Physical Examination of the Abdomen

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Learning Objectives

- Describe 4 essential elements of the examination of the abdomen
- Analyze accuracy of bedside techniques in diagnosing organomegaly
- Perform self-assessment of your clinical skills in the examination of the abdomen
Physical Examination

- **Systematic**
  - Performed methodically and thoroughly
- **Consideration for the patient’s comfort and modesty**
- **Performed repeatedly**
- **Complements information from the history**
- **Fosters patient-physician relationship**
Physical Exam of the Abdomen

- **Equipment**
- **Examiner**
  - On the right side of the patient
- **Patient**
  - Lying flat on bed
  - Arms on the sides
  - Abdomen exposed
  - Legs flat during initially or with pillow under the knees
  - Legs bent
Physical Examination of the Abdomen

- Inspection
- Auscultation
- Percussion
- Palpation
Inspection

General appearance
- Writhing in pain
- Renal or biliary colic
- Lying still in bed
- Peritonitis
- Pale and sweating
- Shock from pancreatitis or gastric perforation

Respiratory rate
INSPECTION

- Inspect the abdomen
  - Contour
  - Striae
  - Ecchymosis
    - Grey Turner’s sign
    - Flank discoloration
    - Massive ecchymosis secondary to hemorrhagic pancreatitis
  - Cullen’s sign
    - Bluish discoloration of the umbilicus secondary to hemoperitoneum of any cause
  - Surgical scars

- Other causes of Turner or Cullen’s sign
  - Ruptured ectopic pregnancy
  - Severe trauma
  - Rupture abdominal aortic aneurysm
  - Coagulopathy
  - Any condition with bleeding into the abdomen
INSPECTION

- Inspect for hernias
  - Ask patient to cough

- Inspect the superficial veins
  - Evaluate the direction of drainage
  - Place tip of your index fingers on a vein that is oriented cephalad-caudad
  - Compress and slide index fingers apart for about 7-10 cm
  - Remove finger and observe finger the direction of flow
  - **Vena caval obstruction**: veins drain toward the head
  - **Portal hypertension**: dilated veins radiate from the umbilicus
AUSCULTATION

- Bruits
- Friction rubs
  - Vascular disease
- Loss of bowel sounds
  - Ileus
- High-pitched, hyperactive sounds
  - Intestinal obstruction
AUSCULTATION

Motion of air and liquid in the GIT
Use diaphragm of stethoscope over midabdomen

- Normal bowel sounds occur every 5-10 mins and have high-pitched sound
- Absence of bowel sounds
  - Ileus
- Rushes of low-pitched rumbling sounds
  - Hyperperistalsis
- “Succussion splash”
  - Observed in obstruction
AUSCULTATION

- Listen for bruits
  - Evaluate each quadrant
  - May occur in stenosis of the renal artery or abdominal aorta

- Listen for friction rubs
  - Right and upper left quadrant
  - Hepatic and splenic disorder
PERCUSSION

- Liver size
- Shifting dullness
- Ascites
PERCUSSION

- Evaluate all 4 quadrants
- Percussion of the liver
  - Start on the R midclavicular line in the midchest
  - Percuss downwards
    - Chest: resonant
    - Liver: dull
    - Upper and lower borders: 10 cm
    -Colon: tympanic
Percussion of the spleen

Spleen hidden within the rib cage against the Traube’s space

Traube’s space defined by:
- Superiorly: 6th rib
- Laterally: anterior axillary line
- Inferiorly: costal margin

Dullness in Traube’s space is observed in splenic enlargement
Examiner begins percussion at midpoint of left costal margin in a perpendicular direction towards the midaxillary line.

Positive indication: dullness is present more than 8 cm above the costal margin.


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Using Castell's method, the examiner percusses at the level of Castell's spot in both expiration and full inspiration.

Positive indication: percussion is dull or becomes dull on full inspiration.

Using Traube's space, the examiner percusses across the space at one or more levels from medial to lateral margins while patient breathes normally.

Positive indication: percussion is dull.
Percussion of the Spleen
PERCUSSION

- Rule out ascites
- Examine for “shifting dullness”
- Test for “fluid wave”
PALPATION

- Begin in an area farthest away from the pain
- Use the flat part of the hand or pads of the finger
- Lift hand from area to area
- Different techniques
  - Light palpation
  - Deep palpation
  - Liver palpation
  - Spleen palpation
LIGHT PALPATION
DEEP PALPATION
LIVER PALPATION
TEST FOR LIVER TENDERNESS
SPLEEN PALPATION
Abdominal Aortic Aneurism

HOW SENSITIVE IS PALPATION FOR DETECTING ABDOMINAL AORTIC ANEURISM?

• Aneurysms require surgery if larger than 5cm. Examination for abdominal aortic aneurysm (AAA) has sensitivity of:
  • 82% if patient's girth is under 100 cm (40 inches)
  • 100% if patient's girth is under 100 cm and aneurysm is over 5 cm
  • 52% if patient's girth is 100 cm or more

Objectives: skills station

- Practice the most recommended techniques of examination of the abdomen
- Analyze commonly made mistakes in examining the abdomen
- Comparison of bedside techniques and ultrasound imaging in the diagnosis of liver and spleen
REFERENCES

• Simel DL, Rennie Drummond. The rational clinical examination: evidence-based clinical diagnosis 2009