Case Report: Management of Iatrogenic Colon Perforation

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Background:

- Increase in colorectal cancer screening as well as therapeutic endoscopy has resulted in increase number of associated complications: primarily bleeding and perforation [2,4,5,6]
  - Diagnostic Colonoscopy Perforation Risk: 0.039%-0.9%[5]
  - Therapeutic Colonoscopy Perforation Risk: 0.15-2%[5]
- Leakage of bowel contents into peritoneal cavity can lead to sepsis with morbidities up to 40% and Mortality up to 25%[5]
- Level of bowel preparation, time of detection, white blood cell count, clinical presentation, and size of injury are important factors in determining course of management [5]
- Interventions include [1]:
  - Endoscopic clipping
  - Observation with IV antibiotics and bowel rest
  - Suture repair vs Bowel Resection & Anastomosis
  - Diversion

Case:

- 66 year old female with PMHx of hypertension, gastroesophageal reflux disease, and PSHx of open cholecystectomy and three prior c-sections.
- Referred to ED by Gastroenterologist after having visualized underside of liver during routine colonoscopy.
  - Afebrile, HR 60, BP 93/56, RR 17, 99%O2 on Room Air
  - Abdominal Pain, distended Abdomen, diffuse tenderness
  - Lactate 2.0, WBC 7.79
  - CXR showed left basilar opacity with free air under bilateral hemidiaphragms
- Patient underwent emergent diagnostic laparoscopy with extensive lysis of adhesions, perforation of the hepatic flexure identified and closed with multiple figure-of-eight 3-0 silk sutures. Intraoperative colonoscopy revealed no other enterotomies and intact repair with negative leak test
- Postoperatively patient was maintained on cefepime and metronidazole, diet was advanced from clear liquid diet to full liquid diet as tolerated, patient was discharged Post-Operatively day 4 on metronidazole and levofloxacin.

Conclusions:

- Time of detection is first step in determining management: Immediate vs. Early vs. Late [1]
- Endoscopic clipping for defects less than 2 cm during colonoscopy is most immediate solution [1]
- Patient presenting with peritonitis or poor bowel prep warrants surgical intervention [1]
  - Defects less than 2cm are best managed with suture repair
  - Defects greater than 2cm are best managed with bowel resection and anastomosis
  - Feculent peritonitis for defects greater than 2cm are best managed with washout and some form of diversion: suture repair & diversion, bowel resection with anastomosis & diversion, or diversion at perforation site
- Late detection without peritonitis or sepsis can be managed with bowel rest and IV antibiotics [1]

Figures:

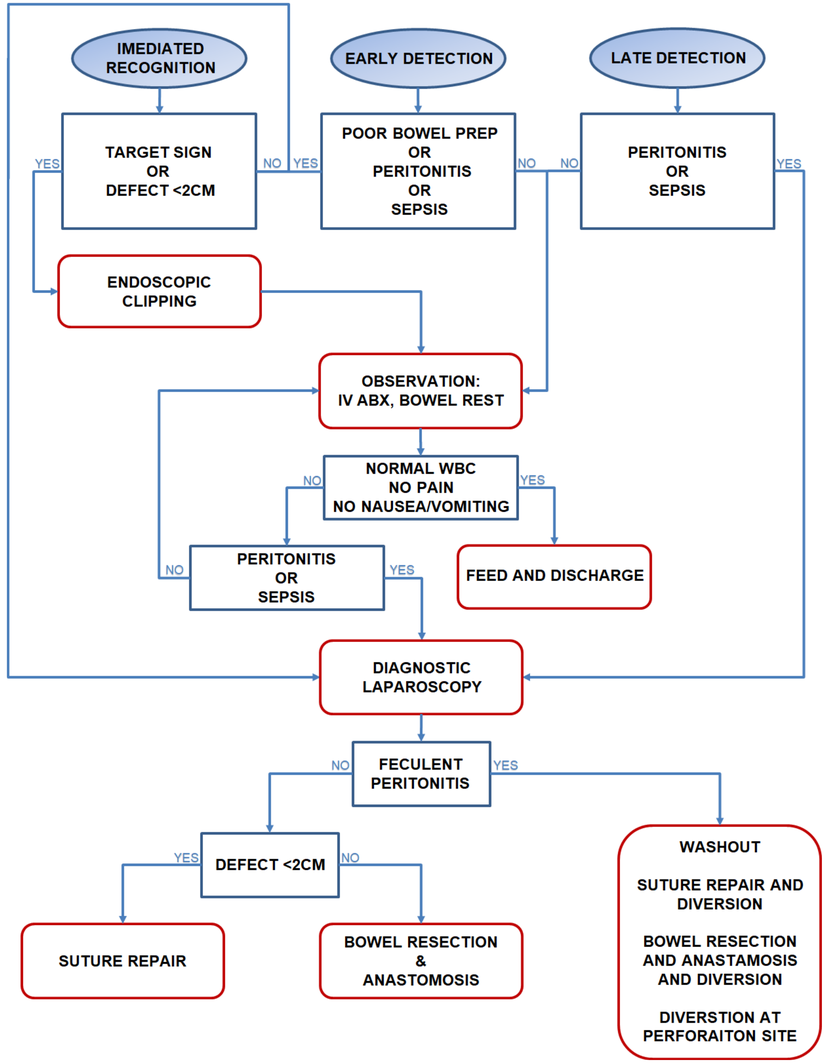


Figure 1: Algorithm for management of colonic perforation [1]

Imaging:

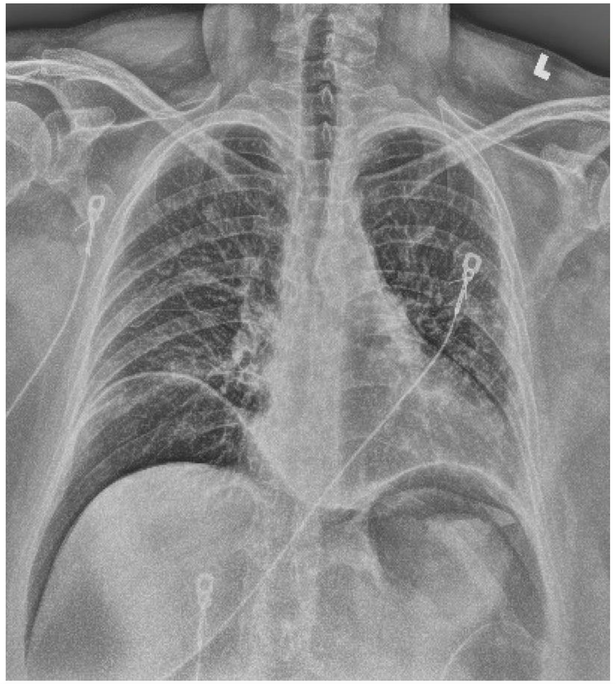


Image A: CXR with abdominal free air under bilateral hemidiaphragms

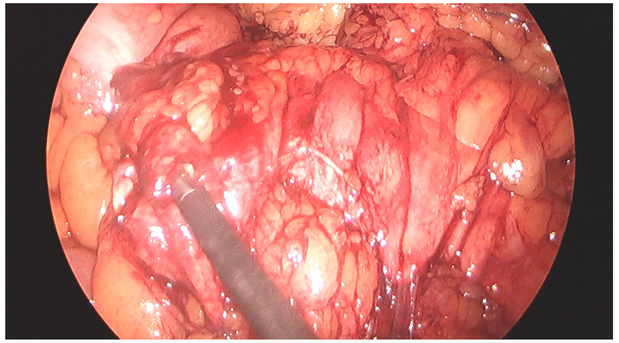


Image B: Perforation at hepatic flexure denoted by instrument

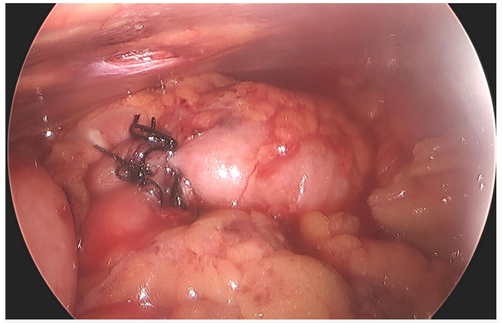


Image C: Suture repair with multiple figure-of-eight 3-0 silk sutures

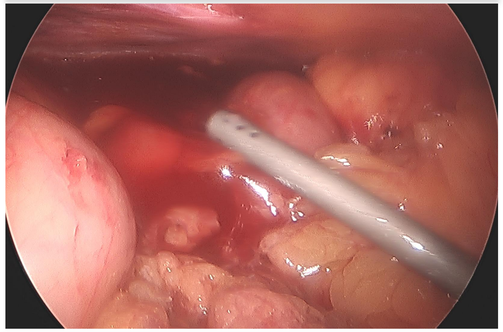


Image D: Negative leak test with air insufflation, no bubbles appreciated

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