



EMC 370 Introduction to Medical Emergencies

27 Acute Abdomen

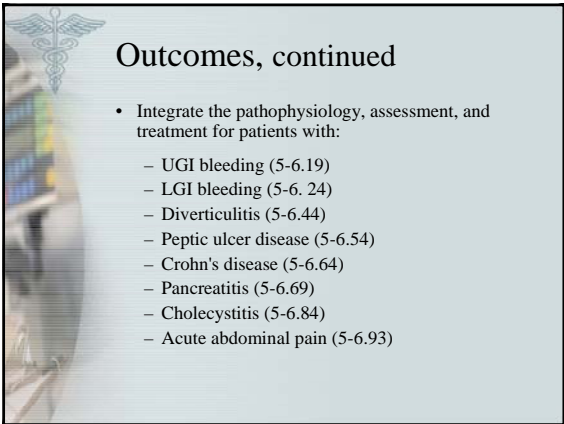
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Outcomes

At the completion of this lecture, the learner will be able to:

- Integrate pathophysiological principles and assessment findings to formulate a diagnostic impression and implement a treatment plan for the patient with a GI problem. (5-6)
- Identify risk factors predisposing to GI emergencies. (5-6.2)
- Discuss the path of physiology of inflammation and its relationship to somatic, visceral pain, referred pain. (5-6.4-6.7)




Outcomes, continued

- Integrate the pathophysiology, assessment, and treatment for patients with:
 - UGI bleeding (5-6.19)
 - LGI bleeding (5-6.24)
 - Diverticulitis (5-6.44)
 - Peptic ulcer disease (5-6.54)
 - Crohn's disease (5-6.64)
 - Pancreatitis (5-6.69)
 - Cholecystitis (5-6.84)
 - Acute abdominal pain (5-6.93)




Most Dangerous Dx Concerns

- AAA (shock)
- Ectopic pregnancy (shock)
- Bowel infarction (shock)
- Perforated viscous (shock)
- MI (shock, arrhythmias)
- Splenic rupture (recent trauma, sickle cell...) (rare) (shock)



Common, Serious Causes of Abdominal Pain

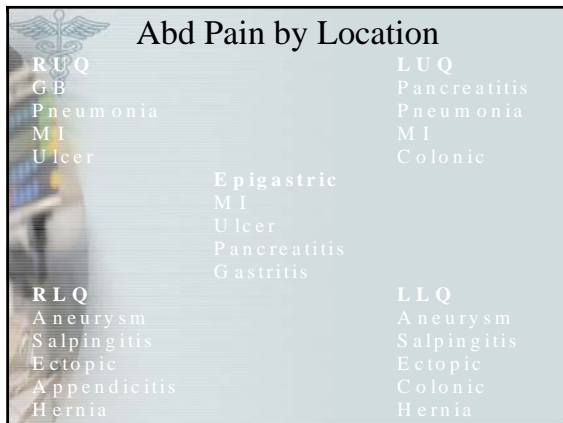
- | | |
|------------------|---------------------------|
| • Appendicitis | • Small Bowel Obstruction |
| • Diverticulosis | • Pyelonephritis |
| • Cholecystitis | • Metabolic |
| • Salpingitis | – DKA |
| • Ulcer | – Sickle Cell Crisis |
| • Pancreatitis | |



Less Common Causes

Less common, but serious causes of abdominal pain

- Splenic rupture (rare)
- Hernia
- Large Bowel Obstruction
- Metabolic
 - Black Widow Bite
 - Lead poisoning



Abd Pain by Location

RUQ GB Pneumonia MI Ulcer	Epigastric MI Ulcer Pancreatitis Gastritis	LUQ Pancreatitis Pneumonia MI Colonic
RLQ Aneurysm Salpingitis Ectopic Appendicitis Hernia		LLQ Aneurysm Salpingitis Ectopic Colonic Hernia



Types of Abdominal Pain

- Visceral / Colicky (patient moves about)
 - crampy (due to peristalsis)
 - poorly localized
 - originates from solid / hollow viscous
- Somatic (patient is still)
 - inflamed peritoneum
 - sharp
 - well localized
- Referred
 - pain is felt at a distance from disease process



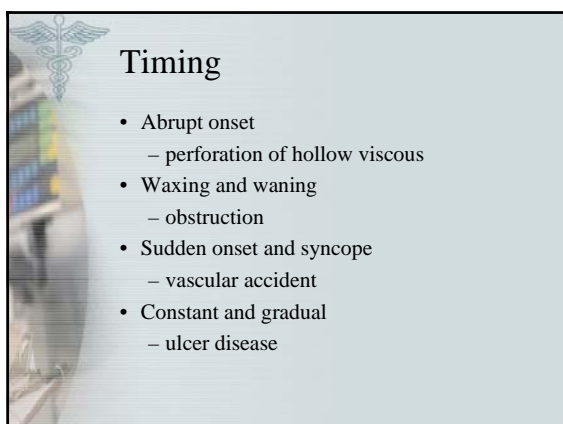
Quality of Pain

- cramping pain
 - suggests obstruction of hollow viscous
 - cholecystitis, SBO, renal colic
- burning pain
 - suggests reflux, peptic ulcer dz
- sharp, localized pain
 - peritoneal irritation



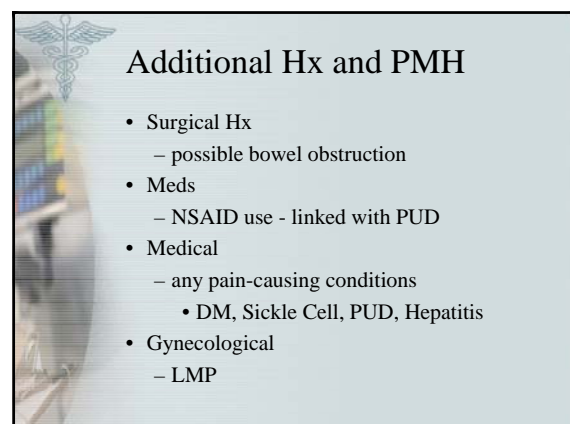
Peritoneal Signs

- rebound tenderness
- guarding
 - voluntary
 - covering abdomen with arms to splint, prevent movement, or protect
 - involuntary
 - uncontrollable abdominal wall muscle spasm, also known as rigidity
- **patient wants to lie still !**




Timing

- Abrupt onset
 - perforation of hollow viscous
- Waxing and waning
 - obstruction
- Sudden onset and syncope
 - vascular accident
- Constant and gradual
 - ulcer disease




Additional Hx and PMH

- Surgical Hx
 - possible bowel obstruction
- Meds
 - NSAID use - linked with PUD
- Medical
 - any pain-causing conditions
 - DM, Sickle Cell, PUD, Hepatitis
- Gynecological
 - LMP




Peptic Ulcer Disease

- the ***MOST COMMON*** cause of upper GI bleed
- 2 risk factors:
 - NSAID usage
 - *Helicobacter pylori* bacteria




PUD Clinical Presentation

- Pain
 - burning, gnawing
 - epigastric
 - +/- radiation
 - relieved by OTC antacids / H₂ Blockers
 - may occur after eating / between meals
- Hemorrhage
 - melena
- PE
 - epigastric tenderness
 - no peritoneal signs - unless perforation




PUD Significance and Complications

- Bleeding
- Intractable pain
- Obstruction
- Perforation - 15% cases
 - abrupt onset
 - severe, epigastric pain
 - vomiting
 - diaphoresis
 - peritoneal signs



Bowel Obstruction


- large or small intestines
- causes
 - prior surgeries adhesions: ***most common***
 - hernia
 - inflammatory conditions - diverticulosis
- clinical significance
 - hypovolemia
 - strangulation, gangrene



Bowel Obstruction


Presentation

- History
 - obstipation (no stool or flatus)
 - pain
 - cramping
 - epigastric / periumbilical
 - waxes & wanes (peristaltic waves)
- PE
 - SBO: “tinkles” and “rushes”



Bowel Obstruction PE

- diffusely tender abdomen
- absent peritoneal signs
 - unless strangulation / perforation
- abdominal distention
- intermittent, high-pitched bowel sounds (tinkles and rushes)



Diverticulosis

- Definition
 - indentations of colonic mucosa into colon wall
- Clinical Setting
 - > 50 y/o
 - 33%
 - > 80 y/o
 - 67%
 - low fiber diet




Diverticulosis

Clinical Presentation

History


- pain
 - steady, deep, dull, crampy
 - LLQ (most common)
- tenesmus
- constipation or diarrhea
- bleeding
- rarely
 - urinary sx. : dysuria, frequency
 - RLQ pain



Diverticulosis


PE

- fever
- distension
- palpation
 - firm, tender left colon
 - mass
- bleeding (guaiac +) [25%]
- SBO signs may develop
- peritoneal signs may develop




Diverticulitis

- LLQ pain
 - worse with bowel movements
 - radiate to back
- fever
- hemorrhage
 - massive
 - painless



Cholecystitis

- Gallbladder inflammation secondary to obstruction of cystic duct
- Clinical Setting: “F”s”
 - Fat
 - Forty
 - Flatulent
 - Fertile
 - Fear of fatty foods (fries)



Cholecystitis


Clinical Features

Hx

- Pain
 - RUQ / epigastric
 - after meals, especially if meal : high-fat
- N,V


PE

- fever
- Murphy’s sign: abrupt cessation of inspiration while pt is being palpated in RUQ




Appendicitis

- acute inflammation of appendix
 - secondary to obstruction of lumen
- most commonly ages 10 - 20
- surgical emergency



Appendicitis Clinical Features


- Atypical presentation
 - in young + elderly
 - results in higher morbidity & mortality
 - have a high index of suspicion
- Typical pain
 - initially periumbilical
 - later migrates and localizes to RLQ
 - peritoneal signs
 - rigidity
 - guarding
 - rebound tenderness
 - absent BS



Abdominal Aortic Aneurysm

AAA


- Easily misdiagnosed as
 - LBP, hip pain
 - kidney stone
 - diverticulosis or GI disorder
- 75% mortality if rupture occurs
- Chance of survival increased if:
 - rapid Dx
 - rapid surgical repair



Abdominal Aortic Aneurysm


Clinical Setting

- Hx:
 - age > 65
 - syncope
- PMH / Hx: “vasculopath”
 - male
 - Hx of MI; peripheral vascular disease
 - COPD
 - HTN
 - smoker



AAA Clinical Presentation


- Sx produced by expansion / rupture
- Pain
 - abdominal, back, or flank
 - not affected by movement
 - may radiate to testis or leg



AAA


PE

- pulsatile abdominal mass
 - above umbilicus (aortic bifurcation occurs at level of the umbilicus)
- audible abdominal bruit (rare)
- decreased pulses
 - lower extremities
- hypotension (if rupture has occurred)



Metabolic Causes of Acute Abdominal Pain

- DKA
- Sickle Cell Crisis
- Lead poisoning
- Black Widow spider bite



Acute Abdomen - General Tx

- NPO
- IV access (at least one 18g), fluid infusion, blood draw
- possible pharmacological Tx
 - antiemetics
 - antispasmodics
 - antacids
 - analgesics
- ALL abdominal pain is considered pathologic (i.e., ALS) until proven otherwise !!!