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RESEARCH ARTICLE

"A CASE SERIES OF 5 RARE ABDOMINAL EMERGENCIES"

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Abstract

Gastrointestinal perforation is a common cause of acute abdomen due to peritonitis. The etiology and pathophysiology of gastrointestinal perforations is varied and can range from a small prepyloric perforation that is relatively clean to transection of small or large bowel with spillage of contents in peritoneum with gross contamination. Some of these are more common than others. Here we present 6 cases of rare perforations presenting to us in the casualty, their management and postoperative course in hospital.

Methods: We will be assessing the cases of patients, their history, clinical presentation, radiological imaging who presented with acute abdomen secondary to bowel perforation and were intraoperatively diagnosed to have a rare pathology and assess the management and postoperative outcomes.

Results: In this case series, 5 rare cases of GI perforations are highlighted including rare cases of posterior gastric perforation, DJ transection, jejunal transection, jejunal perforation, large mesenteric tear and sigmoid colon perforation. All these cases required a different approach in managing intraoperatively.

Conclusion: Gastrointestinal perforation is a common cause of acute abdomen and requires emergency surgical intervention. CT imaging has become a fundamental part of the preoperative evaluation and can determine site and cause of perforation.Gastrointestinal tract perforations can occur due to various causes, and most of these perforations are emergency conditions that require early recognition and timely surgical treatment; the mainstay of treatment for bowel perforation is surgery. Atypical presentation of perforation can be a challenge to surgeons andshould be prepared to deal with it.

Introduction:-

One of the common causes of acute abdomen that need urgent surgical intervention is GI perforation.

Bowel perforation has been reported to have high mortality between 16.9% and 19.6%, emphasizing the importance of making an accurate and timely diagnosis [1].

Intestinal perforation, defined as a loss of continuity of the bowel wall, is a potentially devastating complication that may result from a variety of disease processes.

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Trauma, instrumentation, inflammation, infection, malignancy, ischemia, and obstruction are common causes of bowel perforation. Early recognition and prompt treatment are critical to prevent the morbidity and potential mortality of peritonitis and its systemic sequelae that result from the spillage of intestinal contents.

A thorough history and physical examination, along with the aid of adjunctive investigations, can help establish the diagnosis promptly and better direct therapy

Mechanical injury to the wall of a hollow viscus can be caused by penetrating or blunt trauma to the abdomen, or iatrogenic injury from instrumentation, for example, endoscopy. [2][3][4].

The common causes of a perforated viscus vary by patient age and geography. For instance, the most common cause in premature infants is necrotizing enterocolitis; whereas in children and teenagers, appendicitis is a more common etiology. In adults, there are numerous causes without a particular gender predilection.

There are various common causes of abdominal pathology which cause perforations.
Here we present a case series of 5 uncommon bowel pathologies.

Case 1
14/M was brought to MGM casualty with a/h/o runover by bullock cart over abdomen. No head, chest or long bone injury.

On Presentation, patient had tachycardia and metabolic acidosis

On Per-abdomen examination: Generalised guarding and rigidity +. Marks of bullock cart + over abdomen

USG fast was done which was s/o Mild free fluid in abdomen, No solid organ injury.

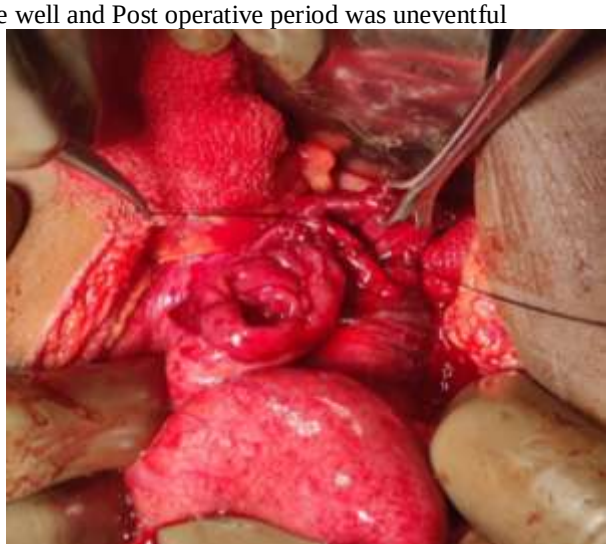
Patient was stabilised and was taken for emergency laparotomy.

Intraoperatively:
Transection of DJ flexure noted with approximately 500ml of fluid in peritoneal cavity.

Ryles tube insertion upto duodenum and feeding jejunostomy was done with anastomosis of transected loop was planned. Incidentally ascaris was found in the jejunum.

Thus Anastomosis of Transected loop with feeding Jejunostomy was done.

Patient tolerated the procedure well and Post operative period was uneventful



Complete transection of DJ Flexure

Case 2
A 35/M patient was brought to Casualty with a/h/o RTA (steering wheel injury) sustaining blunt abdominal trauma with right lower limb injury.

O/E: Patient was hemodynamically unstable. P/A: Distended with generalised tenderness and guarding. No rigidity.

Patient was stabilised and necessary investigations done.

USG FAST:
Moderate hemoperitoneum with grade 3 splenic laceration with subcapsular hematoma.

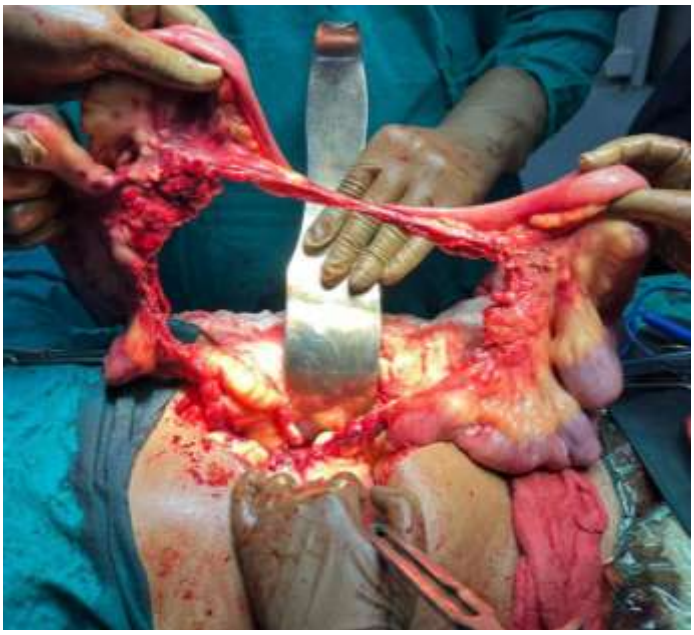
Patient was taken for emergency exploratory laparotomy.

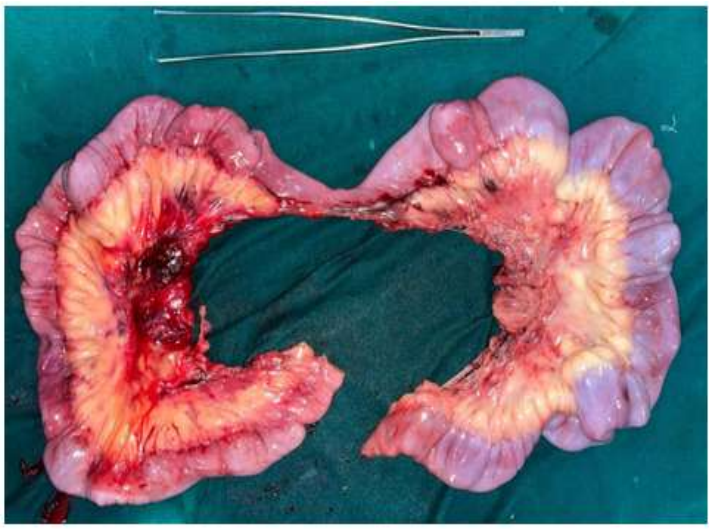
Intraoperatively:
1000ml of blood was present in peritoneal cavity with grade 3 splenic injury and 2 feet long mesenteric tear noted in distal ileum.

Thus, splenectomy with resection and anastomosis was done with proximal ileostomy.

Postoperatively the patient recovered over a period of six weeks and was taken up for ileostomy closure.

Patients postoperative period was uneventful and discharged on PoD10 of ileostomy closure.





Case 3
A 40/F was referred from outside hospital with complaints of pain in abdomen since 2 days and multiple episodes of bilious vomiting since 2 days.

O/E: P-134/min, BP-140/90mmHg, SpO2-98%on RA

P/A: Generalised tenderness present with guarding and rigidity. Bowel sounds absent. Scar+ of previous lower midline incision, ?emergency hysterectomy.

Outside USG s/o prominent fluid filled small bowel loops, omental thickening, free intraperitoneal echogenic fluid. Xray abdomen erect showed Gas under diaphragm.

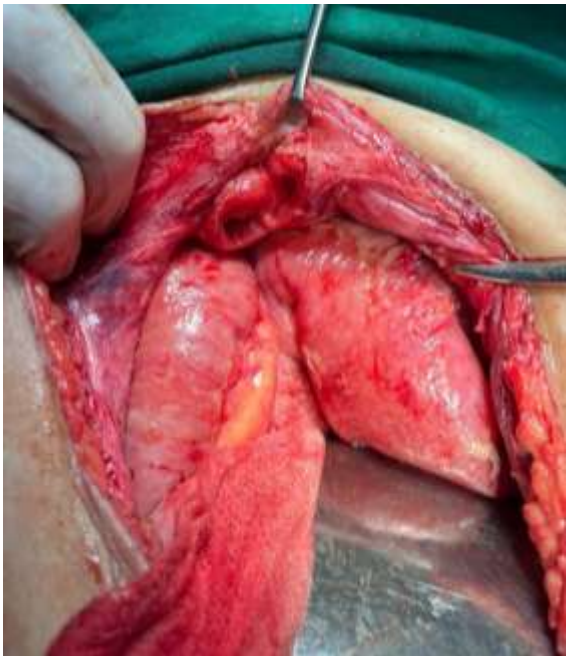
Patient was stabilised and was taken for emergency exploratory laparotomy.

Intraoperatively:
Free fluid of approximately 500ml noted. Multiple adhesions seen in distal ileum with adhesions to anterior abdominal wall at the site of previous scar. Impending ileal transection noted approximately 4 feet from IC junction.

Thus double barrel ileostomy was done of the partially transected ileal segment with thorough peritoneal lavage.

Patient tolerated the procedure well and was regularly followed up.

Ileostomy closure was done after 6 months after improving the nutritional status of the patient.



Case 4

64 Year gentleman presented to casualty with c/o Epigastric Pain since 2 days which was insidious in onset, gradually progressive a/w multiple episodes of vomiting. H/o 1 episode of fever spike. Past H/o NSAIDs consumption for 1 Year for Severe Backache. No known Comorbidities.

On examination, patient was febrile and had tachycardia. On per abdomen examination, Abdomen was tense, generalized tenderness present with Guarding and Rigidity.

Immediate resuscitative measures were taken, X-Ray Abdomen erect done which showed Gas under Diaphragm, Ultrasound Abdomen showed free fluid in Perihepatic and Perispleenic region.

Patient was taken for Emergency Exploratory Laparotomy.

Intraoperatively

Pus with free fluid seen over the Stomach and Transverse colon which was sent for culture. Stomach and small bowel was searched for perforation.1x1 cm perforation seen over posterior aspect of body of stomach. Edges sent for histopathological examination. Primary repair with grahams omental patch done.

Patient tolerated the procedure well and post-operative period was uneventful.

Case 5
35/M was brought to ER with a/h/o RTA (steering wheel injury) sustaining blunt abdominal trauma
O/E patient had P-120/min, BP-130/90mmHg, SpO2 – 98% on RA.

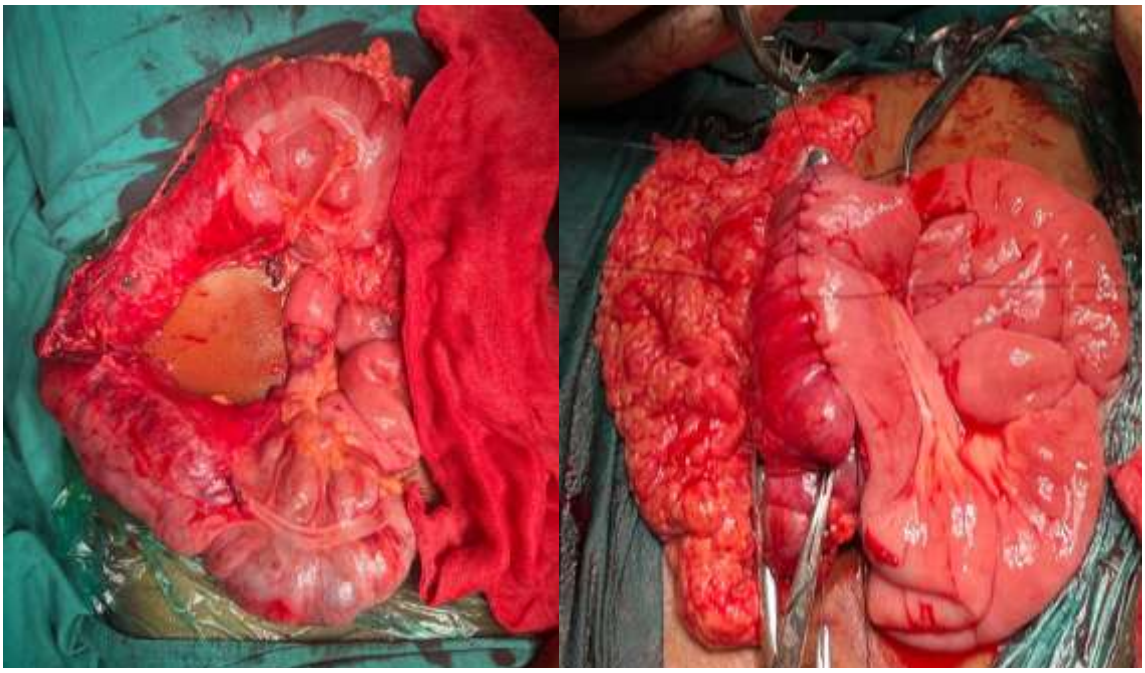
P/A:
Tenderness present in right hypochondriac and lumbar region with no guarding or rigidity.

USG FAST:
s/o mild free fluid in abdomen.

Patient was initially conservatively managed but developed signs of localised peritonitis in right hypochondriac region.

Patient was taken for exploratory laparotomy

Intraoperative findings:
Blood approximately 300ml with blood clots in right paracolic gutter with trauma to mesentery of ascending colon with compromised vascularity with pre-gangrenous bowel changes was noted.
Right hemicolectomy with ileo-colic side to side anastomosis was done.



Post Operatively, Gastrograffin study done which showed no leak and patency of anastomosis.

Patients post-operative period was uneventful and discharged on POD12 after suture removal.

Discussion:-

As discussed previously, 4 main causes (ischemia, infection, erosion, physical) can lead to bowel injury, A thorough understanding is necessary for evaluation and management of gastrointestinal emergencies.

Bowel injury results from insult or injury to the mucosa of the bowel wall resulting from a violation of the closed system. In bowel obstruction, there is distention of bowel that causes ischemia and necrosis which leads to perforation. This exposes the structures within the peritoneal cavity to gastrointestinal contents.

Bowel injury can be secondary to many factors. Patients presenting with abdominal pain and distension, especially in the appropriate historical setting, must be evaluated for this entity as delayed diagnosis can be life-threatening due to the risk of developing infections such as peritonitis. Patients with prior history of surgery are prone to get adhesions and obstruction. Other causes like hernia with strangulation also lead to obstruction and perforation. The most common infectious cause for perforation is appendicitis causing perforated appendix; typhoid and tuberculosis are other infective causes[6]. Peptic ulcer disease is a common cause for prepyloric perforation but more common in anterior wall while posterior gastric perforation are rare in peptic ulcer disease and more common in neoplastic growth.[7][8]

Management includes stabilizing the patient and taking up for surgery. Even appropriately managed, bowel perforation can lead to increased morbidity and mortality from post-repair complications such as adhesions and fistula formation.[9]

Here we presented a case series of uncommonly seen perforations and injury and their management for which every surgeon should be prepared to handle.

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