Diseases of the gastrointestinal tract

Lecture 4. For 2nd grade dentistry faculties students

Department of internal medicine # 3

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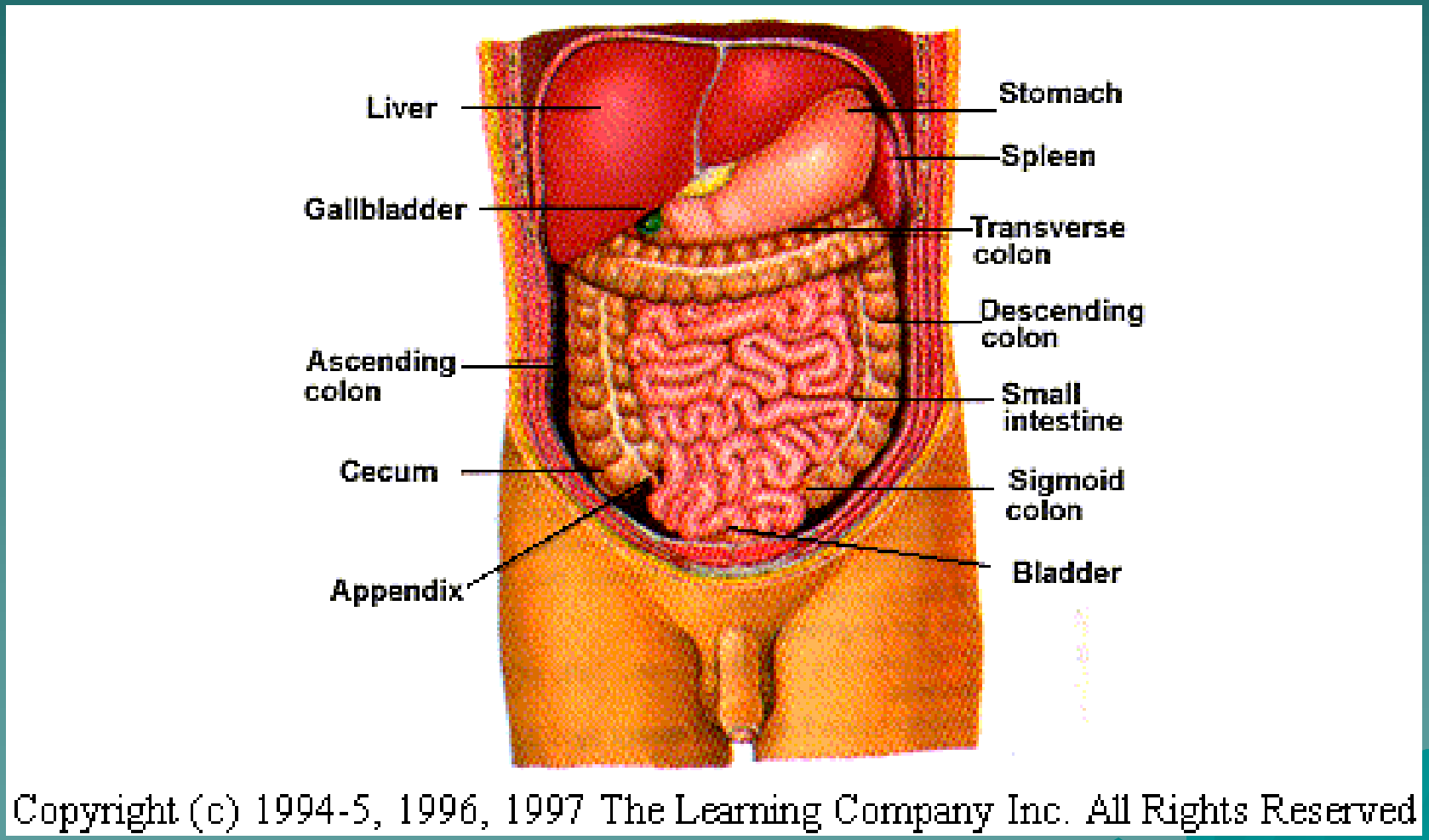
Gastrointestinal tract examination



Main complains by gastrointestinal tract diseases

- abdominal pain,
- trouble swallowing,
- heartburn,
- nausea, vomiting, vomiting blood,
- frequency of bowel movements,
- change in bowel habits,
- rectal bleeding or black tarry stools,
- constipation,
- diarrhea,
- jaundice

The GI system is an important system that mandates special attention to symptoms.

Common symptoms related to the GI system are:

- abdominal pain,
- dyspepsia,
- nausea and vomiting,
- diarrhea,
- dysphagia,
- hiccups,
- constipation
- signs related to GI bleeding (e.g., he-matemesis, hematochezia, and melena).

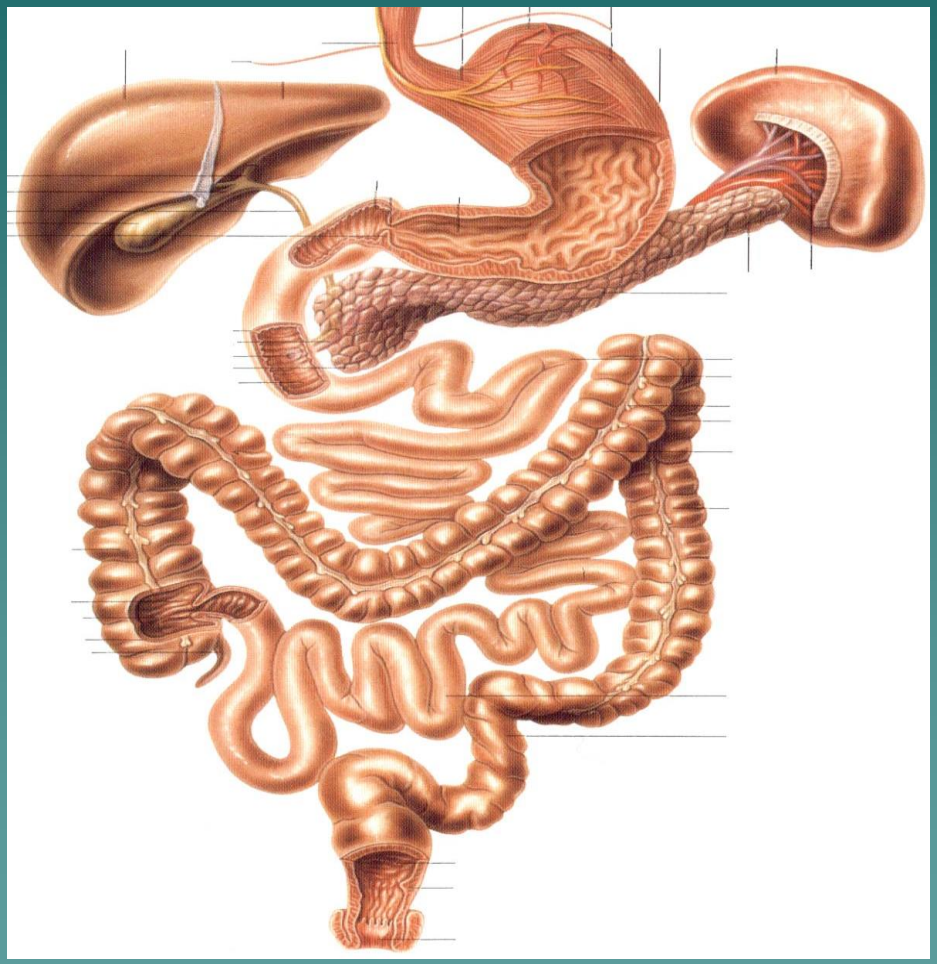
DIFFERENCIAL DIAGNOSIS OF THE **ABDOMINAL PAIN**

The abdominal cavity has several organs, and there is no pathognomonic sign or symptom that is specific to each abdominal organ.

Frequently, the signs and symptoms overlap each other, so it is very important to consider a wide possibility of diagnoses.

Other disease factors, such as age, gender, and other risk factors, are very important to consider case by case.

Anatomy of Gastrointestinal tract



Abdominal pain is a common complaint.

- The anatomic localization, quality, frequency, and form of pain presentation may orient you toward the diagnosis.
- Knowing the origin of abdominal pain is useful to understanding the differential diagnosis.

As a general rule only three processes are capable of producing pain on the alimentary tract:

1. Pain caused by tension-e.g., powerful peristalsis caused by oxalic acid, infection, and so forth.

2. Pain caused by ischemia-e.g., strangulation, obstruction, adhesion, volvulus.

3. Pain caused by peritoneal inflammation (peritonitis).

- **Acute abdominal pain** and **colic type pain** may be due to cholecystitis, ureteral stones, intestinal obstruction, and so forth.

- Only a minority of patients presenting with **acute abdominal pain** are found to have a problem that requires **surgical treatment**.
- It is very important to remember that almost 50% of these patients have no identifiable causes of **abdominal pain**.

On any presented case with abdominal pain, it is important to consider the possibility of pneumonia; some basal lung pneumonias may cause a referred pain to the abdomen.

Dyspepsia

- is an imprecise term to describe an upper abdominal discomfort, such as
- epigastric tenderness,
- fullness sensation,
- bloating,
- early satiety,
- heartburn or regurgitation.

Nausea and vomiting -

are symptoms that may involve more than a GI system abnormality.

Systemic illness, side effects of medications, and some viral illnesses may cause nausea and vomiting.

Also, nausea and vomiting are common symptoms of pregnancy. If intestinal obstruction is not suspected, common antiemetics and oral intake limited to clear fluids are helpful to control it.

Diarrhea -

can be classified as acute or chronic.

The approach to a patient with diarrhea consists of trying to identify and treat the possible cause, control any fluid and electrolyte abnormality and, if indicated, use of antidiarrheal medications.

Esophageal diseases are commonly manifested by dysphagia, odynophagia, or heartburn.

- **Dysphagia** is a difficulty in swallowing and is commonly described as a sticking sensation.
- **Odynophagia** is pain on swallowing. It is important to know if dysphagia is for solids or liquids.
- **Heartburn** is described as substernal burning sensation that radiates toward the mouth and is increased by bending forward.

Hiccups -

are a sporadic and unremarkable symptom that generally does not mandate medical consultation.

However, chronic, recurrent hiccups may indicate a severe condition that mandates further examination.

Constipation -

is a common complaint that you may be presented with during exam.

Constipation can have several causes, such as lack of medications (e.g., aluminium hydroxide, anticholinergics, iron supplements, narcoitcs), or systemic diseases (e.g., hypothyroidism, diabetes, hypercalcemia).

It is important to question the patient about the presence of tenesmus (pain during the defe-cation), which may indirectly cause constipation.

Ask about and document any change in the pattern of stools, including consistency, thickness, or presence of blood. Colon cancer always needs to be considered.

- Finally, it is very important to consider the evaluation of a patient with **GI bleeding**.
- Hemodynatnically unstable patients are treated initially by maintaining an adequate circulatory volume, and their initial assessment is oriented initially toward monitoring the heart rate, blood pressure, urinary output, postural changes, and so forth.
- Nonacute GI bleeding can be evaluated in the office and can he classified as **upper or lower GI bleeding**, depending on the signs and symptoms.

- **Upper GI** bleeding may be suggested by the presence of hematemesis or melena.
- **Lower GI** bleeding can be referred as hematochezia or brisk blood in feces, or can be suggested during positive test - hemoccultpositive stool test.
- Remember, this test may have false-positive results due to certain foods (e.g., broccoli, radishes, turnips, roast beef) and medications (e.g., Pepto-Bismol).
- A Gregersen test can he performed quickly in a routine office visit.

PHYSICAL EXAMINATION of the gastrointestinal system

The correct order to examine the Gastrointestinal System is:

- inspection,
- auscultation,
- percussion, and
- palpation.

- The medical history is the most important tool in the study of patients with GI problems.
- Always accompany the GI exam with the palpation of the supraclavicular nodes and axillary nodes.
- As mentioned, the presence of palpable left supraclavicular node (**Virchow node**) and left axillary node (**Irish node**) always alerts you to the possibility of **GI cancer**.

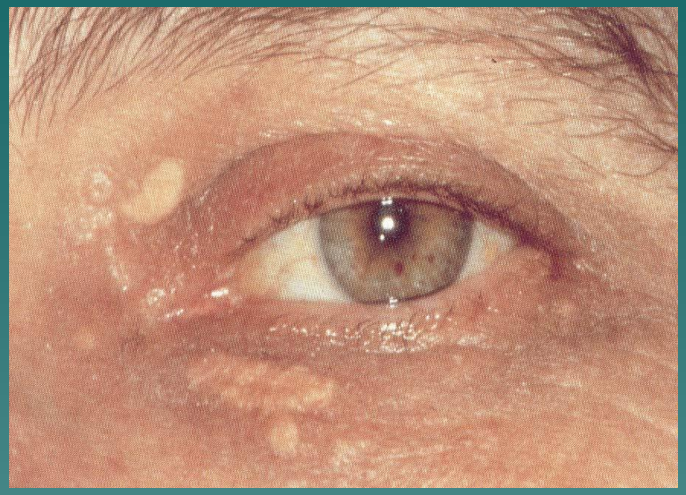
INSPECTION

Observe the skin and note the presence of any abnormality, such as:

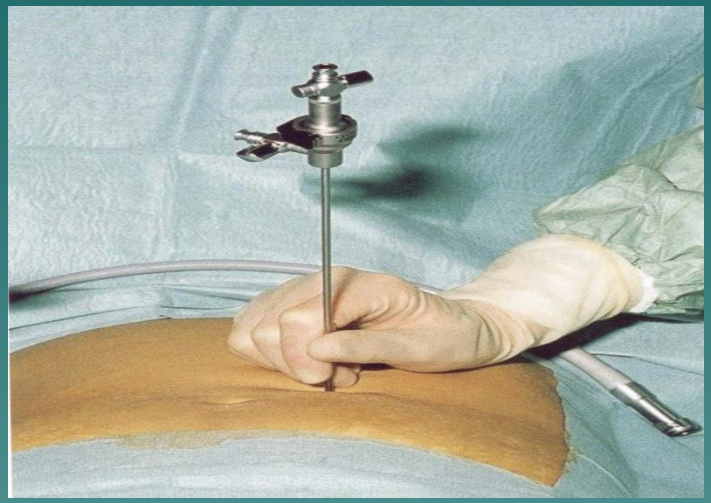
- rashes,
- purpura, or
- evident hernias,
- striae gravidarum,
- uneven furrows.

INSPECTION

- On thin individuals, you may notice the pulsation of the abdominal aorta on the midline above the umbilicus, and sometimes the periodic rippling movement of the peristaltic movement on intestinal obstruction.
- Note the gravidae striae in women as well as the purple striae in patients with Cushing syndrome.



Ascitic patients may present with a typical globular abdomen. Ffree liquid in abdominal cavity, stria gravidarum,



Caput medusa

- sign is visible vascular veins observed around the umbilicus, seen in liver cirrhosis.
- Always describe your findings by dividing the abdomen in four quadrants with imaginary lines that crosses at the umbilicus.

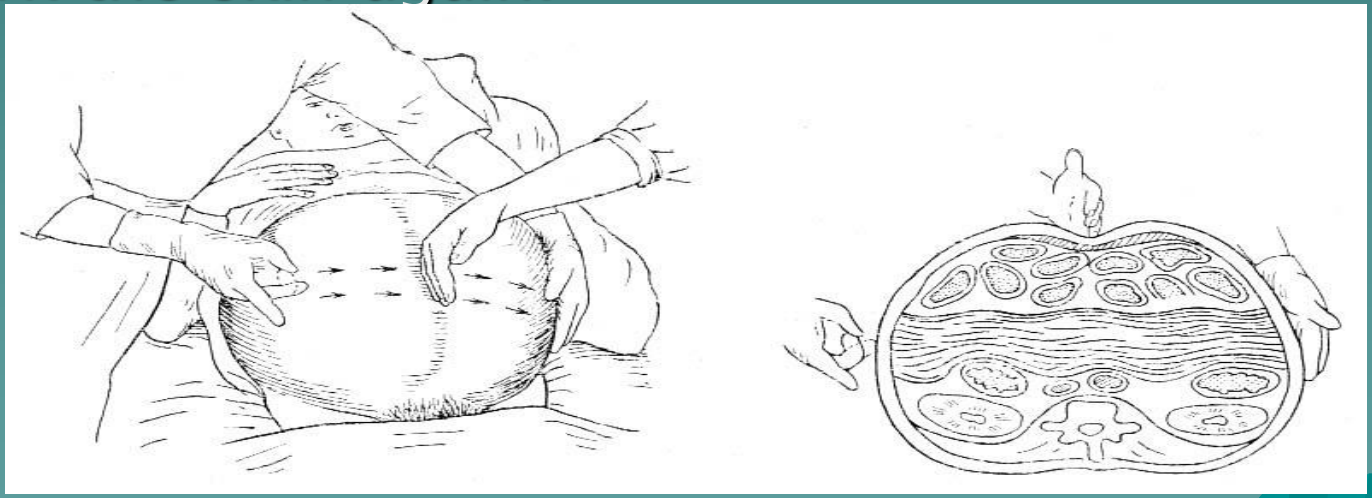
AUSCULTATION

- Start by placing the diaphragm of the stethoscope on the abdomen, and listen carefully to the bowel sounds.
- The normal bowel sounds (gurgling sounds) vary from 5 to 34/min in frequency, depending on the dynamic state of the bowel.
- The peristaltic sounds occur at 5 to 10 second intervals.
- An increase in frequency of bowel sounds can be caused by inflammation of the intestinal mucosa due to infections or inflammatory disorders, such as Crohn disease and ulcerative colitis.

PERCUSSION

- This procedure is important for delineating the liver and spleen areas.
- Also, it is useful to identify the presence of ascitic fluid and solid or fluid-filled masses. You may alternate percussion with palpation.
- Start by percussion lightly in all four quadrants to determine the distribution of the gas in the abdomen.
- If you suspect ascites on the patient, place him or her in a supine position.
- The normal gas distribution on this position is to float above the ascitic fluid.

- As you percuss over the abdominal wall, you will notice the change of the percussion sound from tympanic or resonant to dull on the lateral sides.
- Mark the skin at the fluid gas level detected, then roll the patient to one lateral side and note the change of the position of the dullness and tympani.
- Mark the skin again.



PALPATION

This part of the abdominal examination can be divided into light and deep palpation.

Light Palpation

This procedure is particularly useful for detection of muscular resistance and abdominal tenderness and for exploration of superficial subcutaneous masses.

Start by asking the patient to show you the area of pain or tenderness if abdominal pain is a presenting complaint.

If the patient has a more localized pain, tell him to point to the area of pain with his finger.

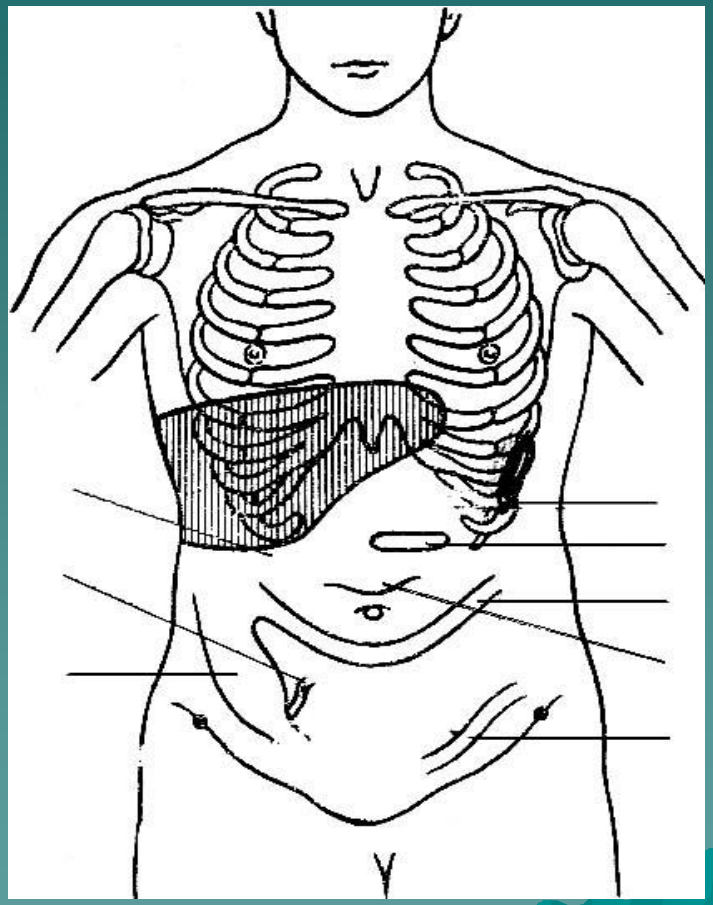
Begin light palpation in the area adjacent to tenderness site and then continuing to previously specified region (area of tenderness or pain).

Deep Palpation

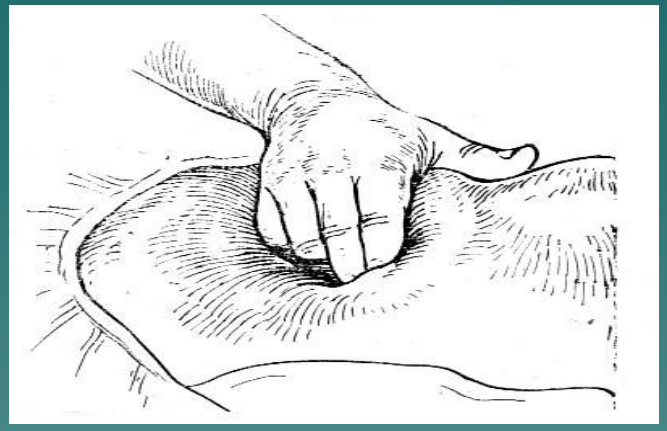
- Deep palpation is usually required to delineate the abdominal organs (liver, spleen, and kidneys) or other pathologic masses.
- Localize the anatomic area where the pain is referred by the patient, and cautiously make soft and light pressure.

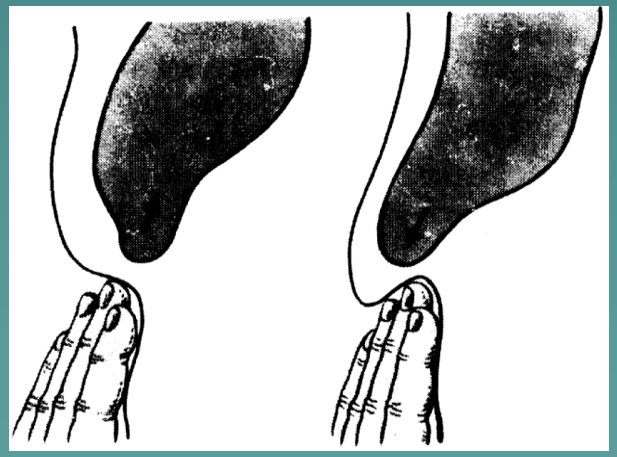
Oder of Deep palpation

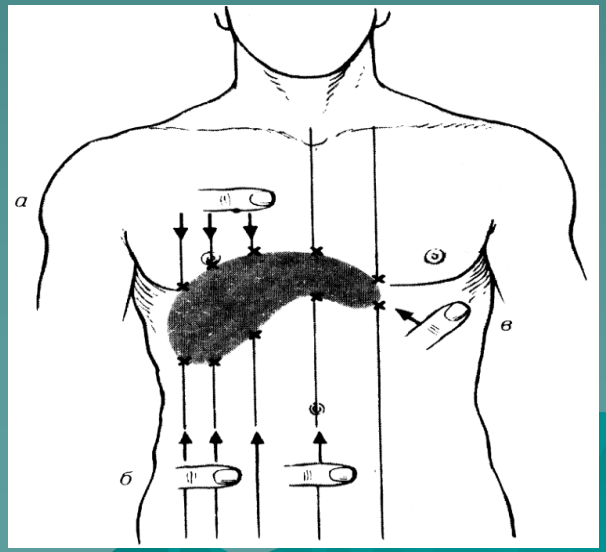
- As you palpate the patient, try to imagine which organ is the cause of the problem.
- Initially the visceral pain (due to affection of the visceral peritoneum) will be referred to other regions distant from the original site of problem.
- As the inflammatory or irritative process continues, the parietal peritoneum become affected and the pain becomes somatic and then well-localized.



Palpation and percussion







- The **liver** and **gall bladder** must be explored by palpating the right upper quadrant (RUQ) using both hands or by the bimanual manner (placing one hand behind the patient and the other over the abdomen).
- Always talk with the patient, explaining every procedure that you are going to do.
- Looking to his head, proceed to delineate the upper and lower margin by palpation and percussion.
- The liver's normal sizes are 6 to 12 cms at the right midclavicular line and 4 to 8 at the midsternal line.
- Describe any abnormal characteristic, such as tenderness or nodularity.

- Depending on your clinical suspicion, correlate your exam with other clinical data:

jaundice tremors,

upper GI bleeding,

loss of hair on extremities,

alteration on the mental status

if you are suspecting liver cirrhosis, etc.

- Ask the patient to take a deep breath as you try to palpate the lower margin of the liver and the gall bladder.
- The normal gall bladder is not palpated, but when obstructed and distended with bile, it can be detected on palpation.
- Determine the presence Murphy sign. Murphy sign is characterized by the arrest of inspiratory effort as the examiner's hand contacts the inflamed gall bladder.

Jaundice

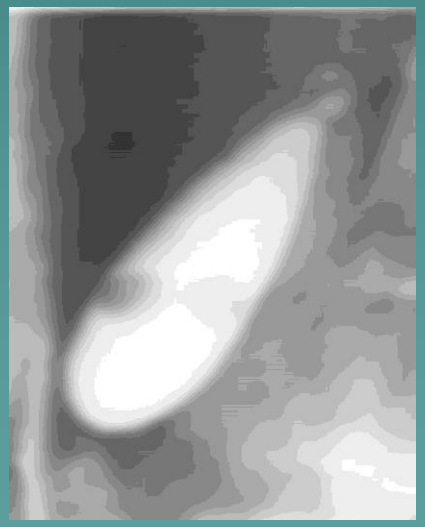
- There are many signs that can be related to liver and gall bladder disease.
- Jaundice is one of the most reliable and one of the first that the clinician frequently attributes.

- The differential diagnosis of jaundice is wide and may indicate more than liver diseases.
- Palpation of the spleen is similar to the liver, and under normal conditions the spleen will not be palpated.

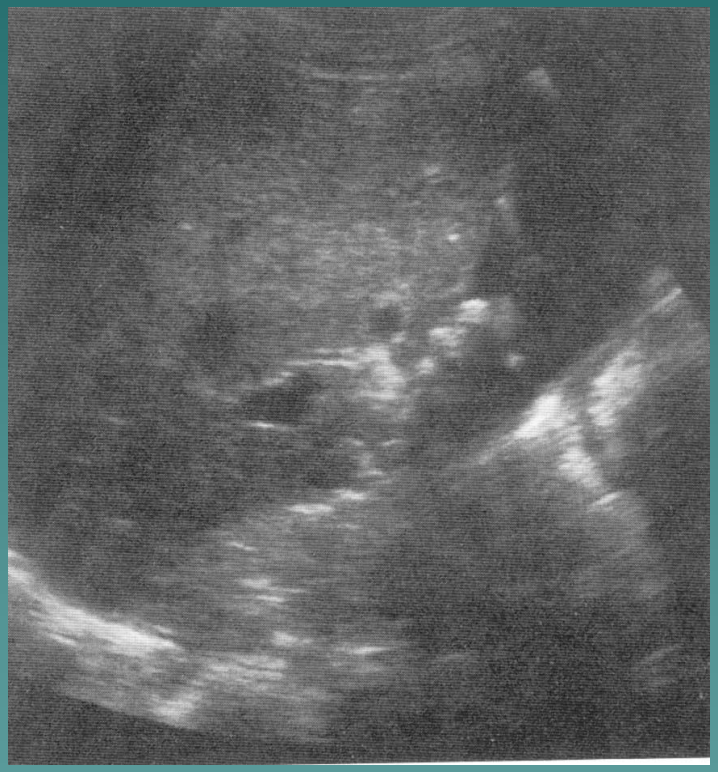
Main syndromes of gastro-intestinal system deseases

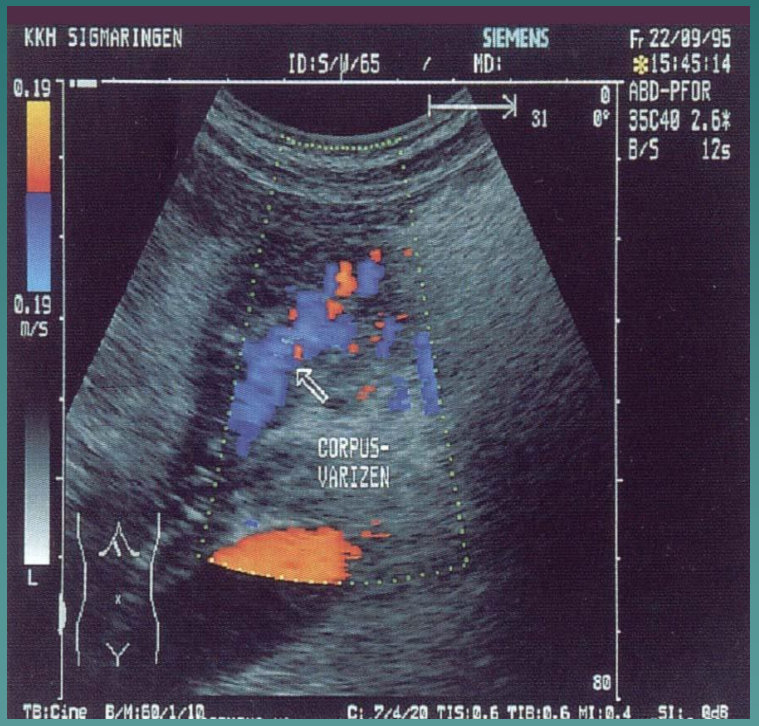
1. Abdominal pain: gastrities, peptic ulcer, cholecystities, pancreatities, apendicities, hernia, pnevmonia, myocardium infarction, diabetic ketoacidosis, vasculities.
2. Gastro-intestinal blooding
3. Jaundice: hepatic, posthepatic (mechanical), haemolytic
4. Hepato-cellular insufficientice

Examination methods in gastroenterology
X – ray examination



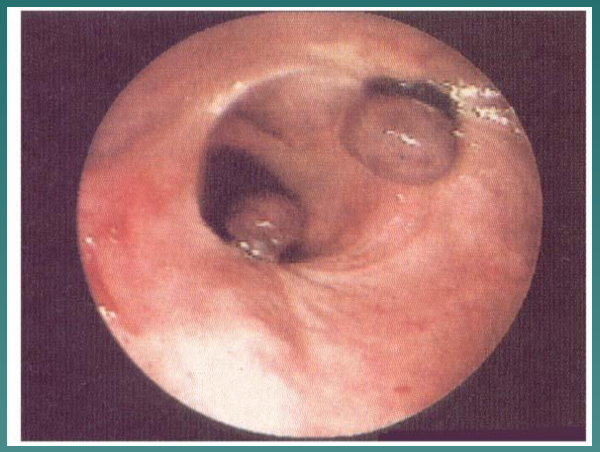
Examination methods in gastroenterology. Ultrasound examination.

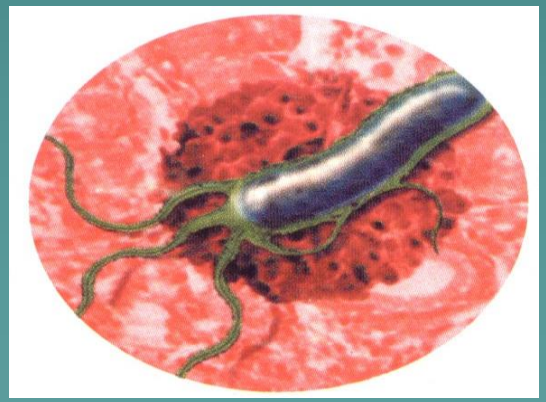




Examination methods in gastroenterology

fibroscopie





Change in the oral cavity at the diseases of the alimentary tract.