

Double Perforation at the Pre-Pyloric Region of Stomach: One of the Rarest Surgical Emergency

Singh VV^{1*}, Perma PK¹, Kala S¹ and Shakya P¹

Department of General Surgery GMC, Haldwani, India

*Corresponding author:

Vaibhav Vishal Singh,
Department of General Surgery GMC, Haldwani,
India, E-mail: vaibhavvsingh5@gmail.com

Received: 02 Oct 2021

Accepted: 16 Oct 2021

Published: 21 Oct 2021

Copyright:

©2021 Singh VV, This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially.

Citation:

Singh VV. Double Perforation at the Pre-Pyloric Region of Stomach: One of the Rarest Surgical Emergency. Clin Surg. 2021; 6(9): 1-3

Keywords:

Double perforation; Prepyloric; H.Pylori; NSAIDS

1. Abstract

A 35yr old male admitted with complains of Pain abdomen with non-passage of stool & flatus for 3-4 days and fever since 2 days. Clinically abdomen was tender with board like rigidity. Blood investigations s/o leucocytosis, raised urea and creatinine, deranged electrolytes, raised amylase & lipase levels, deranged coagulation profile. X ray chest s/o pneumoperitoneum. Decision of emergency laparotomy taken with DOT consent.

As the pt was in septicemicshock, he was started on vasopressor support and was shifted in ICU for preoptimisation.

During the intra operative period, we did not find any other perforation, only two perforations of size 3x2 cm and 2x2cm were present in the pre-pyloric region of anterior surface of stomach. Approx. 3-4 litres of frank pus was drained. After freshening the margins, both the perforation were made to communicate with each other as a single perforation and Modified Graham's Omental Patch repair was done along with placement Feeding Jejunostomy placed 20cm distal to DJ junction with sub hepatic and pelvic drains placement.

Patient underwent B/K amputation rt lower limb after six days of exploratory laprotomy. Post operative period was uneventful and patient was discharged after 23 days of hospitalisation. Gastric perforation is a common surgical emergency and can be secondary to an ulcer, endoscopic procedure, trauma, or surgery for a non-gastroduodenal condition and carries mortality rate 4% to 30% [3]. Ever year peptic ulcer affects 3 million people globally [4, 5]. Complications are encountered in 10-20% of these patients and

2-14% of the ulcers perforate [6]. A perforated peptic ulcer is relatively rare and usually occurs in the anterior part of duodenum [2]. Major causes of peptic ulceration and perforation include Helicobacter Pylori infection and NSAIDs [1].

Double perforation at the pre-pyloric end of stomach is very rare and despite of its rareness, awareness of this surgical emergency is essential, because of its association with high mortality. Early surgery by laparoscopic or open repair and proper sepsis management is essential for good outcome.

2. Case Report

A 35-year male admitted with complaints of pain abdomen associated with non-passage of stool-flatus for the last 3-5 days. Fever since 2 days Pain was insidious in onset, progressively worsened & radiating towards back. Patient was a chronic smoker with indiscriminate use of NSAIDs for lower limb pain for 5-6 months [7-10].

At the time of admission patient had tachypnea, tachycardia (110bpm), in shock (bp 70mmhg systolic), fever of 38.4C with board like rigidity all over abdomen with generalised tenderness along with guarding and rigidity. Occasional bowel sounds were also noted.

A flat plate skiagram of the abdomen demonstrated free gas under both hemidiaphragms. Preoperative investigations demonstrated altered renal function test (serum urea, 66 mg/L; serum creatinine, 2.4 mg/dl) and dyselectrolytemia (serum sodium 131 meq/L, serum potassium, 3.7 meq/L). The patient was stabilized hemodynamically and broad-spectrum antibiotics, usually a combination

of injectable third generation cephalosporin and metronidazole, were administered. After initial resuscitation (placement of intravenous lines and nasogastric tube followed by urinary catheterisation & adequate administration of fluids) patient was started on vasopressor support and patient was shifted for pre optimisation after which the patient underwent an emergency exploratory laparotomy.

On exploration, 3-4L of dirty bilious fluid mixed with pus was drained. There was gross peritoneal contamination with flakes all over the gut and in the subhepatic region. After thorough peritoneal lavage, two gastric perforations were identified in the prepyloric region of ~3x2 cm and another ~2x2cm along the greater curvature (Figure 1). Both of these perforations were repaired with a 2-0 silk interrupted suture with omental patch in between. A 32F abdominal drain was placed in the pelvis and anatomical closure was done in layers.

Xray s/o Pneumoperitoneum with which diagnosis of perforation of hollow viscus was made and then patient was prepared for emergency laparotomy [11].



Figure 1: Intraoperative finding: double perforation are prepyloric region
 clinicsofsurgery.com

3. Discussion

Peptic perforation is the most prevalent surgical emergency. With high mortality and morbidity, peptic perforation is most commonly present in the first part of the duodenum (35–65%), with 25–45% located in the pylorus, and 5–25% in the stomach [1].

The etiological factors responsible for peptic perforation and annual incidence vary depending upon sociodemographic factors. The factors that contribute the most for occurrence of peptic perforation are *Helicobacter pylori* infection and chronic use of NSAIDs [4]. Gastrointestinal perforation in our region generally occurs as a result of chronic inflammation due to *H. pylori*, NSAIDs such as Aspirin, stress, excessive smoking, and consumption of alcohol, coffee, and spicy food. Because these two factors, NSAIDs and *H. pylori*, produce gastroduodenal injury through different mechanisms, they may have additive effects in terms of producing ulcers. This is quite a controversial issue, with conflicting results having been reported as to the presence or absence of such an interaction.

We successfully managed a rare and interesting case of double perforation of the stomach. While studying our case retrospectively we discovered that our patient had been taking analgesics for left lower limb pain for the preceding 3-5months and was a known smoker. Studies have demonstrated the obvious relationship of analgesic abuse, smoking, and peptic perforation

Increased age, delay in operation, and NSAID abuse adversely affect the operative death rate [12]. The best surgical option for these patients is simple closure with omental patch. It is the easiest, quickest, safest operation, and can be applied to all situations by every surgeon; moreover, it can be complemented later with an effective medical treatment that should include eradication of *H. pylori*. obvious to avoid missing the rare but important possibility of multiple peptic perforations.

4. Conclusion

Multiple peptic perforations are rare but could potentially be lethal if missed. One should always keep the possibility of multiple perforations in mind. Analgesic abuse appears to be the underlying cause for multiple perforations. Repair of the perforation with Graham patch with acid suppression therapy with analgesic (NSAID) avoidance is the treatment of choice for multiple peptic perforations. Postoperatively, a proton pump inhibitor with anti-*H. pylori* regimen, especially in tropical countries, should be given to patients with multiple peptic perforations.

References

1. Bulut OB, Rasmussen C, Fischer A. Acute surgical treatment of complicated peptic ulcers with special reference to the elderly. *World J Surg.* 1996; 20: 574-7.
2. Svanes C, Salvesan H, Espehaug B, Søreide O, Svanes K. A multifactorial analysis of factors related to lethality after treatment of perforated gastroduodenal ulcer. *Ann Surg.* 1989; 209: 418-23.

3. Sharma L, Gupta S, Soin AS, Sikora S, Kapoor V. Generalized peritonitis in India—the tropical spectrum *Jpn J Surg.* 1991; 21: 272-7.
4. Hopkins RJ, Girardi LS, Turney EA. Relationship between *Helicobacter pylori* eradication and reduced duodenal and gastric ulcer recurrence: a review. *Gastroenterology.* 1996; 110: 1244-52.
5. Aydinli B, Yilmaz O, Ozturk G, Yildigan MI, Gursan N, Basoglu M. Is perforated marginal ulcer after the surgery of gastroduodenal ulcer associated with inadequate treatment for *Helicobacter pylori* eradication? *Langenbecks Arch Surg.* 2007; 392: 593-9.
6. Kanai M, Kondoh S, Kuriki H, Mukaiyama H, Mori K, Tanno T. A report of an atypical case of Degos' disease with multiple perforations of the stomach and small intestine *Nihon Geka Gakkai Zasshi.* 1988; 89: 1127-31.
7. Grigorov G, Mitov F. A case of double perforation of duodenal ulcer in a young man following cortisone therapy *Khirurgiia (Sofia).* 1968; 21: 511-2.
8. Mynhardt MR. Double duodenal ulcer with perforation following a burn. *S Afr Med J.* 1951; 25: 114-5.
9. Chaudhuri M, Chakravorty SB. Simultaneous multiple peptic perforations. *J Indian Med Assoc.* 1965; 45: 276-7.
10. Rodríguez-Sanjuán JC, Fernández-Santiago R, García RA, Trugeda S, Seco I, de Torre F, et al. Perforated peptic ulcer treated by simple closure and *Helicobacter pylori* eradication. *World J Surg.* 2005; 29: 849-52.
11. Mukerjee Prem, Rajor Ravi. Abdominal tuberculosis. *IJT.* 1979; 26: 62-6.
12. Kim Y, Yokoyama S, Watari J, Hori K, Yamasaki T, Okugawa T, et al. Endoscopic and clinical features of gastric ulcers in Japanese patients with or without *Helicobacter pylori* infection who were using NSAIDs or low-dose aspirin *J Gastroenterol.* 2012; 47: 904-11.