Physical Exam & Associated Pathology
Part VI – Abdomen

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The Abdomen

• Signs and Symptoms

**Gastrointestinal**
- Abdominal pain, acute, and chronic
- Indigestion, nausea, vomiting, loss of appetite
- Dysphagia
- Change in bowel function
- Diarrhea, constipation
- Jaundice
- Difficult or painful swallowing

**Urinary and Renal**
- Suprapubic pain
- Dysuria, urgency, or frequency
- Polyuria or nocturia
- Urinary incontinence
- Hematuria
- Kidney or flank pain
- Ureteral colic

- Visceral pain: Varies in quality and is usually described as gnawing, burning, cramping, or aching. As the symptoms increase, they may be associated with sweating, pallor, nausea, vomiting, and restlessness.
- Periumbilical pain: May signify early acute appendicitis; gradually changes to parietal pain in the right lower quadrant from inflammation of the adjacent parietal peritoneum.
- Parietal pain: Comes from inflammation of the parietal peritoneum. Is precisely located over the involved area, and is described as a steady, aching pain that is more severe than visceral pain, and is aggravated by movement. The hallmark of this type of pain is that the patient prefers to lie still.
- Referred pain: This pain is innervated at approximately the same spinal levels.
  - Cardiac pain may refer to the shoulder, arm, neck, face; gallbladder to the right shoulder; pancreatic pain to the back.
  - Referred pain may also originate from the chest, spine, or pelvis.
    - Pain in the epigastric area may be from the heart and/or lungs.

• Examination

  o **Inspect the surface and movements of the abdomen**
    - **The Skin**
      - Scars – trauma or prior surgeries
      - Striae – stretch marks are normal as opposed to the purple striae of Cushing’s disease
      - Dilated veins – numerous veins are indicative of liver disease, however few may be seen normally
      - Dermatological changes
Examination (con’t)

- **The contour of the abdomen**
  - Hernias, bladder distention, pregnancy

- **Pulsations**
  - Suggestive of an aortic aneurysm (ultrasound will confirm this finding)

- **Auscultation**
  - Perform before percussion or palpation
  - Listen for bowel sounds and bruits
  - Bruits are indicative of vascular disease

- **Percussion**
  - A protuberant abdomen that is tympanic throughout suggests *intestinal obstruction*.

- **Palpation**
  - Begin with light palpation (patient’s knee flexed)
    - Abdominal rigidity suggests a peritoneal inflammation.
  - Deep palpation for abdominal masses
    - Abdominal masses include:
      - Physiologic (pregnancy)
      - Inflammatory diseases
      - Vascular (aneurysm)
      - Cancer
      - Obstruction
    - Rebound tenderness suggests peritoneal inflammation
Exam (con’t)

- The Liver
  - Percussion
    - Percuss along the right midclavicular line, down from just under the nipple until a dull sound is heard; note the location and continue to percuss down the MCL until the dullness changes to a resonant or tympanic sound. Note the location; normal liver span is from 6-12 cm. A larger span indicates an enlarged liver.
  - Palpation
    - The liver normally lies under the rib cage and is therefore not easily palpated. The edge of the liver is normally a soft, smooth surface.
    - Using your left hand, support the rib cage behind the liver on the posterior surface. Use your right hand to palpate the liver.
    - The signs of an abnormal liver are as follows:
      - Hardness
      - Irregular contour
      - Rounding of its edge
    - Note that the gallbladder is centrally located on the liver and can be extremely tender in patients with gallbladder dysfunction. Ask the patient to breathe in deeply, which will cause the gallbladder to press against the palping hand. Note the level of pain.
    - Upon inspiration, the liver is more easily palpable.

- The Spleen
  - The spleen is difficult to percuss and palpate due to its location.
    - If the spleen is palpable, it is more likely to be Splenomegaly.
    - Causes include portal hypertension, cancer, HIV infection, and splenic infarct or hematoma.
• Examination (con’t)

  o The Kidneys

    • Palpation
      – Kidneys are not usually palpable, but developing techniques of examination is important in detecting enlargement.
      – With your right hand behind the patient, below and parallel to the 12th rib, push up against the costovertebral angle. Place your left hand in the left upper quadrant and ‘capture’ the kidney while the patient takes a deep breath. Repeat on the right.
      – Kidney enlargement suggests hydronephrosis, cysts, and tumors.

    • Percussion
      – Murphy’s Punch Sign suggests inflammation of the kidney.

  o The Abdominal Aorta

    • Identify the aortic pulsations by pressing firmly and deep in the upper abdomen, slightly to the left of the midline. A normal aorta is not more than 3.0 cm wide (average, 2.5 cm), not including the thickness of the abdominal wall.
    • Sensitivity of palpation increases as the aneurysm grows.

Assessing Pain and Masses

  o Assessing appendicitis

    • Pain usually begins near to the umbilicus and moves to the right lower quadrant. Coughing increases pain. Localized tenderness in the right lower quadrant suggests appendicitis.
    • Feel for muscular rigidity.
    • Classic symptoms include pain, vomiting, fever (vomiting typically follows pain)
    • Rebound tenderness suggests peritoneal inflammation.
    • Check for psoas sign; muscle test
    • Check for an obturator sign; internal hip rotation
Assessing acute cholecystitis

- Check for Murphy’s sign when right upper quadrant pain and tenderness suggest acute cholecystitis. (Have patient inhale)

Abdominal wall mass

- It is important to distinguish an abdominal mass from a mass in the abdominal wall.
  - Ask the patient to raise the head and shoulders or to strain down, which will tighten the abdominal muscles. A mass in the abdominal wall remains palpable; an intra-abdominal mass due to contraction of the abdominals goes away.

References:

All reference material is listed at the conclusion of the Physical Examination and Associated Pathology lessons.