Evaluation of Acute Abdominal Pain

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Wesley Medical Center Emergency Department Director
<table>
<thead>
<tr>
<th>Right</th>
<th>Stomach Ulcer</th>
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<tbody>
<tr>
<td>Gallstones</td>
<td>Heartburn/ Indigestion</td>
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<tr>
<td>Stomach Ulcer</td>
<td>Pancreatitis, Gallstones</td>
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<tr>
<td>Pancreatititis</td>
<td>Epigastric hernia</td>
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<td>Kidney stones</td>
<td>Pancreatititis</td>
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<td>Urine Infection</td>
<td>Early Appendicitis</td>
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<td>Constipation</td>
<td>Stomach Ulcer</td>
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<td>Lumbar hernia</td>
<td>Inflammatory Bowel</td>
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<td>Small bowel</td>
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<td>Umbilical hernia</td>
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<td>Appendicitis</td>
<td>Urine infection</td>
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<td>Appendicitis</td>
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<tr>
<td>Pelvic Pain (Gynae)</td>
<td>Diverticular disease</td>
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<td>Groin Pain (Gynae)</td>
<td>Inflammatory bowel</td>
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<td>Groin Pain (Inguinal Hernia)</td>
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<td>Duodenal Ulcer</td>
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<td>Biliary Colic</td>
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<td>Inflammatory bowel</td>
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<td></td>
<td>Disease</td>
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</tbody>
</table>

**Right Side Questions**
- Gallstones
- Stomach Ulcer
- Pancreatititis
- Kidney stones
- Appendicitis
- Diverticular Disease
- Pelvic Pain (Gynae)

**Left Side Questions**
- Stomach Ulcer
- Duodenal Ulcer
- Biliary Colic
- Diverticular Disease
- Pelvic Pain (Gynae)

**General Questions**
- Gallstones
- Stomach Ulcer
- Pancreatititis
- Kidney stones
- Appendicitis
- Diverticular Disease
- Pelvic Pain (Gynae)

**Specialized Questions**
- Heartburn/ Indigestion
- Pancreatititis, Gallstones
- Early Appendicitis
- Inflammatory Bowel
- Small bowel
- Umbilical hernia
- Inflammatory bowel
- Pelvic pain (Gynae)
- Groin Pain (Inguinal Hernia)
Abdominal Pain

• Abdominal pain is one of the most common presenting complaints in primary care
• Acute pain, with onset within 24 hours almost always reflects an organic process
• Chronic organic pain most often associated with peptic ulcer, diverticular or gallbladder disease, irritable bowel syndrome, or inflammatory bowel disease
Acute Abdomen - Why Suffer?

• Treat pain!
• Studies showed analgesia decreases pain without decreasing localization of tenderness
• No studies indicate treatment of pain is harmful
• No study found compromises in Dx or Tx
Types of Abdominal Pain

• Visceral pain results from the stretching or spasm of the wall of a hollow viscus  
  - Not well localized  
• Parietal pain results from generalized peritoneal inflammation  
  - Better localized  
• Both visceral and parietal pain may refer to a distant site (referred pain). Deep palpation of affected organ causes pain at referred site.
Acute Abdomen - H&P

• Characterize and document the pain as precisely as possible
• Duration most important, location, mode of onset and character help
• Persists > 6 hours; likelihood of surgery
• Visceral feels dull and poorly localized. Parietal pain, sharper, localization
Abdominal Pain: Examination

• Inspection:
  - Flank or periumbilical discoloration
    (results from retroperitoneal hemorrhage)
• Auscultation should precede palpation
• Gently percuss for rebound tenderness
• Observe for guarding or rigidity
Acute Abdomen – Diagnostic Testing

• Lab
  - CBC, Lytes, Amylase/Lipase, U/A, HCG, Liver Evaluation when appropriate

• Imaging
  - Plain films/flat and upright - obstruction or free air
  - CT-ABD
  - Ultrasound
  - Angiography
Left Lower Quadrant Pain

• Increasing trend toward the use of computed tomography
• Plain films are of limited value
• Contrast enema or sonography remains a useful adjunctive test
Acute Right Upper Quadrant Pain

• Diagnose acute cholecystitis clinically; confirm stones with U/S or Nuclear Medicine
• Scintigraphy: $$, time, sens/spec, but of no value if etiology not in biliary tract
• Treatment: Cholecystectomy
### Acute Abdominal Pain Common Causes

<table>
<thead>
<tr>
<th>Condition</th>
<th>&gt;50 yr.</th>
<th>&lt;50 yr.</th>
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</thead>
<tbody>
<tr>
<td>Non-Specific</td>
<td>16%</td>
<td>40%</td>
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<tr>
<td>Appendicitis</td>
<td>15</td>
<td>32</td>
</tr>
<tr>
<td>Biliary Tract Disease</td>
<td>21</td>
<td>6</td>
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<tr>
<td>Bowel Obstruction</td>
<td>12</td>
<td>2</td>
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<tr>
<td>Pancreatitis</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Renal Colic, Perforated Ulcer, Cancer, Diverticular Disease</td>
<td>3% each</td>
<td>3% each</td>
</tr>
</tbody>
</table>
Acute Abdominal Pain (cont’d)

• Appendicitis
  → Classic description of periumbilical pain that migrates to the RLQ, preceded by anorexia which leads to vomiting after the pain is established
  → Classic description occurs in less than 50% of patients
  → Some studies show over 1/3 are not anorexic
  → Plain films not helpful
  → CT and US are helpful
  → Studies have shown it is safe to give opiates during evaluation process (NSAIDs not shown safe yet)
Acute Abdominal Pain (cont’d)

• Differential Diagnosis (DDx) for abdominal pain
  - GI
    • Appendicitis, Biliary Tract Disease, Small Bowel Obstruction, Acute Pancreatitis, Diverticulitis, Ulcer Disease
  - Urologic
    • Renal Colic, Acute Urinary Retention, Testicular Torsion
  - Gynecologic
    • Acute PID, Ectopic Pregnancy
DDx for Abdominal Pain (*cont’d*)

-Vascular
  • Abdominal Aortic Aneurysm, Ischemic Colitis
  • Mesenteric Ischemia (different from Ischemic Colitis)
    - Arterial
      » Occlusive (Thrombotic vs Embolic)
      » Non-occlusive
    - Venous (Mesenteric Venous Thrombosis)

-Cardio-Pulmonary
  • Pneumonia, PE, Pneumothorax, CAD

-Abdominal Wall
  • Hernia, Rectus Sheath Hematoma,
    - Carnett’s Sign (Tenderness assessed with “sit-up”)

DDx for Abdominal Pain (cont’d)

- Infectious
  - Gastroenteritis, Group A beta-hemolytic Strep, Rocky Mountain Spotted Fever, Toxic Shock

- Poisonings
  - Cocaine, Iron, Mercury, Acute Lead

- Acidosis
  - DKA, AKA, Lactic

- Endocrine
  - Adrenal Crisis, Thyroid Storm, Hyper- and Hypocalcemia

- Sickle Cell Disease
Questions??