Abdominal Pain

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Common Causes of Abdominal Pain

- **Infants** - colic, gastroenteritis, constipation, viral, pyloric stenosis, intussusception
- **Older children** - appendicitis, UTI’s, toxic ingestions
- **Adolescents** - pelvic infections, ovarian cysts, dysmenorrhea, appendicitis, pregnancy
- **Adults (Geriatric)** - cholecystitis, malignancy, bowel obstruction
Three Types of Abdominal Pain

• *Visceral* - crampy, colicky, intermittent, poorly localized
• *Somatic* - sharper, more localized, inflamed organ
• *Referred* - felt in cutaneous site distant from diseased organ
Sources of Abdominal Pain

- *Intra-abdominal* - obstruction of hollow viscus, vascular disease
- *Extra-abdominal* - renal colic, metabolic disorders
Principles of Diagnosis

• Acute abdominal pain
  – Needs an early diagnosis
  – Tendency to temporize & allow condition to declare itself
  – Severe abdominal pain in otherwise well patient for >6 hours; suggests surgical abdomen
  – No narcotics unless given by surgeon in charge, after thorough evaluation
  – Control emesis
  – No nasogastric tube unless bowel obstruction documented
Knowledge of Anatomy

• Referred pain
  – In appendicitis, irritation of psoas muscle causes flexion of the thigh
  – If abscessed immediate to fascia, pain results with inward rotation of flexed thigh
  – Referred pain to testes can be appendicitis or pain in testes can be kidney on same side
  – Shoulder pain - seen with subphrenic abscess, diaphragmatic pleurisy, acute appendicitis, pancreatitis, ruptured spleen
Knowledge of Anatomy

• Referred pain, cont.
  – Pain on top of both shoulders, median diaphragmatic irritation
  – Heel tap - pain at right lower quadrant
    • Think appendicitis
    • Consider ectopic pregnancy
Knowledge of Physiology

- Possible to crush, tear, or cut intestine without pain to patient
- Stimulus for intestinal pain is stretching or distention
- Distension of intestine - colic
- Severe colic - occurs in paroxysms
- Small intestine pain - usually epigastric or umbilical
Knowledge of Physiology

- Large intestine colic - localized to hypogastrium
- Biliary distension - pain localized to right subscapular area
- Renal colic - localized to loin and corresponding testicle
- Not peritonitis - movement makes the pain worse
Paroxysmal pain with Characteristic Twisting and Doubling Over

- Usually intestinal obstruction
- Not peritonitis - movement makes this pain worse
Shock

- Tachycardia, pale, diaphoretic, BP drop in early stages of abdominal pain usually indicates intra-abdominal hemorrhage; shock in later stages of abdominal pain - more associated with decreased intravascular volume secondary to fluid loss, vomiting, sequestration of fluids into distended intestine, bleeding into infarcted intestine
Exclusion of Medical Diseases

• Patients taking adrenal steroids
  – Special case, diminishes symptoms due to inflammation
  – Can cause intestinal perforations with chronic use
  – Even slight abdominal pain should be taken seriously
History

• Time of onset (indication of severity, changing nature of pain and time)
• Pain with activity (what were you doing when the pain began?)
• Presence of nausea/vomiting (if N/V follow pain, suspect a surgical abdomen)
• Patient’s age (acute intussusception in temperate climates occurs in infants under two years of age)
History

• Torsion of gut or ovary - sudden, sharp pain
• Shifting or localizing of pain - first felt in thorax, but now in a dissecting aneurysm
• Character of pain - gastric ulcer - burning pain
• Acute pancreatitis - agonizing pain
• Dissecting aneurysm - tearing pain (also renal lithiasis)
History

- Biliary colic - sharp, constricting pain - “takes the breath away”
- Abdominal obstruction - gripping pain
- Appendicitis - acute aching
- Pyelonephritis - constant, dull pain
History

• Radiations of pain
  – Sometimes diagnostic
  – Biliary colic - pain referred to inferior angle of right scapula
  – Renal colic - testicle on same side
  – Pleuritic pain - worse with deep inspiration
  – Gallbladder inflammation - pain is worse with forced respiration
Special Types of Pain

• Pain with micturition - renal stone, colic, pelvic abscess, inflamed appendix irritating right ureter, acute hydronephrosis
• Pain with reclining, relieved by sitting up; is often retroperitoneal
• Always ask about menstruation
Physical Exam

• General appearance
  – Facial expressions, grimace, able to communicate
  – Cool, clammy skin
  – Pallor to skin, cheeks, tongue, conjunctiva, fingernails (capillary refill), anemia
  – Nasal flaring, temperature, respiratory rate, pulse
Physical Exam

• Attitude lying down
  – Restlessness and severe colic
  – Immobile - peritonitis
  – Knees drawn up - peritonitis
  – Pancreatitis or retroperitoneal pain - prefer to sit up
Abdominal Exam

- Ask patient where it hurts
- Inspection of abdomen - look for distension (local or general)
- Check hernial areas
- Movement on respiration - with a perforated viscus, the abdomen wall does not move well with respiration
Abdominal Exam

- Palpation and percussion of abdomen
  - Be gentle
  - Extent and intensity of muscle rigidity
  - Locate tender areas
  - Flex patient’s thighs while palpating abdomen
  - Percussion
    - Amount of distension of gut
    - Map out any dullness
Abdominal Exam

• Rebound tenderness
  – Press down, then suddenly release; severe pain on rebound
  – Not always a good test
Abdominal Exam

• Rigidity
  – Contraction of abdomen muscles
• Board-like abdomen - usually young people with severe irritation of peritoneum
• Rigidity often absent in pelvic inflammatory lesion and intestinal obstruction
Abdominal Exam

• Hyperesthesia
  – Tested with light stroke of finger or cotton swab
  – Useful in patients with chronic or recurring pain
  – Testing for nerve root compression as source of pain
Abdominal Exam

• Iliopsoas rigidity
  – Inflamed focus in relation to psoas muscle
  – Corresponding thigh is flexed to relieve pain
  – Patient lies on opposite side and extends thigh, reproducing pain
Abdominal Exam

- Male
  - Check prostate, bladder, seminal vesicles
- Female
  - Swelling of pouch of Douglas, enlargement/displacement of uterus
Abdominal Exam

• Rectal
  – Fecal impaction
  – Test for tenderness of pelvic peritoneum
  – Pressure laterally - tender appendix
  – Pressure posterior - tumor, inflammation of pyriformis
  – Cervical manipulation - pelvic peritoneal inflammation
Abdominal Exam

• Auscultation
  – A quiet abdomen - relates more to peritonitis
  – Loud, hyperactive sounds - association with intestinal obstruction
  – Check for bruits
Abdominal Exam

• Lab
  – Often useless
  – UA
  – Pregnancy test, quantitative Beta-HCG
  – ECG in older patients
  – Electrolytes/BUN in patients with contracted volumes
Abdominal Exam

- Lab
  - CBC, if blood loss suspected
  - Type and cross for suspected shock
  - Flat plate and upright of abdomen - look for free air, stair-stepping
  - Barium useful in suspected intussusception
  - Reserve MRI, ultrasound, CT, endoscopy for specific problems
Specific Diseases - Appendicitis

• 10-30 year age range, most common
• Symptoms: anorexia, periumbilical pain, localized right lower quadrant pain (not always present), rebound tenderness suggests peritoneal involvement
Specific Diseases - Cholecystitis

- Cholelithiasis, acalculous cholecystitis, ascending cholangitis, empyema grangrene
- Post cholecystectomy - obstruction of cystic duct
- Ascending cholangitis - common duct stones - intolerance to fatty foods, gas in gallbladder wall on x-ray, stones on ultrasound
Specific Diseases - Perforated Viscus

- Causes patients on nonsteroidals (NSAIDs) and steroids, foreign bodies, inflammation, neoplastic disease
- Sudden onset
- Perforation of ulcers, gallbladder, acute distress, colicky pain, vomiting, tachypnea, signs of shock, abdominal tenderness, rigidity, decreased bowel sounds, free air under diaphragm
Specific Diseases - Intestinal Obstruction

• Dynamic or paralytic
• Small bowel obstruction - mechanical, causes, postsurgical adhesions (number one)
• Incarcerated inguinal hernias
• Tumors
Intestinal Obstruction

- Crohn’s disease
- Colonic obstruction - carcinoma, diverticulitis
- Volvulus, impaction, characterized by distension
- Vague pain, flatus
Hernias

• Indirect, most common type, mostly in men
• Incarcerated hernia - leads to strangulation and toxicity
• The larger the hernia the less likely it will incarcerate and easier it is to reduce
Reference