Intestinal Obstruction

Presley Regional Trauma Center
Department of Surgery
University of Tennessee Health Science Center
Memphis, Tennessee
Clinical Evaluation
History

- Obstipation
- Abdominal pain
- Distension
- Nausea and vomiting
Mechanical vs Ileus

- Location, character and severity of abdominal pain
- Centrally-located vs diffuse
- More severe
- Pain increases in severity and depth
History

• Distension, nausea and vomiting usually develop after pain has already been felt

• Degree of distension

• Sudden or rapid change

• Prolonged change
History

- Previous episodes
- Previous abdominal or pelvic operations
- h/o abdominal CA
- h/o intraabdominal inflammation
Physical Examination
Clinical Assessment

- Look at patient – “Sick”
- Vitals
- Hydration status
- Cardiopulmonary system
Clinical Assessment

- NGT, IV, foley
- Volume and character of gastric aspirate and urine
- Isotonic saline or LR
- Adequate UOP (0.5cc/kg/hr)
Clinical Assessment

- Observation
- Auscultation
- Palpation
- Percussion
Bowel Sounds

- High-pitched tones, tinges and rushes
- Temporally associated with waves of crampy pain, nausea or vomiting
- Absence of bowel sounds
Tenderness

• Symmetrical – 70%

• < 50% - guarding, rebound or rigidity

• Localized tenderness and guarding may indicate underlying strangulation
Investigative Studies
Imaging

- Upright CXR
- Exclude pneumonic process
- Free air
Imaging

- Important to distinguish between small and large bowel gas
- Valvulae conniventes vs haustra
- Small bowel usually occupies central abdomen and large bowel periphery
Ultrasound

- Simultaneous observation of distended and collapsed bowel
- Free fluid
- Inspissated intestinal contents
- Paradoxical peristalsis
Ultrasound

- Highly reflective fluid within bowel lumen
- Bowel wall edema between serosa and mucosa
- Fixed mass of aperistaltic, fluid-filled, dilated intestinal loops
CT

- Accuracy higher than 95%
- Sensitivity > 94%
- Specificity > 94%
Decision

- Combination of thorough history, careful physical and correctly interpreted radiographs
- Identify type of obstruction
- Immediate, urgent or delayed operative intervention
Mechanical Obstruction
Malignant Bowel Obstruction

- Serious complication
- Affects patients with abdominal or pelvic tumors
- Often present with advanced disease
- Palliation
Immediate Operation

- Complete bowel obstruction
- Associated peritonitis
- Incarcerated, strangulated hernias
- Sigmoid volvulus associated with peritoneal irritation
- Colonic volvulus above sigmoid
Strangulation

- Occurs in about 10% of SBO
- Mortality of 10 to 37%
- Require early recognition and immediate operative intervention
- Most common in pts with incarcerated hernias, closed loop obstruction, volvulus or complete obstruction
Strangulation

- Continuous abdominal pain
- Fever
- Tachycardia
- Leukocytosis
- Peritoneal signs
Volvulus

- All are closed loop obstructions
- High risk of strangulation, infarction and perforation
- Acute, colicky abdominal pain, distension, nausea and emesis
- Sigmoid > cecal
Sigmoid Volvulus

- Immediate OR
  - Systemic toxicity
  - Peritoneal irritation
  - Bloody rectal discharge

- Sigmoidoscopic decompression
  - No signs of peritonitis
  - No generalized toxicity
  - Safe and effective – 95%
Small Bowel Volvulus

- Plain films may be normal
- Ultrasound or CT
- Immediate operation
Urgent Operation

- Safe to manage partial obstruction non-op
- Risk that complete obstruction or strangulation already exists
- Can progress to complete obstruction or strangulation with perforation
- Requires repeat exam by same MD
Radiographs

- Non-op mgmt less likely to be successful
  - Proximal small bowel distension increases
  - Distal bowel gas decreases
Approach

• Clinical judgment and experience

• Thorough and accurate assessment of underlying Dx and condition

• Most reliable guide to operative decision making
Strategy

- Adhesive SBO
- 90% will resolve with NGT decompression
- Of those that resolve, 50% will recur
Considerations

• Operations performed through midline incision

• Operations involving aorta, colon, rectum, appendix or pelvic adnexa

• Less likely to respond to non-operative mgmt
Considerations

• After 48 hours – risk of complications increases significantly

• Probability that obstruction will resolve diminishes

• In general – if going to resolve, will have prompt response within first 8 to 12 hours
Early Post-op Bowel Obstruction

- Occurs in 10% of abdominal operations
- Can be difficult to distinguish from post-op ileus
- Both present with distension, obstipation, nausea, vomiting and pain
- Plain films may not be helpful
Clinical Expertise

- Must distinguish between post-op ileus and early post-op bowel obstruction
- Draw line in sand
- How long is too long to wait
My Rule of Thumb

• Early post-op bowel obstruction
  - True return of bowel function
  - Shut down
  - Require operative intervention

• Post-op ileus
  - Bowel function never returns
  - NGT decompression
  - Line in sand
Virgin Abdomen

- Be wary of obstruction without previous abdominal surgery
- Internal hernia, tumor, malrotation
- Diagnostic laparoscopy
Ileus

• Involves disruption of normal neurohumoral responses

• Post-op usually resolves within a few days

• Small bowel regains function within 24 hrs followed in 3 to 4 days by stomach and colon

• Initial therapy identify and treat cause
Pseudo-obstruction

- Ogilvie syndrome
- Most common in hospitalized pts in post-op period or in response to nonsurgical acute illness
- Dilatation of colon, crampy pain, nausea and vomiting
Pseudo-obstruction

- Initial therapy involves NGT decompression, rectal tube, enemas, correction of any metabolic disturbances
- Will resolve within 4 days in 80%
- Colonoscopy vs neostigmine
Summary

- Further imaging in those with signs and Sx of bowel obstruction and negative plain films
- Decision when and to operate can be difficult
- Proceed with systematic stepwise approach to mgmt of bowel obstruction
For Your Own Good

- If suspect SBO – plain films
- If have CT c/w SBO – plain films
- Plain films = flat plate + upright
- If there is any doubt – better to operate on SBO than wait and obtain multiple X-rays demonstrating obstruction