ORIGINAL RESEARCH PAPER

General Surgery

LARGE POSTERIOR PERFORATION OF THE SECOND PART OF DUODENUM: A RAREST OF RARE SURGICAL EMERGENCY

KEY WORDS: posterior duodenal perforation, retroperitoneal abscess

Dr. Ashutosh Mishra* MBBS, JR Gen. surg. GMC Haldwani. *Corresponding Author

Dr. P. K. Verma MBBS, MS, Associate Professor Gen. surg. GMC Haldwani.

Dr. S. R. Kala MBBS, MS, Associate Professor Gen. surg. GMC Haldwani.

Dr. Prateek Shakya MBBS, MS, Assistant Professor Gen. surg. GMC Haldwani.

ABSTRACT

A 50-year-old male admitted with complaints of pain abdomen with non-passage of stool & flatus since last 10 days. Clinically abdomen was tender with board like rigidity and Xray suggestive of Pneumoperitoneum. Blood investigations s/o thrombocytopenia, leucocytosis, raised urea –creatinine and electrolytes, raised Amylase – Lipase levels with raised cardiac markers and Trop T positive. . Decision of emergency laparotomy taken with DOT consent.

We did not find any perforation in anterior surface of stomach – small bowel. Pancreatic Head region found to be necrotic & calcified. Right medial visceral rotation done, perforation of 1x2cm found over posterior wall of 2nd part of duodenum with Retroperitoneal abscess from which 100ml of pus was drained. Primary repair of perforation was done with feeding jejunostomy 25cm distal to DJ flexure. Patient had two episodes of MI intraoperatively and patient expired in the post-operative period. Posterior perforation of second part of duodenum is a very rare condition.

INTRODUCTION

Duodenal 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]

Posterior perforation of duodenum is very rare and despite its rareness, awareness of this surgical emergency is essential, because it is usually associated with high mortality [10], especially if the diagnosis is missed. Early Surgery either by laparoscopic or open repair and proper sepsis management is essential for good outcome.

Here we report a case of large posterior perforation of the second part of duodenum and review of literature.

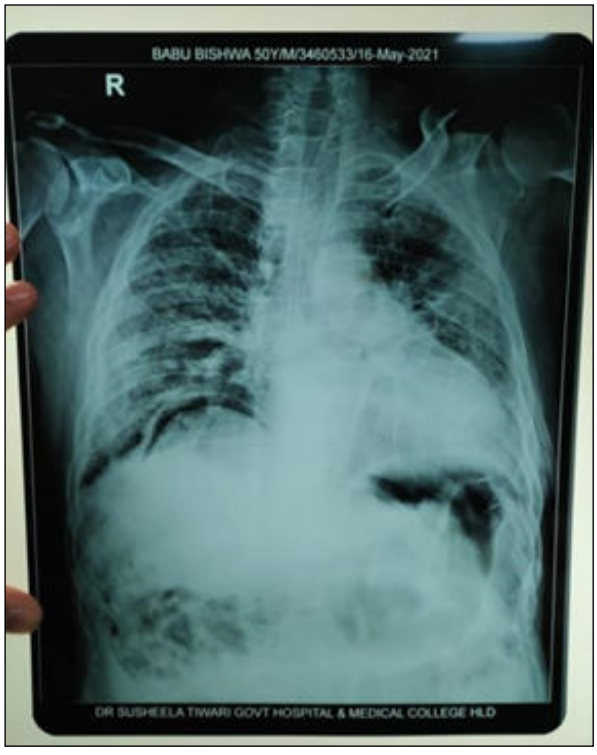
CASE REPORT

A 50 year male admitted with complaints of pain and distension of abdomen associated with non-passage of stool-flatus for the last 10 days. Pain was insidious in onset, progressively worsened & radiating towards back.

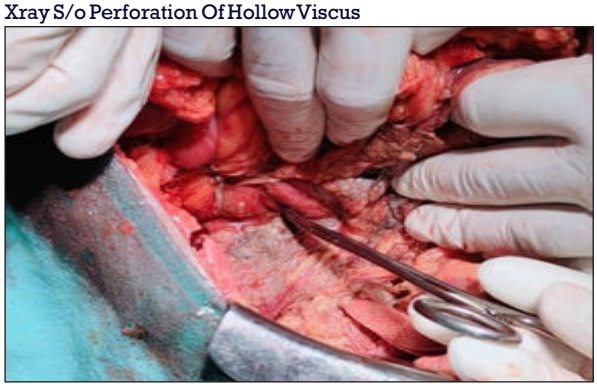
Patient was a chronic smoker with indiscriminate use of NSAIDs for lower back and hip pain for last many years, patient also had history of Atrial Fibrillation for which no medication was taken.

Patient was in shock at the time of admission with board like rigidity all over abdomen with generalised tenderness and rebound tenderness.

Blood investigations s/o thrombocytopenia, leukocytosis and deranged coagulation profile with raised urea-creatinine and electrolytes. Serum amylase lipase was also raised. ECG showing T wave inversion in lead III avF & V1V2V3, CK NAC, CK-MB raised & TropT positive.



Xray S/o Perforation Of Hollow Viscus



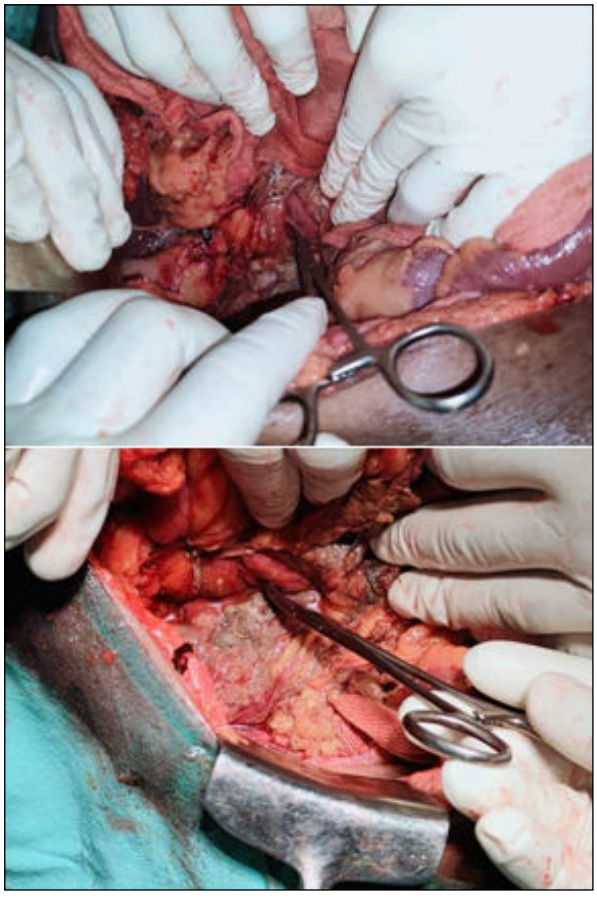


Fig. 2/3/4. Perforation Of Second Part Duodenum Post. Aspect

An emergency laparotomy was therefore performed with DOT consent.

During the laparotomy no perforation was found at anterior surface of stomach-duodenum, the rest of the bowel was normal with no perforation. There was pancreatic head necrosis and calcification. Right medial visceral rotation done to see the posterior surface of second part of duodenum, a perforation of 2x1cm with 100ml of pus collection in retroperitoneal space was found and drained.

Primary repair of perforation done with Feeding jejunostomy 25cm distal to DJ flexure with subhepatic & pelvic drain placement. Patient had 2 episodes of acute MI intraoperatively for which Noradrenaline was given and the patient was put on NTG drip. Patient was shifted in Intensive Care Unit with mechanical ventilation. Patient expired 2 hours later.

DISCUSSION

Posterior perforation of duodenal ulcer that too in the second part of duodenum is the rarest of rare condition.

Wong and colleagues (2016) reviewed 9 patients with posterior perforation from Jan 1990 to June 2016 in which only 1 patient had posterior perforation of the second part of duodenum.[1] Their findings were sealed perforation, localised retroperitoneal abscess and generalised peritoneal contamination of the lesser sac and peritoneal cavity.[2]

The great majority of benign duodenal ulcers lie along the anterior aspect of duodenum, however 12% of ulcer lie in the posterior wall of duodenum.[7] Clinical presentation of posterior duodenal perforation is less dramatic than that of anterior perforation & is characterized by late presentation[11] and because of this late presentation & misdiagnosis at laparotomy posterior perforation is usually associated with high mortality.[2] These ulcers penetrate into retroperitoneal space[9] which results in either retroperitoneal abscess formation or the perforation will be sealed off by local inflammatory reactions and fibrosis of the surrounding adherent retroperitoneal tissue.[8]CECT is the most sensitive investigation for detection of duodenal perforation.[2]

CONCLUSIONS

Posterior perforation of second part of duodenum is rarest of rare condition with high mortality and should be suspected when there is collection of pus or gastric content intraperitoneally with no perforation in the whole gastrointestinal tract on exploration of the abdomen. Delayed diagnosis is due to insidious onset of symptoms and misdiagnosis at laparotomy are contributing factors. Posterior perforation if delayed are associated with peritonitis, sepsis and multi organ failure. CT scanning plays an important role in the diagnosis of the site of the perforated peptic ulcer.

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