Acute Abdomen

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Definitions – Acute abdomen

• Intra-abdominal process causing severe, usually sudden onset pain and often requiring surgical intervention.
• Also called surgical abdomen
• In contrast to peritonitis = inflammation of the peritoneum
Definitions - Peritonitis

• Primary
  – Liver disease (ascites), and immune deficiency

• Secondary
  – Peritoneal dialysis and all of the others that we operate on

• Tertiary
  – Recurrent peritonitis after any operation for secondary bacterial peritonitis (abscess, failure of source control, etc) = BAD PLAYER
Pathophysiology

• Introduction of bacteria into the peritoneal cavity causes significant outpouring of fluid from the peritoneal membrane (third spacing > intravascular hypovolemia)
• Fluid is rapidly swept up toward the diaphragm (sympathetic effusions)
• Diaphragmatic lymphatics clear bacteria and cellular debris (rapid onset of a systemic response)
• At the site of infection, localized peritoneal inflammation causes increased blood flow, permeability, and the formation of a fibrinous exudate on its surface.
• The bowel in that area slows down (ileus) allowing adhesion of omentum to effectively wall off inflammation
Anatomy

• Pain
  – Visceral pain – associated with afferent nerves that travel with the vascular supply.
    • Foregut structures – celiac axis – epigastric pain
    • Midgut structures – SMA – periumbilical pain
    • Hindgut – IMA – suprapubic pain
  – Parietal or Somatic pain = precisely localized.
    • Parietal peritoneum is richly innervated – when visceral inflammation irritates parietal peritoneum >>> localization of pain
  – Classic example is appendicitis
History and physical

- “Describe the pain” - PQRST
  - Precipitating or alleviating factors
  - Quality – sharp, dull
  - Radiation – to shoulder, groin, back
  - Severity – 1-10 scale
  - Timing – sudden, gradual, continuous or crampy
  - Nausea/vomiting, bowel changes
Past medical history

- Previous surgery >>>>> SBO
- Cardiovascular disease
- Afib
- DM
- GI disease (Chron’s, UC)
- History of ca in family
- Meds
exam

• “peritoneal signs”
  – Rebound tenderness
  – Tenderness to percussion
  – Involuntary guarding

• Distension
Differential guided by location

- RLQ
  - Appendicitis
  - Ovarian
  - Kidney stones
  - Terminal ileitis
  - Meckel’s
  - Typhlitis
Differential guided by location

- RUQ
  - Acute chole
  - Pancreatitis
  - Liver pathology
  - Pneumonia/effusion
  - pyelonephritis
Differential guided by location

- LUQ
  - Spleen
  - MI
Differential guided by location

- Epigastric
  - Perf’d ulcer
  - Pancreatitis
  - Reflux
  - Gastritis
  - Ischemic bowel
Differential guided by location

• Back
  • Pancreatitis
  • Aortic aneurysm
Differential guided by location

- LLQ
  - Diverticulitis
  - Kidney stones
  - ovarian
Diagnosis

• X-ray
  – free air, SBO
• US
  – ovarian, Gallbladder, appendix
• CT
  – great at pretty much everything
• MR
  – pregnant
labs

- CBC
- CMP (LFT’s, alk phos, lytes, bun/creat)
- Amylase, lipase
- ABG + lactate
- UA
- Pregnancy
Evaluation and management

• When to operate???

• Exam:
  – peritoneal signs (rebound, involuntary guarding, percussion tenderness), shock, worsening exam

• Radiology:
  – free air, portal venous/mesenteric gas, pneumatosis intestinalis

• Labs:
  – lactic acidosis
Pre-op

• Who is a “level 1”?  
  – Necrotizing soft tissue infections  
  – Abdominal compartment syndrome

• Surviving sepsis guidelines  
  – EARLY broad spectrum abx  
  – Fluid resuscitation  
  – Source control
Questions