Pleomorphic adenoma, gastritis, gastric cancer, ulcerative colitis, Crohn's disease, celiac disease, liver cirrhosis, acute hemorrhagic pancreatitis

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CASE NO. 1

- 45-year-old woman visited her dentist for an enlarging, painless nodule on her palate

- Diagnosis?
- Complications?
Epithelial tumor structures embedded in mucoid, myxoid or chondroid stroma (myxochondroepithelioma)
Myoepithelial cells and ductal epithelial cells – forming solid areas and bands, rarely cribriform and tubular structures.
DISEASES OF THE ORAL CAVITY
PLEOMORPHIC ADENOMA OF THE SALIVARY GLAND

• most commonly affects gl. parotis, women, 30-60 y
• slow growth, painless, face deformity

Macroscopic finding

• well demarcated, not fixed, nodular, firm-elastic consistency

➢ Usually benign, sometimes it is not possible to reliably assess biological properties, infiltration into the capsule, recurrences, possibility of a malignant variant
54-year-old woman came to the emergency department complaining of repeated vomiting with admixture of blood.

From the anamnesis you find that she has been suffering from epigastric pain for a long time, she is being treated for osteoarthritis, for which she takes non-steroidal anti-inflammatory drugs daily.

She admits that she works in a stressful environment.

- Diagnosis?
- Complications?
Chronic gastritis - chronic inflammatory infiltrate in the submucosa
Chronic gastritis type B – presence of H. Pylori
GASTRITIS

Etiology

- large doses of NSAIDs, alcohol, smoking, cytostatics, systemic infections (e.g. salmonellosis), severe prolonged stress, ischemic gastric damage and shock, ionizing radiation, poor lifestyle

Diagnostics

- endoscopic examination with biopsy sampling (always state from which part of the stomach the sample is taken!)

Complications

- gastric ulcer, pernicious anemia

Clinical manifestation

- asymptomatic or with only mild symptoms such as stomach pain, nausea and vomiting in chronic gastritis
ACUTE GASTRITIS

• acute inflammatory process with damage to the gastric mucosa ranging from hyperemia to erosion and ulcers

Microscopic findings

• mucosal hyperemia, edema, Neu and Lym infiltrate, epithelial regeneration may also occur simultaneously

• healing occurs by regeneration or progresses into chronic state
GASTRITIS
CHRONIC GASTRITIS

- chronic inflammatory disease of the gastric mucosa with possibility of transition into atrophy and intestinal metaplasia

Classification based on etiology
1. Type A – autoimmune type
   • affects the body of the stomach
2. Type B – bacterial type
   • affects antrum, H. pylori infection
3. Type C – chemical

Classification based on morphology
1. Superficial or profound
   • Based on the depth of lymphocyte - plasma cell infiltrate
2. Atrophic gastritis with/-out intestinal metaplasia
   • Metaplasia is a precancerous lesion
GASTRITIS
CHRONIC GASTRITIS

Macroscopic findings

• non-specific image !!! (normal / edematous / atrophic mucosa)

the macroscopic findings may not correlate with the microscopic !!!

Microscopic findings

• alternating atrophic and hyperplastic mucosa, chronic inflammation, stromal sclerosis, intestinal metaplasia
GASTRIC ULCER

• complication of gastritis

• damage to the mucus barrier, hyperacidity due to elevated serum gastrin levels, gastric juice digestion of the mucosa

Clinical picture

• pain (visceral) in the epigastrium after a meal (antacids do not usually bring relief), loss of appetite, feeling full, heartburn, occasional vomiting with bile, they prefer to remain hungry due to fear of the pain
Multiple acute gastric ulcers
Perforation of a gastric ulcer
Chronic ulcer of the antral part of the stomach

Perforation of a chronic ulcer
Consequence of perforation of a gastric ulcer - acute serofibrinous (chemical) peritonitis
Case No. 3

- 46-year-old male was admitted to hospital for 2 weeks of headaches and cervical spine pain, weakness, fever, no vomiting, double vision
- the spine ache and headache are severely deteriorated when moving his head (meningeal signs)
- Examination? Results?

➢ Diagnosis?
➢ Complications?
• 46-year-old male was admitted to hospital for 2 weeks of headache and cervical spine pain, weakness, fever, no vomiting, double vision

• the spine ache and headache are severely deteriorated when moving head (meningeal signs)

• Examination? Results?

  o head CT scan: without focal changes

  o MRI: suspicion of leptomeningitis

  o Lumbar puncture: cerebrospinal fluid with malignant cells

  o Oncomarkers: highly positive Ca19-9

  o chest and abdominal CT scan: changes in the bodies of the Th and L vertebrae, mesenteric, retroperitoneal and pelvic LAP

  o Hemathological examination without significant findings

  o GFS: gastric ulcer + biopsy

➢ Diagnosis?
➢ Complications?
Tumor cells invading cerebellum
Tumor cells infiltrating the vertebral bone marrow
Gastric carcinoma
GASTRIC CARCINOMA

- Malignant epithelial tumor — adenocarcinoma
- 5th. most common malignancy worldwide with significant regional variability

Etiology
- Chronic gastritis, environmental factors, male gender, H. pylori, improper diet (N-nitro substances), smoking, part of hereditary syndromes
- Precancerous lesions - chronic gastritis with intestinal metaplasia

Macroscopic classification
1. Early carcinoma — infiltration not reaching beyond submucosis
2. Advanced carcinoma — infiltration to or beyond muscularis propria

Microscopic types
- Intestinal type, dissociated type, medullary, sigilocellular (signet ring-like cells)
- Implantation metastases in the abdominal cavity and also on the ovaries - Krukenberger tumor
32-year-old woman complains of abdominal cramping that lasts for about 2 months. She has been very tired lately and has lost 5kg.

A week ago she noticed that she had blood in her stool, for the last two weeks she had thin, runny stools, often she feels tenesmus after defecating.

During the physical examination the patient complains of pain in the left mesogastrium, during the per rectum examination you find blood on the glove.

Diagnosis?

Complications?
Ulcerative colitis
ulcers, inflammatory pseudopolyps, edema, lymphoplasmacytic infiltrate, crypt abscesses, goblet cells increased, later decreased, increased number of endocrine cells, vascular damage, muscular abnormalities
Ulcerative colitis - crypt abscess
ULCERATIVE COLITIS

- rare autoimmune type of inflammation
- it predominantly affects rectum and descending part of the large intestine
- diffuse colorectal inflammation, alternations of remissions and relapses
- affects mostly women between 20-25 years of life

Etiology

- multifactorial, genetic factors, immunological factors, exogenous factors

Complications

- dehydration, wall perforation, intestinal dilatation, thromboembolic complications, toxic megacolon, colorectal cancer

Diagnostics

- endoscopic examination, USG
CASE NO. 5

- 25-year-old woman came to her general practitioner complaining of pain in the right lower abdominal quadrant, which is not tied to food intake, in the last few days she also has had numerous loose stools

- Before that, she suffered from constipation. She feels pain in joints, but not always in the same ones

- by physical examination you find increased body temperature, numerous aphthous lesions in the oral cavity

- occult bleeding stool test is positive

➢ Diagnosis?

➢ Complications?
thickening of the wall, stenoses, mucosal ulcers with surrounding swelling, appearance of "paving stones", fissures, fistulae
Crohn's disease - transmural inflammation (Ly, plasma cells, macrophages), granulomas, ulcerations and fissures, submucosa edema, later intestinal wall fibrosis
Crohn's disease of the intestine
CROHN'S DISEASE

- chronic non-specific inflammation with formation of granulomas
- affects the entire thickness of the intestinal wall, segmental involvement
- mainly affects the terminal ileum and/or colon
- mainly affects women, between 15-30 years of life

Etiology

- unclear, multifactorial, genetic factors, immunological factors, exogenous factors
- it is believed to be a dysregulation of the immune response to common bacterial intestinal antigens

Diagnostics

- laboratory diagnostics – occult bleeding, antibodies ASCA, CRP, FW
- imaging methods - X-ray, USG, CT
- endoscopic examination – colono-, gastro-, capsule endoscopy
**INFLAMMATORY BOWEL DISEASE (IBD)**

<table>
<thead>
<tr>
<th></th>
<th>Crohn's disease</th>
<th>ulcerative colitis</th>
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<tbody>
<tr>
<td><strong>Location</strong></td>
<td>the entire digestive tract, most often the terminal ileum</td>
<td>rectum and colon</td>
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<tr>
<td><strong>abd X-ray</strong></td>
<td>segmental affection (alternation of inflamated and healthy sections)</td>
<td>continuous affection orally</td>
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<td></td>
<td>thickening of the intestinal wall</td>
<td>Haustra of colon disappear</td>
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<tr>
<td><strong>Endoscopy</strong></td>
<td>discontinuous affection, focal aphthae, linear ulcers</td>
<td>hemorrhagic mucosa, diffuse inflammation, pseudo-polyps</td>
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<tr>
<td><strong>Histology</strong></td>
<td>inflammation of all the layers of the wall (transmural)</td>
<td>Inflammation of mucosa and submucosa</td>
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<td>typical epithelioid granulomas, lymphocytic infiltrate</td>
<td>cryptitis, crypt abscesses</td>
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<td><strong>Clinical picture</strong></td>
<td>abdominal pain, weight loss, diarrhea with blood and mucus</td>
<td>bloody diarrhea with tenezmus</td>
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<td><strong>Complications</strong></td>
<td>formation of fistulae, stenoses and abscesses</td>
<td>increased risk of cancer</td>
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• 23-year-old woman suffers from diarrhea lasting more than 4 weeks. The stool is soft, voluminous and gray. She has lost 6kg in the last few months, despite her increased appetite.

• physical examination reveals loss of body muscle mass, significantly pale skin, enlarged, bloated abdomen

➢ Diagnosis?
➢ Complications?
Chronic inflammatory infiltrate in lamina propria, hyperplasia in crypts, many intraepithelial lymphocytes, subtotal to total atrophy of villi.
CELIAC DISEASE

• enteropathy with chronic inflammatory response to gliadin protein (part of gluten)

• genetic predisposition (95% of patients associated with HLA-DQ2)

• typical for the white race, can occur at any age

• a small bowel biopsy and antibody evidence are required for definitive diagnosis

• in children and adolescents, celiac disease can be diagnosed without biopsy, in these patients blood tests show 10-fold increased levels of anti-TTG antibodies, AEmA and positive genetic examination

• extraintestinal manifestations - dermatitis herpetiformis, anemia, autoimmune disease

• histological evaluation - MARSH

Laboratory findings

• serologically we detect antitransglutaminase (AntitTG) IgA, endomysial antibodies (EMA), antibodies against gliadin (AGA) class IgA and IgG
FORMS OF CELIAC DISEASE

❖ Classic (typical) celiac disease: manifested by typical indigestion and inflammatory changes of the intestinal mucosa

❖ Subclinical (atypical) celiac disease: manifested by symptoms that may not be related to indigestion. However, a biopsy confirms changes in the intestinal mucosa

❖ Silent celiac disease: it is asymptomatic, meaning that the patient does not experience typical digestive problems, but there is inflammation in the intestinal mucosa. Usually, the doctor reveals it by accident, while examining another health problem

❖ Latent celiac disease: just like the silent type, it is asymptomatic. Biopsy is usually negative but the body produces antibodies against endomysium and tissue transglutaminase

❖ Potential celiac disease: typical symptoms may or may not manifest. Potential celiac disease is characterized by an increased number of intraepithelial lymphocytes, as well as the production of antiendomysial, anti-transglutaminase antibodies.
• 55-year-old patient complains of fatigue, bloating, and loss of sexual appetite at a periodic check-up. Symptoms began gradually during the previous year.

• You find out that the man has alcohol addiction, he is currently undergoing treatment and has not been drinking for prolonged time.

• Physical examination shows painful, swollen breasts, ascites, yellow discoloration of the sclera and skin, telangiectasia of the face.

➢ Diagnosis?
➢ Complications?
Skin changes in liver cirrhosis
Liver cirrhosis
necrosis, regeneration, bridging of individual portal tracts, fibrosis, pseudolobules, pseudoductules, bile lakes and thrombi
Liver cirrhosis (van Gieson)
LIVER CIRRHOSIS

- Remodeling of lobular structure to nodular structure

Etiology
- chronic hepatitis C, B, B + D - posthepatitic cirrhosis
- alcoholic liver damage - alcoholic cirrhosis
- long-term biliary obstruction - biliary cirrhosis
- toxic liver damage (paracetamol, amatoxin, ...) - toxic cirrhosis
- metabolic diseases (Wilson’s disease, α1-antitrypsin deficiency, hemochromatosis, porphyria, CF and others)
- long-term venostasis - cirrhosis due to venous congestion
- autoimmune damage - primary biliary cirrhosis

Complications
- portal hypertension, bleeding, jaundice, liver failure, renal failure, hyperestrogenism, encephalopathy
32-year-old male was admitted to the emergency department for abdominal cramps. Since the birth of his son 3 days ago, he complained of nausea, gradually increasing abdominal pain, anorexia, subfebrile temperatures (now fever since the morning), vomiting.

Physical finding on the abdomen: "defense musculaire"

- Diagnosis?
- Complications?
Balser necrosis in acute pancreatitis
Acute hemorrhagic necrosis of the pancreas (HE)
Acute hemorrhagic necrosis of the pancreas (HE)
ACUTE HEMORRHAGIC NECROSIS OF THE PANCREAS

- digestion of the pancreas by its own enzymes (trypsin - pancreatic necrosis, phospholipase A - fat necrosis (Balser necrosis), elastase - vascular necrosis)
- prognostically the worst acute abdomen

Etiology

- diseases of the gallbladder, bile ducts and papilla duodeni major - acute biliary pancreatitis
- alcoholism - acute alcoholic pancreatitis
- postoperative pancreatitis, after ERCP - acute iatrogenic pancreatitis
- hyperlipidemic pancreatitis, post-traumatic pancreatitis; pancreatotoxically induced pancreatitis (ATB), infections - viral parotitis, viral hepatitis, inappropriate lifestyle

Complications

- Pulmonary - atelectasis, pneumonia, hypoxia, ARDS; metabolic - hyperglycemia, hypocalcemia, acidosis, hyper TAG;
- CVS - tachycardia, hypotension, arrhythmia, shock; renal - oliguria, azotemia; hematological - DIC;
• Pleomorphic adenoma is one of the most common benign tumors of the salivary glands
• Chronic gastritis is divided into groups A, B, C according to the underlying cause
• The most common histological type of gastric malignancy is adenocarcinoma
• The Virchow lymph node is located supraclavicularly on the left and typically is affected in tumors in the abdominal cavity
• Inflammatory bowel disease includes ulcerative colitis and Crohn's disease
• Ulcerative colitis typically affects a continuous section of the rectum and colon
• Crohn's disease affects several areas of the small and large intestine
• Celiac disease is a malabsorption syndrome and is genetically determined
• Fibrous liver remodeling - cirrhosis – condition resulting from various liver diseases
• Acute hemorrhagic pancreatitis is an example of simple necrosis and is a life-threatening condition