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Continuous Core Content

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Elderly Abdominal Pain

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* *Drug doses are a guide only, always check second source and follow local practice guidelines*

Summary Pearls:

- **A-B-Cs**
- **Rule out symptomatic AAA (with point of care ultrasound if possible)**
- **Consider mesenteric ischemia and peritonitis**
- **Consider extra-abdominal causes**
  - **Myocardial infarction**
  - **Pneumonia**
  - **Pyelonephritis**
- **Multiple conditions and chronic medications may impact diagnosis and management**
- **A low threshold for admission, surgical consultation and advanced imaging (typically U/S and CT) is appropriate**

Introduction

Elderly patients with abdominal pain represent a special population that is much more likely to have a serious life-threatening cause than almost any other presenting complaint. Not only are there a few critical conditions that affect the elderly almost exclusively but the common abdominal emergencies that can affect people of all ages can be harder to diagnose and much more dangerous with advancing age. Multiple conditions and chronic medications may impact diagnosis and management.

Abdominal pain is the third most common complaint in patients over 65, after chest pain and shortness of breath with millions of ED patient encounters each year. Admission rates are high (up to 60%), the need for surgical intervention is high (up to 20%) and the mortality associated with conditions requiring surgery is also high (up to 40% in patients over 80).

3 Types of Abdominal Pain

- **Visceral**
  - Vague, often colicky, ill-localized pain that arises from the **inside** the organs
    - **Upper** structures (esophagus, stomach) = Upper abdominal pain
    - **Middle** structures (small bowel, appendix) = Periumbilical pain
    - **Lower** structures (colon, rectum, bladder) = Lower abdominal pain
  - Pain from the GU organs is often similarly ill-localized and can be felt almost anywhere in the lower torso (e.g. **acute urinary retention**)
  - In the elderly woman, gynecologic causes of pain are much less common but still possible
- **Somatic**
  - More specific, localized and constant pain that arises from the **outside** the organs
  - Examples include:
    - **Appendicitis** = RLQ/McBurney's point pain/tenderness
    - **Peptic ulcer disease** = Epigastric pain/tenderness
    - **Diverticulitis** = LLQ pain/tenderness
- **Referred**
  - Pain associated with structure **distant from actual source**
  - Examples include:
    - **Shoulder pain** can indicate diaphragmatic irritation (e.g infarcted spleen, free air or blood in peritoneal cavity)
    - **Abdominal pain** can be from pneumonia
    - **Abdominal pain** can be from testes
    - **Hip pain** can be from a pelvic source

Step One: Rule Out Immediate Lifethreats

- **Abdominal Aortic Aneurysm (AAA)**
  - A ruptured or leaking AAA is the most time critical diagnosis to make
  - *A history of syncope or **any** low BP readings are critical clues*
  - Bedside U/S (or at least exam) right away during triage process
    - Symptoms + Aorta (outer wall) > 3 cm (transverse + longitudinal)
    - May or may not have positive FAST
  - Rx: Large bore IVs, Resuscitate to systolic of around 90-100, Crossmatch and transfuse blood, STAT to surgery
- **Mesenteric ischemia/ischemic bowel**
  - Severe pain out of proportion to exam findings
  - *A history of atrial fibrillation or cardiovascular disease are important clues*
  - If suspected, STAT surgical consult
  - Imaging is generally with CT / CT angiography
  - Fading role of traditional angiography
  - Labs: Lactate, LDH can be elevated early in course, but are non-specific
    - Angiography can be diagnostic and therapeutic
  - Rx: Large bore IVs, Resuscitate as sepsis patient, broad spectrum antibiotics
- **Peritonitis**
  - The dangerous end stage of numerous abdominal disease processes
  - Peritoneal findings in elderly are often subtle or absent
  - As in pregnant and immunocompromised patients, significant diffuse tenderness and/or abnormal vital signs are ample reason to suspect generalized peritonitis
  - Rx: Large bore IVs, STAT surgical consult, resuscitate as sepsis patient, broad spectrum antibiotics

Initial Steps

- IV
  - Most elderly abdominal patients will have blood drawn and an IV is usually placed initially for IV medications and/or fluids
- NPO
  - Patients should not have oral intake because of the strong possibility that emergent surgical intervention will be necessary
- Bedside US (AAA)
- ECG
- Fluids
  - Fluids boluses are appropriate in patients with shock and/or dehydration
  - Because many elderly patients also have reduced cardiac function, smaller boluses (often 250cc normal saline) are given, with more frequent reassessments to check for the development of pulmonary edema
- IV Pain Meds
  - Pain medications can be tricky in the elderly
  - Clinicians often underestimate pain in this population and oligoanalgesia is a real concern
  - Elderly patients also often have adverse reactions (e.g. altered mental status, hypotension) to narcotic analgesics
- Initial tests
  - CBC and Electrolytes are performed in most cases
  - Additional considerations:
    - LFTs
    - Troponin
    - Lactate (may be elevated in ischemic bowel, sepsis)
    - Blood Cultures
    - Urinalysis
  - CXR
  - CT imaging (lower threshold, contrast induced nephropathy) **look at your own images (miz story)
  - FORMAL Ultrasound better for RUQ
  - MRI

Key DDx by Location

- **Important caveat – location can fool you!**
  - LUQ pain with appendicitis
  - Lower abdominal pain with pyelonephritis
- **Diffuse**
  - Bad Stuff: AAA/Mesenteric ischemia/Peritonitis/perforation
  - SBO, LBO (including volvulus - also potentially very bad)
  - Early process (e.g.appy)
  - More benign process (e.g. gastroenteritis - be careful!)

- **Epigastric → back**
  - Thoracic Aortic Dissection
  - ACS
  - Gastritis
  - Peptic ulcer disease
  - Pancreatitis
- **RUQ**
  - CHF (liver engorgement)
  - Hepatitis
  - Biliary Tract Dz (deserves a segment of its own)
    - Cholecystitis → back
    - Cholangitis
      - Charcot's triad
      - Reynolds pentad
- **LUQ**
  - Gastritis
  - Pancreatitis
- **RLQ**
  - Appendicitis
  - Gyne causes (torsion/TOA)
- **LLQ**
  - Diverticulitis
    - (may want to explain the terms here)
    - Gyne causes

Important Causes Outside the Abdomen

Big players

- **Aortic Dissection**
- **Myocardial Infarction**
  - 12 lead ECG
- **Pneumonia**
  - CXR
- **Pyelonephritis**
  - Urinalysis

Others

- Metabolic
  - DKA
  - Uremia
  - Acute intermittent porphyria
- Toxic
  - Black widow spider bite
  - Narcotic withdrawal
- Immunological
  - Lupus
  - Rheumatoid arthritis
  - Familial Mediterranean Fever
- Hematologic
  - Leukemia
- Abd wall
  - Rectus hematoma (coumadin?)
  - Psoas abscess/hematoma

Role of Comorbidities and Medications

- DM
  - May mask initial presentations of severe infections
  - Lower threshold for intervention
- CAD
  - ACS may present with abdominal pain and vomiting
  - Cardiac disease may complicate resuscitation
- Beta blockers
  - May mask tachycardia
  - May impair ability to compensate for shock states
- Anticholinergics
  - May precipitate urinary retention

Disposition

- Due to high mortality and morbidity, admission/observation in elderly patients with unresolved/undiagnosed ongoing abdominal pain should be strongly considered

References

1. *Magidon PD, Martinez JP. Abdominal pain in geriatric patients. Emerg Med Clin N Am 34 (2016) 559–574.*

Notes