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Duodenal ulcer perforation with ileal perforation in the same patient: A case report

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ABSTRACT

There are no documented case reports from our country describing a patient with both a duodenal ulcer perforation and an ileal perforation. Here we present a 60-year-old, alcoholic and smoker, presented with a complaint of abdominal pain for 10 days. On examination, vitals were deranged with tachycardia and hypotension and tense and tender abdomen with absent bowel sounds. The patient was resuscitated and shifted to theatre for exploration with provisional diagnosis of perforated duodenal ulcer. A 5×5 mm perforation on the first part of the duodenum along with a 10×10 mm perforation on antimesenteric surface of ileum that is 100 cm proximal to ileocecal junction was noted. Graham's patch repair was carried out for duodenal perforation, while exteriorization of perforated ileal segment was made for ileal perforation. Multiple perforations of hollow organs can occur in a single patient, which if not identified, could lead to catastrophic events.

Keywords: *Duodenal Ulcer; Ileal Perforation.*

INTRODUCTION

Duodenal ulcer perforation is the most common cause of perforation peritonitis.[1] Among the total cases of perforation peritonitis ,70 % is due to duodenal ulcer perforation as shown in recent studies.[2] *Helicobacter pylori*, smoking and the use of non-steroidal anti-inflammatory drugs (NSAIDs) are the commonest cause of peptic ulcer disease.[3]

Ileal perforation is yet another frequently encountered surgical emergency. The commonest cause includes typhoid fever followed by tubercular perforation, abdominal trauma, intestinal obstruction and other nonspecific ulcers. [4] Isolated multiple perforations are found in the ileum, jejunum, or even in the stomach. But still it is rare for duodenal ulcer perforation and ileal perforation to co-exist in the same patient [5] Here we present one of the rarest cases first reported from Nepal.

CASE

A 60-year-old male presented in the emergency department of Pokhara Academy of Health Sciences, Pokhara, Nepal with diffuse abdominal pain of 10-days duration. The patient noted a sudden onset of severe epigastric pain associated with vomiting and obstipation. He then visited a nearby medical store and was prescribed over the counter proton pump inhibitors and painkillers. He gave a history of regular alcohol intake and smoking (20 pack year) and continued having them despite the symptoms. The patient stated no history of blunt trauma or previous surgeries. On clinical examination, the patient was conscious, agitated and disoriented with vital signs including pulse 145 bpm, blood pressure 90/55 mm Hg, and saturation 99%. The chest examination was unremarkable. The patient's abdomen was distended and tense with signs of peritonitis. Laboratory investigations revealed a white blood count of 22×10^9 and Lactate 36.1 mmol/L. A chest x-ray was conspicuous with likely free gas under the right dome of the diaphragm as shown in Figure 1. The patient was resuscitated with aggressive intravenous fluid therapy and broad-spectrum antibiotics. An exploratory laparotomy was performed and revealed the perforation of size 5×5 mm in first part of duodenum with 10×10 mm perforation in antimesenteric side of ileum approximately 100 cm proximal to ileocecal junction with gross purulent peritoneal contamination as shown in Figures 2 and 3 respectively. Intraoperatively, duodenal perforation was repaired with an omental patch. Ileal segment was exteriorized as double barrel ileostomy as the involved segment was sent for biopsy. The patient was shifted to postoperative care unit. Immediately after the first postoperative day, the stoma was functional and feeding was gradually started along with standard postoperative care. He was discharged on the sixth postoperative day. He has been planned for reversal of stoma after eight weeks. On regular follow-up, he was free of symptoms and in his usual state of health.

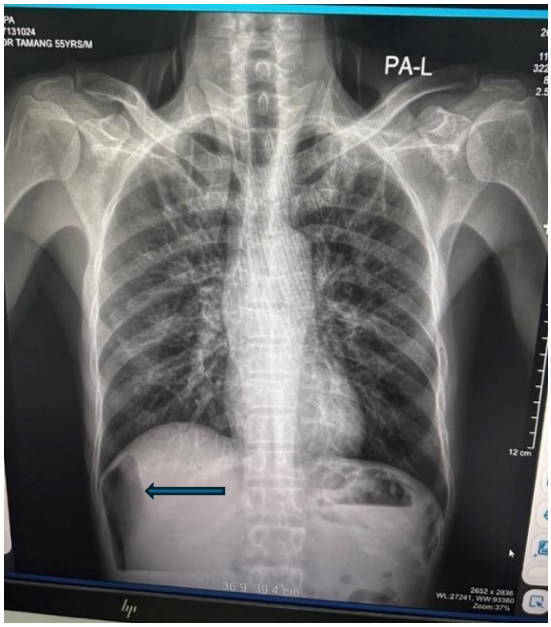

Figure 1: Chest Xray Showing free gas under right hemidiaphragm (Blue arrow)

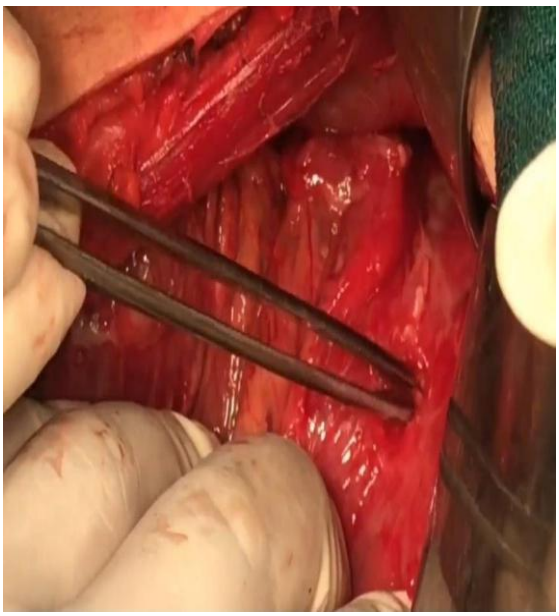

Figure 2: Duodenal ulcer perforation (Forceps inside the perforation)

Figure 3: Ileal perforation with ragged margins (Blue arrow)

DISCUSSION

It is uncommon to find two instances of hollow viscus perforation in one patient. Duodenal ulcer perforation and ileal perforation are among the commonest causes of secondary peritonitis encountered.[1,4] In general surgical practise it is rare to find two pathological lead point in single patient, hence another causes of disease may still

be there and be missed. This rare combination may present diagnostic challenges, as symptoms such as abdominal pain, peritonitis, and sepsis can overlap. Prompt recognition and surgical intervention are crucial to prevent high mortality, which is associated with delayed treatment. [6]

Perforated duodenal ulcers and enteric perforations are prevalent surgical conditions in this subcontinent, primarily affecting socioeconomically disadvantaged groups characterized by poor hygiene practices, regular alcohol intake, chronic smoking, and frequent use of over-the-counter painkillers for daily physical exertion. [7]

A preoperative diagnosis of dual perforation cannot be established based solely on clinical examination, as both perforations present with similar signs and symptoms of peritonitis. Both types of perforations typically show free air under the right hemidiaphragm and an elevated white blood cell count.[8] There are no diagnostic tests available to differentiate between the two types of perforations; as a result, the diagnosis relies entirely on the patient's medical history and a thorough abdominal examination.[9] Furthermore, given the scarcity of literature on this condition, there should be a low threshold for suspecting the presence of both perforations simultaneously.

Preoperatively we made a diagnosis of hollow viscus perforation and laparotomy was performed. Intraoperatively we not only found out duodenal ulcer perforation but also distal ileal perforation. Histopathology report from duodenal biopsy shows active ulcer with *H. pylori* and nonspecific ulceration over the ileum without evidence of *Salmonella typhi*.

Usual treatment of duodenal ulcer perforation is omental patch closure but these also depends upon size of perforation, comorbidities, patient status and may range from patch closure to distal gastrectomy to pyloric exclusion. Treatment of ileal perforation is surgery, but the preferable surgical procedure for the best outcome remains debatable. It may include resection and primary anastomosis to exteriorization of ileum based in pathology, underlying sepsis and bowel condition. [10]

Though we could not find out the exact cause of both perforation we hypothesise that this patient developed a stress ulcer in his duodenum following ileal perforation peritonitis. Another explanation could be due to trauma leading to ileal perforation. Another possible cause may be due to NSAIDs taken for possible abdominal pain for initial ileal perforation which may subsequently worsen the ulcer leading to perforation.

CONCLUSIONS

This case highlights the rare occurrence of both duodenal ulcer perforation and ileal perforation in a single patient. This case also serves as a reminder that multiple gastrointestinal perforations can occur simultaneously and should be considered in differential diagnoses. This is because multiple perforations of hollow organs can occur in a single

patient, which if not identified, could lead to recurrent peritonitis

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CONFLICT OF INTEREST

None

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