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A rare case of simultaneous giant gastric and duodenal perforation managed by non-classical method- Mikulicz pyloroplasty

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ABSTRACT

Acid peptic disease (APD) is highly prevalent disease in modern society, with an incidence rate of 5-15%. [1] APD has multiple complications, among them Perforation of the ulcer is the most lethal one, having mortality rate up to 15%. Peptic perforation may be the initial presentation of APD. Perforation of ulcer can be seen in 2-10% of APD patients. [2] Patient's presenting with simultaneous duodenal and giant gastric perforation is rare entity. [4] Most of these cases are dealt by classical surgical approaches. In this case, an unstable chronic liver disease (CLD) patient with portal hypertension (PHT) presented with *giant pyloric perforation* and duodenal perforation simultaneously associated with *H.pylori infection*. Patient was treated with non-classical approach, wherein two perforations were converted into single perforation and closed by *Mikulicz Pyloroplasty (MP)*.

Keywords: Double Peptic Perforations, Giant Perforation, Hemodynamically Unstable, Non classical approach, Mikulicz Pyloroplasty, H. Pylori.

INTRODUCTION

Acid peptic disease (APD) is common entity in modern world with incidence of 5-15%. [1] Patients of APD have various manifestations, common being pain abdomen noticed in 90% of cases. [2] APD can be complicated by bleeding, perforation and obstruction in decreasing order of frequency. Peptic perforation is the most lethal complication of the APD, with the incidence rate 2-10% and mortality of 15%. [2,3]. Less than 10 cases of multiple peptic perforations have been reported till date [4]. Conservative and surgical interventions are considered for the management of peptic perforation.

Case report

A 42 year old male, presented to emergency department, with diffuse pain abdomen severe in nature and also bilious vomiting for 3 days. Patient was alcoholic since 20 years and patient was diagnosed as *CLD with cirrhosis and PHT* from 7 years and on irregular treatment for the same. There was absence to history suggestive of hepatic encephalopathy and also any other significant history in the Past. Patient presented in *shock* with cold peripheries and dehydration. On examination, abdomen was tense, distended, and diffusely tender with guarding and rigidity. Fluid thrill was present and Bowel sounds were absent.

Patient's ultrasound abdomen had features of CLD with cirrhosis, PHT and gross ascites. X ray erect abdomen showed free gas under right hemi diaphragm. Patient had moderate degree of anaemia and deranged liver functions. Patient underwent exploratory laparotomy, on nor adrenaline infusion.

Laparotomy revealed

- Peritoneal fluid with bilious tinge of about 2 litres with minimal flakes in the pelvis.
 - Liver shrunken in size with micro nodular surface.
 - Porto systemic shunting of veins noted around umbilicus and gastric veins.
 - Two perforations noted
- A) A huge perforation of size 6*4 cm on the anterior surface of the pylorus, extending distally up to pyloro-duodenal junction.
- B) A perforation of size 1*1cm on the anterior surface of first part of duodenum, 4cm apart from the first perforation

Minimal inflammation and induration were noted along the borders of both the perforations.

Ideally the above scenario of huge and double perforation needed *gastro jejunostomy or Biliroth II procedure*. Patient had intra operative picture of dilated, prominent veins around stomach due to PHT secondary to cirrhosis of liver. Patient was also on nor adrenaline infusion for shock. In the above condition, a major procedure like Biliroth II, gastrojejunostomy or gastric disconnection would have increased both morbidity and mortality. Just a simple closure or omental patch couldn't have achieved proper closure and could have increased chances of leak and stenosis. After the tissue biopsy, a non-classical approach of converting two perforations into single large perforation by giving incision on healthy tissue between two perforations was done. Single huge (10×6cm) perforation was created and was closed in two layers by MP in transverse axis. The procedure was completed in one hour and twenty minutes with an average of only *50 ml of blood loss*. In post-operative period, patient needed Human albumin transfusion for continuous ascitic fluid drainage from abdominal drain for more than 10 days and rest was uneventful. H.pylori infection was confirmed by serology and biopsy showed nonspecific inflammation (fig. 1) (fig.2).

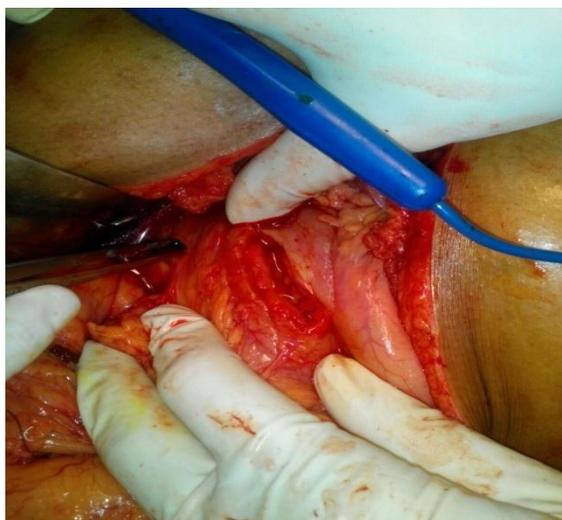


Figure 1: Picture shows two perforation; a huge perforation in the pyloric region and forceps in the small duodenal perforation

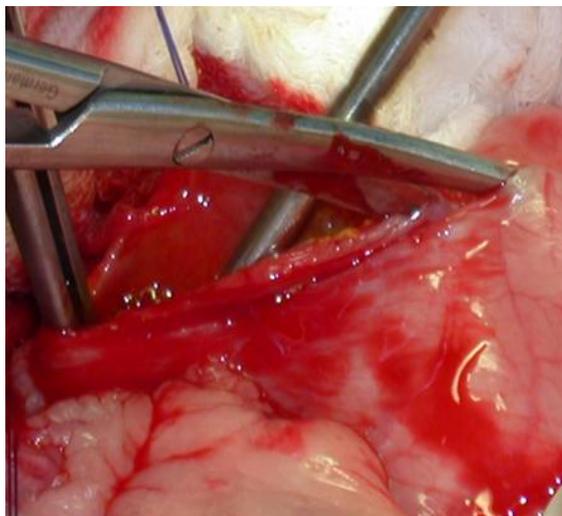


Figure 2: Picture showing the incision given on the healthy tissue to convert two perforations into a single large perforation

DISCUSSION

Perforation of the APD ulcers is the most lethal complication of the APD, which is seen in up to 10% of case.[23] In this case, we are presenting a rare association of simultaneous two peptic perforations, one being giant pyloric perforation (6*4cm) and duodenal perforation of size 1*1cm associated with H.pylori infection. Limited aetiologies associated with multiple perforations are analgesics (NSAID) or steroid abuse, Zollinger–Ellison syndrome, burn, post-surgery stress, tubercular stromal ulcer, or Degos disease.[5,6,7,8,] There are absences of sufficient literatures of H.pylori being associated with multiple perforations and management of giant perforation and multiple perforations together. In cases with giant perforation more than 5 cm, more complex and lengthy procedure like gastro jejunostomy and Biliroth II and jejunal serosal repair would be the ideal treatment. Case with premorbid conditions like Cirrhosis with PHT in shock is not a suitable case for major procedures so patient was deferred of routine

classical repairs and treated with *newer technique of conversion of two perforations into a single perforation and MP* to avoid morbidity and mortality without any surgical complication successfully.

CONCLUSION

Perforation peritonitis is common clinical scenario seen as a complication of Acid Peptic disease. A case of multiple peptic perforations associated with H.pylori infection is rare presentation. A giant perforation are generally managed by Biliroth II , and gastro jejunostomy but in the above case a non-classical and newer approach of conversion of two perforations into single perforation and closure by MP was done, keeping in mind of patient's general health condition. *MP is less time consuming and have less amount of blood loss compared to classical surgeries, and thus this approach would decrease the adverse effect of general anaesthesia and preventing blood loss in shock patients.*

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