Mechanical Bowel Obstruction vs. Ileus

Additional Information
Terminology and Classification

**Mechanical Obstruction:** GI contents cannot pass because lumen is blocked

**Functional or Neurogenic Obstruction:** GI contents cannot pass secondary to abnormal or absent peristalsis; often called ileus in reference to small bowel, and pseudoobstruction or Ogilvie’s when referring to large bowel
Terminology cont....

Complete obstruction (SBO): lumen totally occluded
Partial or Incomplete obstruction (PSBO): lumen is partially occluded, but permits some passage of fluid and air

Ischemic bowel: blood flow to the obstructed segment is compromised, which can quickly progress to ischemia and subsequent tissue necrosis and perforation
Ileus: Functional Small Bowel Obstruction

- Inhibition of gastrointestinal motor function
- Physical exam: abdominal distension and absence of bowel sounds
- Findings on radiographic imaging include: dilated large and small bowel and distal/rectal air
- Resolution of ileus is signaled clinically by return of bowel sounds, passage of flatus, and bowel movements
Ileus cont…

● Possible etiologies:
  ○ Often occurs after laparotomy or laparoscopic abdominal exploration, especially when bowel has been resected
  ○ Inflammation
  ○ Anticholinergic medications, opioids/narcotics, and inhaled anesthetics
  ○ Electrolyte disturbances ($K^+$, $Mg^{2+}$, $Ca^{2+}$)

● Postulated that the incidence of ileus is decreased with laparoscopic procedures
Ileus Management

- Traditionally:
  - minimize opioid analgesia,
  - nasogastric decompression until flatus returns,
  - IV hydration with slow advancement of diet

- Evidence has failed to show clinical benefit of nasogastric tubes, and some studies link NG tubes with increased post-op complications*

- Approach to post-op feeding also challenged, as earlier feeding results in shortened hospital stays*

- Epidural rather than systemic analgesia

Ogilvie Syndrome: Colonic Pseudobstruction

- A paralytic ileus of the large bowel only
- Presents as rapidly progressive abdominal distention, often without associated pain
- Plain films reveal colonic distension
- If colon is massively dilated (>13-15cm), blood flow can become compromised, leading to ischemia and possible perforation
- Perforation is the most feared complication and occurs in 3-15% with a 50% mortality
Ogilvie Cont....

- Pathophysiology not well understood, but multiple traumatic, metabolic, and pharmacologic factors may be involved, leading to altered autonomic regulation of colon
- Risk Factors: orthopedic trauma/surgery, severe blunt abdominal trauma, acute cardiac events or CABG, psychototropic medications, opiate use, acute neurological events or neurosurgical procedures, and infection
Ogilvie Diagnosis

- Usually can be made by plain film
- Colonic dilatation, most prominent in cecum and right colon
- Colonoscopy can be diagnostic and therapeutic
- Bowel ischemia suggested if localized tenderness, leukocytosis, metabolic acidosis, evidence of sepsis, or rapidly declining clinical course
Ogilvie Management

- Early recognition, exclusion of mechanical obstruction
- Resuscitation and correction of fluid and electrolyte abnormalities
- NPO and NG tube placement for vomiting
- Expectant management for patients with no pain or signs of toxicity or ischemia, typically resolves in 3 days
- If massively dilated (cecum >12cm,) consider surgery if colonoscopic decompression not possible
Ogilvie Medical Management

- Consider IV Neostigmine
  - Enhances colonic motor activity and induces propulsion and accelerated transit of GI contents
  - A reversible AChE inhibitor, indirectly stimulates muscarinic parasympathetic receptors

- Consider colonoscopic decompression

- Other pharmacologic options:
  - Prokinetic agents: erythromycin, cispride
  - Sympatholytics, spinal sympathetic block
Indications for Surgery

- Rapidly progressive abdominal pain or massive dilation, with or without peritoneal findings
- Development of peritoneal findings, fever, diminished urine output, leukocytosis, hyperamylasemia, metabolic acidosis
- Failure of obstructive picture to resolve over 24-48 hours, even if evolving symptoms or peritoneal signs are absent