Successful Surgical Management of a Perforated Duodenal Ulcer Within an Incarcerated Paraesophageal Hernia

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Introduction

A type IV paraesophageal hernia is a rare category of hiatal hernia characterized by herniation of the stomach and other intra-abdominal organs into the chest. Incarceration can lead to obstruction, bowel ischemia, or rarely perforation. As with any other perforated viscus, a perforated ulcer associated with a paraesophageal hernia is a surgical emergency and is associated with a high mortality rate. We present a case report of an incarcerated paraesophageal hernia containing a duodenal perforation managed with surgery.

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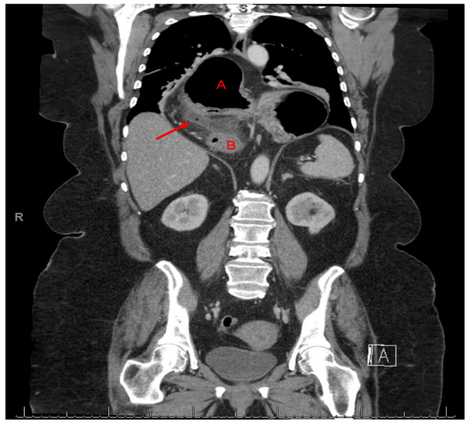
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Case Presentation

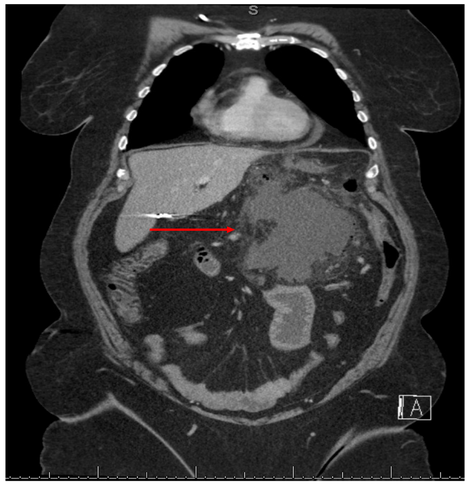
The patient is a 65-year-old female with super morbid obesity (BMI 67) and severe malnutrition (albumin 2.9). She initially presented to the emergency department complaining of shortness of breath and nausea for five days and was found to be in septic shock. A CT scan of the chest and abdomen revealed a large paraesophageal hernia containing the stomach and proximal duodenum with free air and fluid in the chest and abdomen. The patient was taken emergently to the operating room for exploratory laparotomy.

Operative Intervention

Operative findings included a paraesophageal hernia with incarcerated greater omentum, stomach, and proximal duodenum with foul smelling bilious fluid throughout the chest and abdomen. After adequate mobilization, a 3cm perforation in the posterior wall of the first portion of the duodenum was identified immediately distal to the pylorus. A distal gastrectomy with Billroth-II reconstruction and gastropexy were performed.



CT imaging of perforated duodenum within a Type IV paraesophageal hernia. A. Stomach. B. Duodenum. Arrow – free air.



CT imaging of large intra-abdominal abscess (arrow)

Postoperative Course

The patient remained in critical condition throughout the procedure, necessitating vasopressor support. Postoperatively, she recovered well. A water-soluble swallow study was performed on postoperative day 7 which showed no evidence of leak or obstruction. The patient was started on an oral liquid diet and eventually advanced to a soft diet on postoperative day 10. On postoperative day 50, the patient was readmitted to the hospital with a superficial surgical site infection and abscess which was managed with incision and drainage. Subsequently, she was seen in three-month follow up and was doing well.

Conclusion

We report a positive outcome in a rare and dangerous case of an incarcerated paraesophageal hernia associated with duodenal perforation and septic shock.

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