Acute Colonic Pseudo-Obstruction (ACPO) – A Complicated Recovery

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Introduction

- ACPO, also known as Ogilvie Syndrome, is a rare clinical condition characterized by significant dilation of the large bowel in the absence of a mechanical obstruction
- The pathophysiology is speculated to be an excess of SNS activity over PSNS activity, resulting in a non-functional, acutely dilated section of large bowel
- The diagnosis is often missed due to low prevalence, nonspecific & insidious presentation, and presentation among a backdrop of other comorbidities that obscure clinical signs
- If intreated, the increased colonic pressure can cause bowel ischemia, which may result in perforation and subsequent fecal peritonitis

Methods

- We present a case of ACPO in a burn patient complicated by decompression failure, sepsis, and bowel peritonitis, resulting in extensive colon wall damage
- Data and information were collected via chart review of EMR from the initial ER visit, the intrahospital course, and post-operative care

Case Presentation

- A 53 year old Caucasian male with past medical history of diabetes II and BMI of 40 presented following an oilfield pipeline explosion, sustaining 6.5% total body surface area (TBSA) 2nd degree burns and 30% TBSA 3rd degree burns
- The patient was placed on senna and docusate to induce a bowel movement, with only one successful bowel movement on post-injury day (PID) 5

Results

- **PID 4-5**: abdominal KUBs incidentally noted dilated colonic loops
- **PID 7**: abdominal distention first reported by patient
- **PID 9**: 2 mg neostigmine given due to concern for development of ACPO
- **PID 10**: cecal diameter on two KUBs at 7.23 and 8.45 cm (critical point ~ 9 cm)
- **PID 12**: cecal diameter on KUB 13.9 cm, with dilation extending to splenic flexure
- **PID 13**: patient spiked a 106.6 F fever and developed respiratory distress and an acute increase in abdominal distension → a 28 F Malecot drain was placed in the OR to decompress the large bowel; abdomen was left open with ABTHERA™ Open Abdomen Dressing device
- **PID 24**: patient develops sepsis and peritonitis → examination in the OR demonstrated erosion of tissue around Malecot drain, resulting in fecal leakage into the peritoneum
  - As the tissue was too inflamed and friable to secure the drain, a right hemicolectomy was performed with creation of end ileostomy 2 days later
- **PID 32**: ABRA Adhesive DTS device applied to facilitate abdominal closure
- **PID 53**: abdominal closure achieved
- **PID: 70**: patient discharge



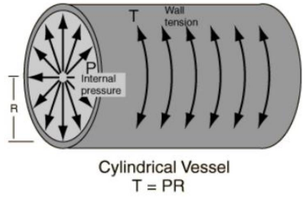


Figure 1 (left): Upright KUB demonstrating dilated loops of colon to the splenic flexure
Figure 2 (right): The cecum, being the thinnest and widest portion of the colon, is the most likely area to perforate under increased pressure via Laplace's Law, illustrated here in schematic form

Management – non-burn patient

- Medical management: correction of electrolyte & fluid abnormalities, NGT suction, discontinue laxatives, anticholinergics, and opiates
- Daily KUBs to assess cecal diameter
- Neostigmine if no improvement, > 3 days distension, and/or > 12 cm cecal dilation
- Colonoscopy decompression
- Surgery (ileostomy with (hemi)colectomy, etc.)

Management – burn patient

- ACPO relapse is common in burn patients due to:
  1) pathological stress (pneumonia, UTIs) predisposing to colonic ileus
  2) delayed diagnosis and surgical therapy,
  3) prolonged recovery from thermal injury
- Repetitive distension further increases risk of bowel perforation during clinical course
- In burn patients, early aggressive therapy is often required to fully resolve ACPO without the risk of recurrence, with surgical intervention often the only definitive cure

Conclusions

- ACPO is a rare but serious complication of burn injury
- Bowel perforation and peritonitis is associated with high mortality, and greatly complicates recovery if the patient survives
- In a burn patient with ACPO, neostigmine alone may be inadequate, and often requires early surgical intervention for reliable definitive decompression