

Emergency laparoscopic low anterior resection due to sigmoidal colon trauma secondary to high-pressurized compressed air: Case Report

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Background & Rationale

Colonic barotrauma: rare, high morbidity/mortality if delayed

Industrial compressed air accidents implicated in multiple case series (Mansab et al., El-Ashaal et al.)

Case Presentation – History & Exam

30-year-old male, allegedly accidental transanal insufflation with high-pressure air ~2 h before presentation

Symptoms: sudden severe abdominal pain, distension, minimal tachypnea

Physical: diffuse peritoneal signs, distention, normal rectal exam (no injury)



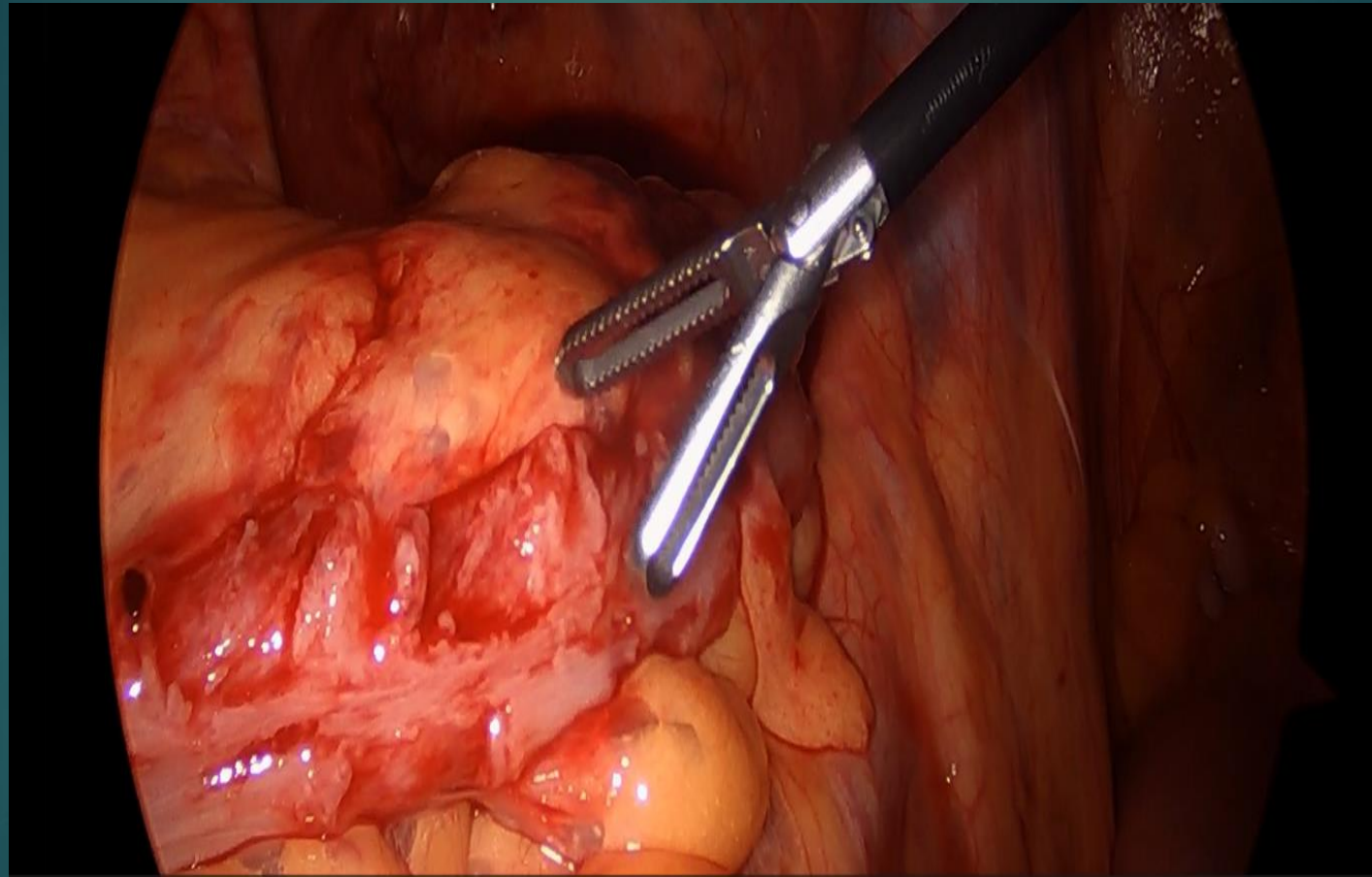
Imaging & Diagnostic Work-up

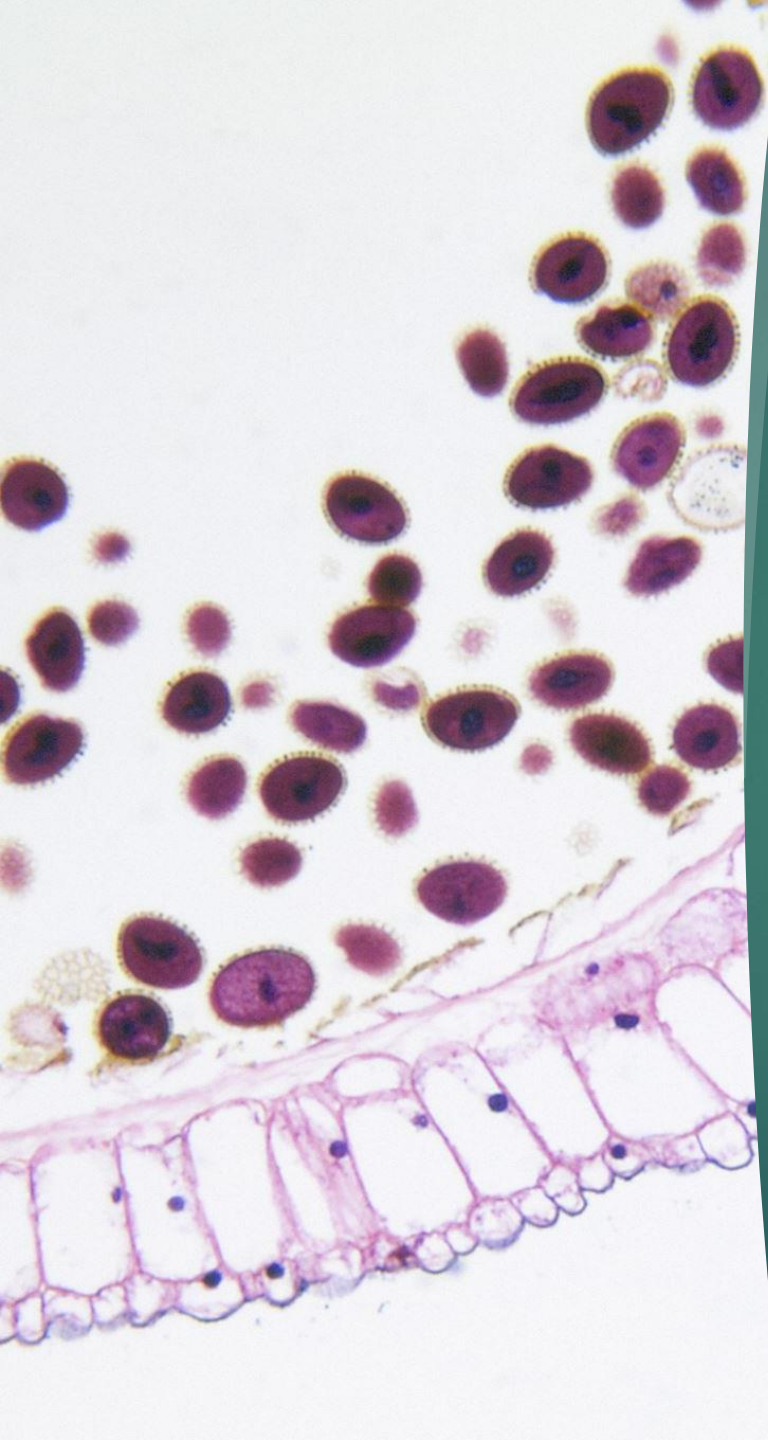
- ▶ Chest X-ray: no thoracic injury
- ▶ Abdominal X-ray: pneumoperitoneum
- ▶ Urgent CT: generalized free air, no solid organ injury
- ▶ Decision: Emergency diagnostic laparoscopy



Intraoperative Findings

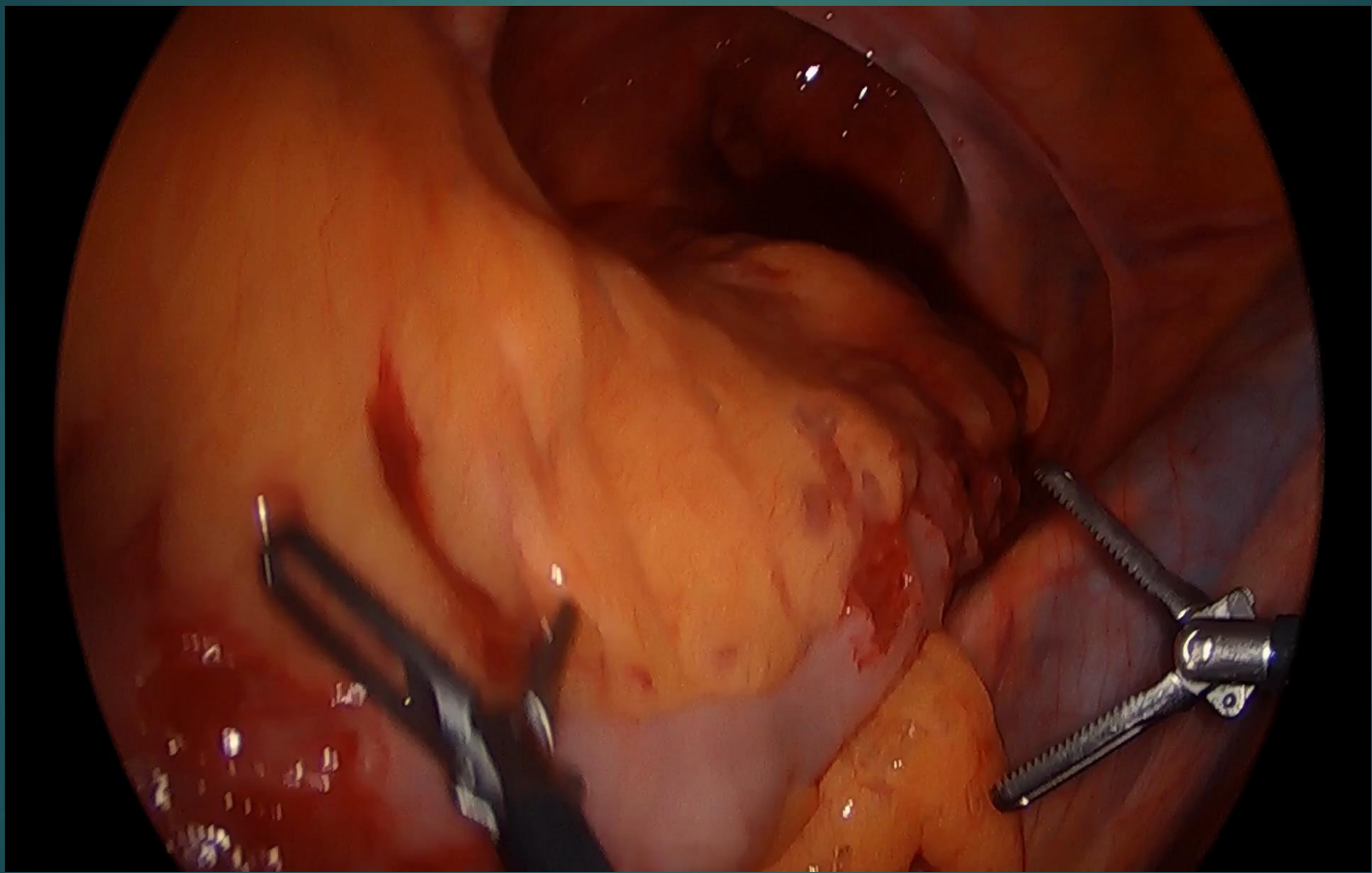
- ▶ Laparoscopy: serous defects (1–3 cm) at upper rectum/sigmoid in 15 areas, no gross perforation
- ▶ Anoscopy: no mucosal tears, laseration, hemorrhage
- ▶ Identification of a 1 cm full-thickness perforation upon specimen air-leak test

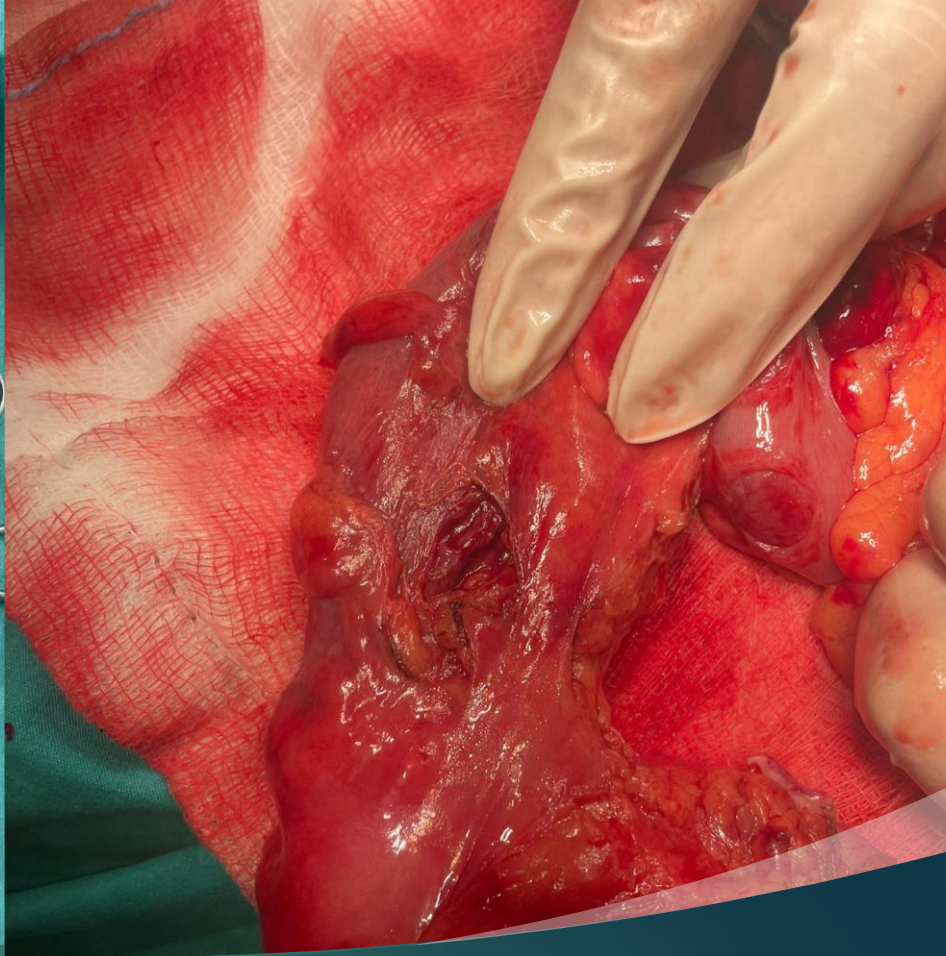
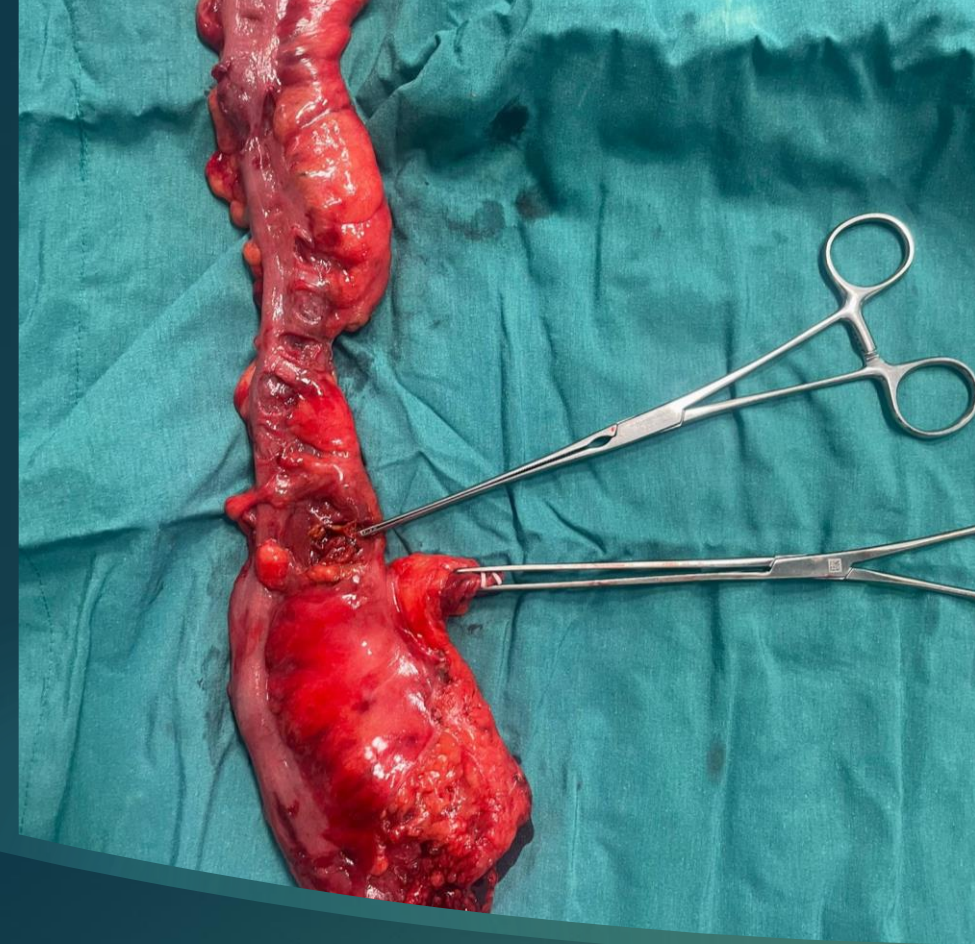




Surgical Technique

- ▶ Low anterior resection under laparoscopy: due to upper rectum wall injury
- ▶ Mobilization of sigmoid and rectum
- ▶ Resection margins selected proximal to defects
- ▶ Colorectal anastomosis performed laparoscopically





Postoperative Course

- ▶ Post-operative 2nd day oral intake
- ▶ Uneventful recovery, discharged day 5
- ▶ No leaks on postoperative contrast study

Discussion

- ▶ Mechanism: high pressure → preferential sigmoid-descending curvature injury
- ▶ Literature: 4 / 10 000 colonoscopies perforate; barotrauma from compressed air often underreported
- ▶ Treatment: early laparoscopic resection & primary anastomosis safe in hemodynamically stable patients

Key Take-Home Points

- ▶ High index of suspicion after compressed air accidents
- ▶ Prompt imaging & laparoscopy minimize morbidity
- ▶ Laparoscopic resection + anastomosis feasible in select cases

Acknowledgments & Questions

- ▶ Thanks to ESCRS committee, OR team, patient consent
- ▶ Open for questions and discussion