



DOUBLE PEPTIC ULCER PERFORATION: REPORT OF A RARE CASE



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Introduction

Peptic ulcer disease (PUD) affects a large number of people around the world. Complications can occur in 10-20% of PUD patients. Perforation is one of complication where it 2-14% of the cases. Main contributing factor are Helicobacter pylori infection and chronic non-steroidal anti-inflammatory drugs (NSAID) usage. Others risk factor are steroid abuse, post-surgery stress, burns and Zollinger-Ellison syndrome. Mainly perforation is single and occur in pyloric of stomach or in first part of duodenum. Double perforation is a rare occurrence with fewer reported cases. Perforation is one of the most fatal complication of PUD apart from bleeding PUD. There are various surgical interventions that can offered for perforated PUD depends on the cases in order to enhance the recovery. Other contributing factors that affect the outcome are age, comorbid conditions (American Society of Anaesthesiologists, ASA status), and time of surgery. Here we present a rare case of double peptic ulcer perforations in immunocompromised elderly male due to gastrointestinal mucormycosis with prolonged steroid usage.

Case report

Mr. K, a 61-year-old man with a complex medical history including diabetes, hypertension, hyperlipidemia, and long-term steroid use for psoriasis, presented with severe abdominal pain, fever, and loose stools for one week. Upon examination, he appeared tachypneic, septic, and dehydrated, with vital signs showing a respiratory rate of 30 breaths per minute, pulse rate of 112 beats per minute, blood pressure of 110/70 mmHg, and temperature of 37.9 °C. Abdominal examination revealed peritonitis with board-like rigidity. An erect chest x-ray demonstrating free air under the diaphragm. Preoperative blood investigation; TWC 17 -Hb 10.4g/dl- Plt 395, urea 7.2, sodium 133mmol/L, potassium 4.8mmol/L-chloride 97 mmol/L-creatinine 149, VBG ph 7.356/hco3 23.9/ lac 2.6. Prompt resuscitation with fluids and antibiotics (3rd generation cephalosporins and metronidazole) stabilized his condition initially. On the same day, exploratory laparotomy revealed significant intra-abdominal contamination with turbid bile and food contents. Peritoneal lavage exposed two perforations: a large 3cm ulcer in the prepyloric region and a smaller 1cm perforation in the 1st part of duodenum (D1). Given the huge ulcer with double perforations, a distal gastrectomy with Roux-en-Y anastomosis was performed. Postoperatively, the patient initially showed signs of recovery and tolerated feeding well. Intravenous antifungal was given. However, later he developed hospital-acquired pneumonia, leading to multiorgan failure despite benign histopathological (HPE) findings. He succumbed to death on day 19th post operation. HPE of the perforated gastric wall showed extensive neutrophilic and eosinophilic infiltration with transmural necrosis, along with fungal yeast detected by special staining.

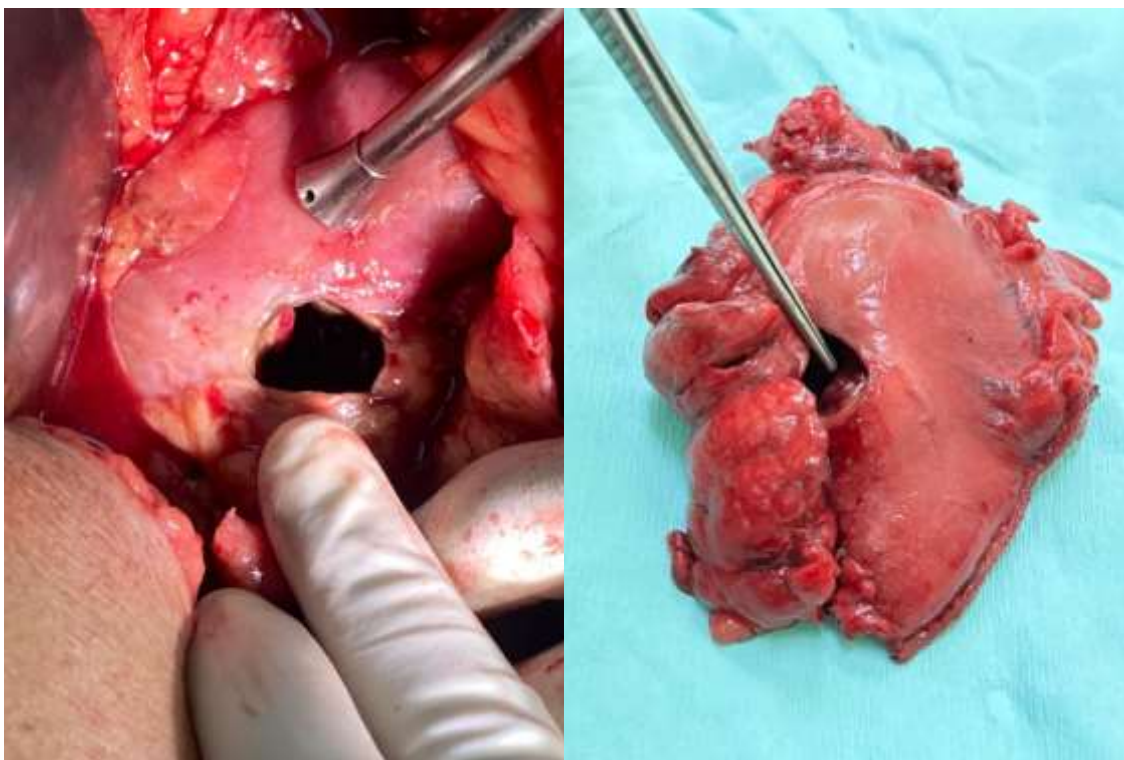


Figure 1 and 2: Gastric perforation.

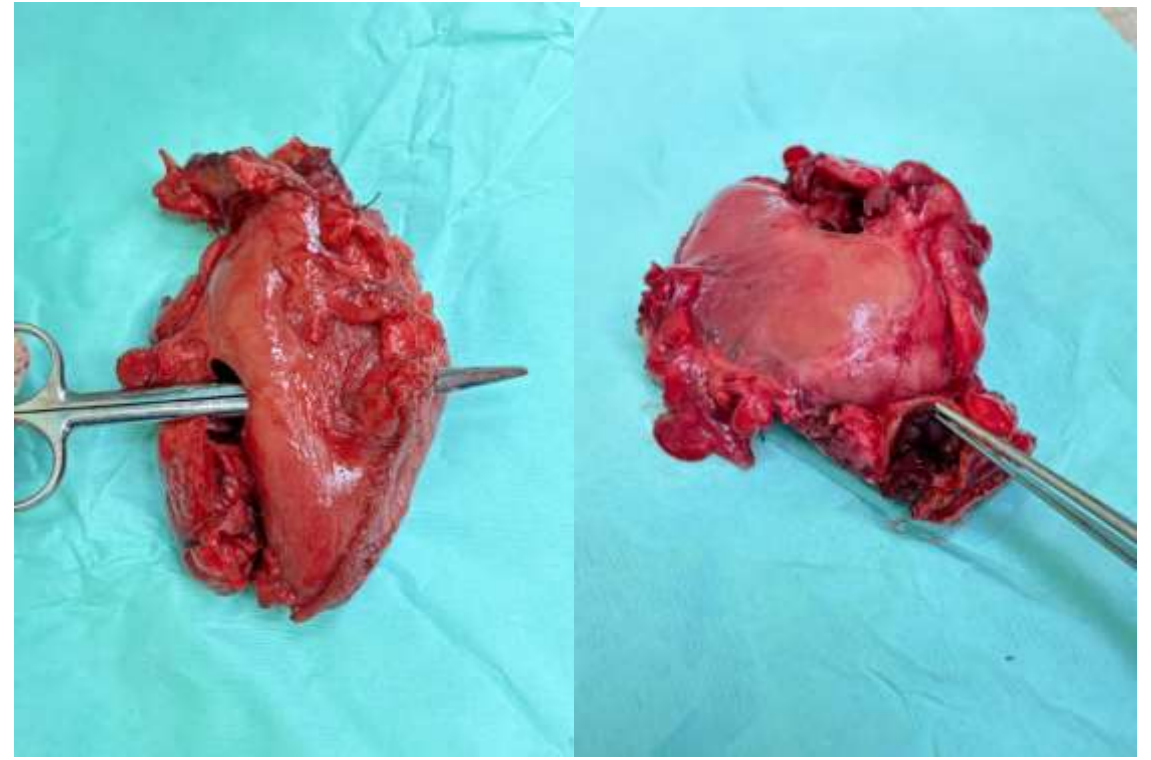


Figure 3 and 4: Gastric and duodenal perforations.

Discussion

Peptic ulcer perforation is a critical condition resulting from acid peptic damage to the gastrointestinal mucosa, commonly affecting the prepyloric region and first part of the duodenum. It poses significant risks that necessitating urgent surgical intervention.

In a recent case, a patient experienced double peptic ulcer perforations complicated by prolonged steroid therapy and gastrointestinal mucormycosis (GIM), a rare fungal infection linked to immunosuppression. Despite successful surgical management for the perforations, the patient's post-operative course was complicated by age, comorbidities, and the effects of prolonged steroid use, ultimately leading to a fatal outcome. Surgical treatment for peptic ulcer perforations varies depending on the severity and number of perforations. Options range from primary repair or omental patching for simple cases to more extensive procedures such as partial gastrectomy with reconstruction for giant or multiple perforations. The Graham patch technique, utilizing omentum to seal the perforation, is commonly employed, while laparoscopic approaches are gaining popularity, though not conclusively superior to open surgery. For multiple perforations, the available data are limited, but successful outcomes have been reported with simple closure and omental patching for smaller perforations. Complex cases may necessitate more extensive surgical techniques, which require careful consideration of the patient's overall health and ability to tolerate major surgery. Post-operatively, acid suppression therapy is crucial to prevent recurrence and complications.

Conclusion

Clinicians should maintain a high suspicion for multiple perforations regardless of the underlying cause. GIM has a very poor prognosis with a mortality rate of 85%. In our experience, surgical principles used for single peptic ulcer perforations apply to cases of multiple perforations. Managing peptic ulcer perforations demands a tailored approach considering underlying causes, extent of perforations, and patient-specific factors like steroid use and immunosuppression. Advances in surgical techniques offer options for effective treatment, but outcomes remain influenced by the complexity of the case and the patient's overall condition.