**ABDOMINAL PAIN IN THE ELDERLY PT**

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UCSF

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**Geriatric Abdominal Pain**

*Case based talk - major take home points will be:*

- Beware of NSAID’s
- The elderly with abd pain are much more difficult to assess
- Liberal use of CT scanning
- Err on the side of admission

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**Take 2 aspirin and call me in the morning?**

- 71yr old female c/o acute onset of abdominal pain 4 hrs prior to her ED visit. No fever, nausea, vomiting, constipation. Had been feeling well with no prior abdominal problems. Pain is mild to moderate and persistent.
- PMH-HTN, arthritis, no surgeries
- Meds- enalapril, ibuprofen, tylenol
- NKA

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A horrible, slimy monster that makes man’s life a misery.

After eating: a bloated belly, belching of gas from the stomach, a foul, ill-smelling scurf on the tongue, dizziness, headache, a sour rising and spitting up of half-digested food, — it’s Bowel Bloat.

When the bowels stop working they become filled with putrid, rotting matter, forming poisonous gases that go through the whole body. If you don’t have a regular, natural movement of the bowels at least once a day your fate is bowel bloat, with all the nasty, disgusting symptoms that go with it.

There’s only one way to let it right.

Clean yourself out gently but thoroughly and tone up your bowels with CASCARETS. Every form of bowel trouble is quickly and permanently
BLOAT case 1 – cont.

- T-98.6, HR-102, BP-130/82, RR-22
- Mild distress but able to hold a pleasant conversation
- Skin-slightly pale, anicteric
- Heart and lungs are unremarkable
- Abdomen-slightly distended, mildly diffusely tender, no guarding or rebound and no masses
- Rectal-brown, trace guaiac positive

BLOAT case 1

Laboratory and Xrays

- UA-wnl
- EKG-wnl
- CBC-15,000wbc, H&H-9.5/30
- Amylase / lipase-wnl
- CXR KUB-TBS
Peptic Ulcer Disease

- Upright CXR or left lat decubitus or Ultrasound!!!!!!
- Improve free air yield with CXR:
  - sit pt up, or left side down, ngt with 300-500cc air
- CT - gold standard

Peptic Ulcer Disease >65 yrs

- DU:GU ratio is 2:1 compared with 10:1
- NSAID’s are the culprits
  - BE WARE of antacids – but PPI’s are protective
- 10% of elderly with PUD present with an abdominal catastrophe
- Bleeding occurs in 76% of patients over 74
- 30% present without pain

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KEY NSAID DATA

- Annual incidence of SERIOUS GI complications in low risk patients is 0.5%
- In pts 60 – 70 = 1.5% and over 70 = 2.8%
- Low dose ASA + Cox-2 = same risk of bleeding as with older NSAID’s
- Cox-2 inhibitors have a significantly lower risk of GI bleeding compared with traditional nonsteroidals – about 50% less

More NSAID data

AM J Gastro 2005

![Graph showing NSAIDs and Lower Gastrointestinal Complications](image)
Why do we separate out the elderly?

- 1980 - 11% of our population was over 65
- 2000 – 13%
- 2030 – 20%
- Fastest growing segment are those >85 years old
- Diagnosing is difficult and time consuming........why????

History taking – can be difficult

- Stubborn
- Fear
- Dementia
- Hard of hearing
- Self diagnosis –”its just my ulcer acting up again”:
- Vague “I just don’t feel well”

Anatomic and Physical Considerations

- Atrophic abdominal musculature
- No omentum
- Prior abdominal surgery
- Atherosclerotic vascular disease
- Blunted fever and WBC responses
- Decreased pain sensitivity
- Coexisting disease

Consider non-abdominal causes for abdominal pain

- Pe
- MI
- Pneumonia
- DKA
- Glaucoma
- GU infection
Emergency Department Impact

- Avg. ED evaluation takes twice as long
- Today elderly make up 13% of our population but they are:
- 1/5 of our ED visits
- 30% of all ambulance traffic
- 2/3 of our admissions
- 50% of all ICU admits

Diagnostic Accuracy

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<th>Age</th>
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<tr>
<td>DX</td>
<td># of Pts</td>
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<tr>
<td>Biliary Ds</td>
<td>146</td>
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<tr>
<td>PUD</td>
<td>126</td>
<td>98%</td>
</tr>
<tr>
<td>Diverticulitis</td>
<td>19</td>
<td>95%</td>
</tr>
<tr>
<td>AAA</td>
<td>15</td>
<td>100%</td>
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<td>All specific disorders</td>
<td>1,407</td>
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KEY NOTES

- Elderly pts with abdominal pain admitted to a medicine service suffer more than DOUBLE the mortality as compared with those admitted to a surgical service (19% vs. 8%)
- 10% of elderly with indeterminate abdominal pain will have a malignancy
- 40% of patients over 65 admitted with abdominal pain will have operative intervention within 3 months

Admission diagnosis most common in the ELDERLY

- Indeterminate 25%
- Biliary Tract Disease 12%
- Peptic Disease 10%
- Bowel Obstruction 10%
- GU Infections and Stones 8%
- Diverticular Disease 6%
- Appendicitis 5%
- Mesenteric Ischemia 3%
- Cardiovascular Disease 2%
Lab and Radiographs
- UA
- EKG
- CBC, CMP, phosphate, amylase, lipase, LFT’s, trop, myo,
- Upright CXR, KUB
- ULTRASOUND
- CT, MRI, Angio

Geriatric – Case 2
- 78 year old male with 1 week of waxing and waning fever. Decreased appetite but no N/V/abdominal pain. Finally goes to the ED because of the persistent fever
- PMH – significant only for a HTN and heart block requiring a pacer

Case 2 - continued
- Appears to be comfortable
- Skin – warm and dry
- Chest – clear and equal
- Heart – RRR, no murmur, ectopy or gallop
- Abdomen – soft and non tender
- Rectal-good tone, stool brown and guaiac negative

Case 2 - continued
- EKG – wnl
- WBC – 7.1 77% polys
- Bili 0.7, LFT’s–wnl, Alk phos-590 (40-129)
  Amylase / lipase - wnl
- CXR and KUB – wnl
Case 2 continued

- Sent back to the ED by his PMD 2 days later after examining him in his office and reviewing the labs.
- ULS documented acute cholecystitis

BILIARY TRACT DISEASE

- Patients over 65 years old
  - The most common diagnosable cause of abdominal pain
  - 25% will not complain of pain
  - No fever or leukocytosis in 1/3 – 1/2
  - Is the third most common source of sepsis!!
  - Complications are far more common

Gall Bladder Disease In The Elderly

- Close to 50% of all people over 65 yr will have gall stones
- Male:Female > 65 = 1:1
- Acalculus Cholecystitis occurs 10% of the time in elderly vs <2% in younger patients
- Should be in the differential of the elderly pt with ALOC
- Mortality rate is 10%

Acalculous cholecystitis
Gall Bladder Disease

Diagnosis
- WBC-may or may not be helpful
- Bili, amylase and LFT’s-helpful only if abnormal
- ULS-very sensitive for stones, less helpful for signs of Cholecystitis
- HIDA scan-best for GB function

Biliary disease in the elderly

- Dispo: can’t be dogmatic – but must recognize the increased risk in the elderly patient with active biliary disease. Be very leery of agreeing to send home the patient just because they are afebrile with normal labs.

Our 78 year old man had an extended rocky course in the ICU and died 5 days later

Abdominal CT in elderly pts with abdominal pain

- Alters the admit decision in 26% of cases
- Increased certainty of diagnosis from 36% to 77%
- Identified the need to go to the OR in 12%
- Clarified the need for antibiotics in 21%
Geriatric Case 3

- 70 yr old female c/o vague abdominal pain for 2 days. No N/V, diarrhea, fever. Stated that she just needed an enema and would be fine. Long hx of intermittent constipation. Pain is mild to moderate and crampy. Past work up for intermittent pain and constipation has been negative
  - PMH—arthritis, NIDDM, hysterectomy
  - Meds-naprosyn, micronase

Geriatric Case 3-continued

- Laboratory
  - UA-wnl
  - EKG-wnl
  - WBC-8500 with 92% polys
  - Amylase / Lipase and LFT’s-wnl
  - CXR and KUB-wnl

Geriatric Case 3

- T-101, HR-92, BP-150/90, RR-16
  - No acute distress
  - Skin, heart, lungs all unremarkable
  - Abdomen- scaphoid, soft, good BS, mild but consistent tenderness in the RLQ, no guarding or rebound and no masses
  - Rectal-wnl

Geriatric Case 3

- ULS-distended appendix with fluid collection
  - In the OR a perforated appendix was found with extensive fecal soiling in the abdomen requiring a colostomy for 6 weeks
Appendicitis

- Almost 100% will have pain—but its usually vague
- Only 1/3 will have the traditional course of pain eventually reaching the RLQ
- About 90% will have RLQ tenderness
- Rare to have guarding and rebound even if they have perforated
- 2/3 will have fever

WBC may not be elevated but is often left shifted
CT or ULS helpful if positive
C reactive protein—helpful if abnormal but not sensitive

Appendicitis – a VERY different disease in the geriatric population

- Accounts for about 5% of all abdominal emergencies in the elderly
- >50% will perforate before going to the OR
- 40-50% are misdiagnosed initially
- 10% of all Appy’s are in pts over 65 but accounts for 50% of all deaths from appy
- Mortality rate approaches 25%
Pain management
- Fentanyl
  - Short acting
  - Reversible
  - No histamine release - less hypotension

Geriatric Case 4
- 76 yr old male with acute onset of severe abdominal pain. Progressively getting worse. One episode of emesis and one large watery stool just before coming to the ED. No blood in emesis or stool. No fever and the pain is generalized.
  - PMH- HTN, AFIB, CHF, no past surgeries
  - Meds-Enalapril, Dig, Calan SR, ASA
  - NKA

Geriatric Case 4
- T-98.6, HR-124, RR 26, BP 136/96
- Appeared to be in severe distress
- Heart-irreg. Flow murmur
- Lungs-unremarkable
- Abdomen-Non distended, soft, no guarding, no rebound, minimal tenderness, no masses and no bruits
- Rectal-good tone, brown, guaiac +

Mesenteric Ischemia
- Pain out of proportion to physical findings
- Bowel sounds-quiet to active-not helpful
- Occult LGI bleed common
- Guarding is uncommon but implies infarction
- Digoxin, Beta blockers, vasoconstrictors, cocaine
Mesenteric Ischemia

Causes
- SMA thrombosis = 10%
- SMA embolism = 30%
- Mesenteric vein thrombosis = 10%
- Nonocclusive mesenteric ischemic = 50%

Embolic (30%)
- Sudden onset of severe pain
- Hx of CAD—with Afib
- Vomiting and diarrhea is common
- 20% will have signs of an embolism elsewhere

Arterial Thrombosis (10%)
- Slower onset-24-48 hours
- Recent history of wt loss and post prandial pain (intestinal angina)
- Diarrhea common-secretory
- May have a malignancy with a coagulation disorder

Nonocclusive Ischemia (50%)
- Hx of ASVD
- A new insult compromises the already poor perfusion
- Occurs concurrently with other serious illness
- Severity and character of pain varies with the overall well being of the pt.
Mesenteric Ischemia

Mesenteric Vein Thrombosis (10%)
- Onset hours to days
- Appetite moderately affected
- Pain is described as deep boring and relentless
- Nausea and vomiting is common
- Hypercoag state

Mesenteric Ischemia

Diagnosis – very difficult until its too late!
- WBC-often elevated (>15,000)
- Phosphate increased earlier than other labs (75%)
- Metabolic Acidosis (often too late)
- KUB may show thickened bowel wall or air in the bowel wall - CT much better
- Angiography-diagnostic and therapeutic (papaverine) - current gold std

Mesenteric Ischemia

New studies:
- Alpha-glutathione s-transferase (**alpha-GST**) (protein with cytoprotective role against oxidative injury)
- Intestinal fatty acid binding protein (**I-FABP**) (better for infarction than ischemia)
- D-dimer
  - NOT helpful!

Labs that may be helpful

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Mesenteric Ischemia

- Mortality is 85%
- Men >> Women
- ASVD is almost always present
- Pain out of proportion to physical findings

Imaging in Mesenteric Ischemia

- Plain
- CT
- MRI

CT

- Pneumatosis intestinalis
- Venous gas
- SMA occlusion
- Celiac/IMA occlusion
- Arterial embolism
- **Bowel wall thickening**
- Solid organ infarction
- Venous thrombosis
CT

- Sensitivity 64-96%
- Specificity 92-94%
- .......weigh pros and cons of using contrast
- Talk to the radiologist

MRI

- Sensitivity uncertain – suspected > 90%
- Specificity ? >90%
- Time – about 30 minutes
- .........is the contrast safe?

Treatment

- Traditional supportive care
  - Treat the underlying condition
- Early surgical consultation
- Case reports for combined papaverine and thrombolytics
Geriatric Case 5

- 85 year old male with an acute onset of severe abd pain. Diffuse pain with no nausea, vomiting or diarrhea. Also complained of sweating. The medics found the patient with a BP of 90/p, HR 120
- PMH-HTN, MI CABG
- Meds-Procardia, Ntg

Geriatric Case 5-continued

- HR 100, BP 130/70, RR 20, Afebrile
- Severe distress and diaphoretic
- Heart and lungs were unremarkable
- Abdomen was obese with decreased bowel sounds, no mass, diffusely tender with rebound and guarding
- Rectal-good tone, large prostate, guaiac negative

Geriatric Case 5-continued

Laboratory

- H&H-10/31
- WBC-14,000
- Amylase-wnl
- UA-wnl
- EKG and CXR-wnl
- KUB/LAT- large calcified aorta
- ED ULS-5cm aorta with surrounding fluid

Clot (fluid)

AAA
Abdominal Aortic Aneurysm

- About 25% of patients will have a thrill or a bruit
- Palpating a pulsatile mass is not reliable in patients with no pain or minor symptoms
- Blue toe syndrome (clot or plaque from the triple A)
- Leaking or bleeding causes severe pain 100%
- Femoral pulses are NOT lost

Abdominal Aortic Aneurysm

- Present in 1-4% of the population over 50
- Male:female 6:1
- Normal aorta is less than 3cm in diameter
- The majority are asymptomatic until they leak or rupture

ED Screening to Identify AAA in Asymptomatic Geriatric Patients

AJEM March 2003

- Scanned 103 patients over 65 who presented for reasons other than flank back or abd pain.
- The ED identified 8 aneurysms (>3.0cm)
- 6/8 were confirmed via CT scan
Abdominal Aortic Aneurysm

Treatment
- Consult surgery early
- T&C
- Mast pants-controversial-probably not helpful
- Asymptomatic aneurysms-refer to surgeon

Geriatric Case 6
- 80 yr old male NH patient with a left hemiparesis from an old CVA. C/O abdominal pain over the past 12 hours with profuse nausea and vomiting. Last BM was the day prior to this visit. NH staff noticed abdominal distention. No fever. Pain initially waxing but is now constant.
- PMH-CVA
- Meds-one ASA per day
- NKA

Geriatric Case 6-continued
- T-98.9. HR-116, RR-20, BP-106/70
- Appears ill
- Skin, Lungs, Heart-all unremarkable
- Abdomen-distended, rare high-pitched bowel-sounds, diffusely tender but without guarding or rigidity
- Rectal-good tone, brown, guaiac negative

Geriatric Case 6-continued
- UA-wnl
- EKG-nonspecific
- WBC-12,000 85% polys
- H&H-wnl
- CXR-wnl
BOWEL OBSTRUCTION

Patients over 65 years old
- In those requiring emergent surgery the mortality is 44%
- Hernia’s are an overlooked cause of small bowel obstruction (30%). Must look for femoral hernia
- Large bowel obstructions are usually secondary to cancer but volvulus must be suspected
- This diagnosis is 3x more common than in younger patients

Volvulus - Who is at risk?
- Sedentary people
- Anticholinergic medications
- Constipation

Take Home
- Beware of NSAID’s
- Maintain a healthy respect for all elderly pts with abdominal pain
- Liberal use of CT scanning
- Err on the side of admission
- Elderly pts get appendicitis and the mortality is HIGH