH and TDH may be vague, intermittent, and mimic conditions such as GERD and PUD.
• If untreated, PEH may progress to gastric volvulus necessitating emergency surgery and partial or total resection of the stomach.2,3
• Complications of TDH can be life-threatening, resulting in diaphragmatic rupture, acute obstructive symptoms, respiratory failure, gastric or intestinal vascular compromise, and cardiac tamponade.3
• The size of the defect can also prove to be a challenge in diagnosing an acute injury, as a small diaphragmatic tear may not show marked margins of injury on imaging and lack of any herniated contents.3
• When there is a history of trauma, despite the timeframe, one must consider TDH as a potential cause of a patient’s symptoms.2,3

CONCLUSION

• In this case, the patient’s presentation of PEH and TDH were mild, in comparison to the extent of the defects found on imaging.
• In terms of TDH classification, the patient appears to have been in the latent phase, which is an ideal time to perform surgical intervention.
• It is unknown if the two hernias occurred simultaneously due to previous blunt trauma, or if one preceded the other and caused additional weakness in the diaphragm.
• The outcomes of this case were also positive without the need for splenectomy or an increase in mortality.
• Early diagnosis is key in the management of any type of hernia, so that proper treatment can be established, whether it be medically or surgically, and to avoid any potential life-threatening complications.

REFERENCES