

Gomel State Medical University

The faculty of foreign students

Department of foreign languages

Subject: English

PRACTICAL CLASS 9
for the 1st year students, 2nd semester

Topic:
Digestive System: Pathology

Aims:

- to learn the main pathologies of the lower gastrointestinal tract
- to learn the main pathologies of the liver, pancreas and gall bladder

Questions:

1. What are the pathologies of the lower gastrointestinal tract?
2. What are the pathologies of the accessory digestive organs?

PRACTICAL PART OF THE CLASS

I. Pathologies of the lower gastrointestinal tract

anal fistula

Abnormal tube-like passageway near the anus.

The fistula often results from a break or **fissure** in the wall of the anus or rectum, or from an **abscess** (infected area) there (Figure 5-21A).

colonic polyps

Polyps (benign growths) protrude from the mucous membrane of the colon.

Figure 5-21A illustrates two types of polyps: **pedunculated** (attached to the membrane by a stalk) and **sessile** (sitting directly on the mucous membrane). Figure 5-21B shows multiple polyps of the colon. Polyps often are removed (polypectomy) for biopsy and to prevent growth leading to malignancy.

colorectal cancer

Adenocarcinoma of the colon or rectum, or both.

Colorectal cancer (Figure 5-22) can arise from polyps in the colon or rectal region. Diagnosis is determined by detecting melena (blood in stool) and by colonoscopy. Prognosis depends on the stage (extent of spread) of the tumor, including size, depth of invasion, and involvement of lymph nodes. Surgical treatment may require excision of a major section of colon with rejoining of the cut ends (anastomosis). Chemotherapy and radiotherapy are administered as needed.

Crohn disease (Crohn's)

Chronic inflammation of the intestinal tract (terminal ileum and colon).

Signs and symptoms include diarrhea, severe abdominal pain, fever, anorexia, weakness, and weight loss. Both Crohn disease (or just "Crohn's") and ulcerative colitis are forms of **inflammatory bowel disease (IBD)**. Treatment is with drugs to control symptoms or by surgical removal of diseased portions of the intestine, with anastomosis of remaining parts.

diverticulosis	<p>Abnormal outpouchings in the intestinal wall.</p> <p>Diverticula (Figure 5-23A) are pouch-like herniations through the muscular wall of the colon. When fecal matter becomes trapped in diverticula, diverticulitis can occur. Pain and rectal bleeding are symptoms. Figure 5-23B shows diverticulosis in a section through the sigmoid colon.</p>
dysentery	<p>Painful, inflamed intestines commonly caused by bacterial infection.</p> <p>Often occurring in the colon, dysentery results from ingestion of food or water containing bacteria (<i>salmonellae</i> or <i>shigellae</i>), amebae (one-celled organisms), or viruses. Symptoms are bloody stools and abdominal pain.</p>
hemorrhoids	<p>Swollen, twisted, varicose veins in the rectal region.</p> <p>Varicose veins can be internal (within the rectum) or external (outside the anal sphincter). Pregnancy and chronic constipation, which put pressure on anal veins, often cause hemorrhoids.</p>
ileus	<p>Loss of peristalsis with resulting obstruction of the intestines.</p> <p>Surgery, trauma, or bacterial injury to the peritoneum can lead to a paralytic ileus (acute, transient loss of peristalsis).</p>
ulcerative colitis	<p>Chronic inflammation of the colon with presence of ulcers.</p> <p>This idiopathic, chronic, recurrent diarrheal disease (an inflammatory bowel disease) presents with rectal bleeding and pain. Often beginning in the colon, the inflammation spreads proximally, involving the entire colon. Drug treatment and careful attention to diet are recommended. Resection of diseased bowel with ileostomy may be necessary. Patients with ulcerative colitis have a higher risk of colon cancer.</p>
volvulus	<p>Twisting of the intestine on itself.</p> <p>Volvulus causes intestinal obstruction. Severe pain, nausea and vomiting, and absence of bowel sounds are clinical features. Surgical correction is necessary to prevent necrosis of the affected segment of the bowel (see Figure 5-24).</p>
intussusception	<p>Telescoping of the intestines.</p> <p>In this condition, one segment of the bowel collapses into the opening of another segment (Figure 5-24). It often occurs in children and at the ileocecal region. Intestinal obstruction with pain and vomiting can occur. Surgical removal of the affected segment of bowel with anastomosis frequently is necessary to correct the obstruction.</p>
irritable bowel syndrome (IBS)	<p>Group of gastrointestinal symptoms associated with stress and tension.</p> <p>Gastrointestinal symptoms are diarrhea, constipation, bloating, and/or lower abdominal pain. On extensive examination, the intestines appear normal, yet symptoms persist. Treatment is symptomatic, with a diet high in bran and fiber to soften stools and establish regular bowel habits.</p>

II. Pathologies of the accessory digestive organs

LIVER, GALLBLADDER, AND PANCREAS

cholelithiasis	<p>Gallstones in the gallbladder (Figure 5-25A).</p> <p>Calculi (stones) prevent bile from leaving the gallbladder and bile ducts (Figure 5-26). Many patients remain asymptomatic and do not require treatment; however, if a patient experiences episodes of biliary colic (pain from blocked cystic or common bile duct), treatment may be required. Currently, laparoscopic or minimally invasive surgery (laparoscopic cholecystectomy) is performed to remove the gallbladder and stones (Figure 5-27).</p>
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cirrhosis	<p>Chronic degenerative disease of the liver.</p> <p>Cirrhosis is commonly the result of chronic alcoholism, or viral hepatitis, or other causes. Lobes of the liver become covered with fibrous tissue, hepatic cells degenerate, and the liver is infiltrated with fat. Cirrh/o means yellow-orange, which describes the liver's color caused by fat accumulation (see Figure 5-25B).</p>
pancreatic cancer	<p>Malignant tumor of the pancreas.</p> <p>Pancreatic carcinoma occurs more often in men than in women. Although the cause is unknown, it is more common in smokers and people who are obese. Symptoms and signs are abdominal pain, fatigue, jaundice, and anorexia. Surgical treatment is a pancreatoduodenectomy (Whipple procedure).</p>
pancreatitis	<p>Inflammation of the pancreas.</p> <p>Digestive enzymes attack pancreatic tissue and damage the gland. Other etiologic factors include chronic alcoholism, drug toxicity, gallstone obstruction of the common bile duct, and viral infections. Treatment includes medications to relieve epigastric pain, intravenous fluids, and subtotal pancreatectomy if necessary.</p>
viral hepatitis	<p>Inflammation of the liver caused by a virus.</p> <p>Hepatitis A is viral hepatitis caused by the hepatitis A virus (HAV). It is a benign disorder spread by contaminated food or water and characterized by slow onset of symptoms. Complete recovery is expected. Hepatitis B is caused by the hepatitis B virus (HBV) and is transmitted by blood transfusion, sexual contact, or the use of contaminated needles or instruments. Severe infection can cause destruction of liver cells, cirrhosis, or death. A vaccine that provides immunity is available and recommended for persons at risk for exposure. Hepatitis C is caused by the hepatitis C virus (HCV) and is transmitted by blood transfusions or needle inoculation (such as among intravenous drug users sharing needles). The acute illness may progress to chronic hepatitis and hepatocellular carcinoma.</p> <p>In all types, liver enzyme levels may be elevated, indicating damage to liver cells. Signs and symptoms include malaise, anorexia, hepatomegaly, jaundice, and abdominal pain.</p>

III. Training exercises

I Write short answers for the following questions.

1. What is jaundice? _____
2. List three ways in which a patient can become jaundiced
 - a. _____
 - b. _____
 - c. _____
3. What does it mean when a disease is described as *idiopathic*? _____

J Select from the list of pathologic conditions to make a diagnosis.

achalasia	colorectal cancer	herpetic stomatitis
anal fistula	Crohn disease (Crohn's)	oral leukoplakia
aphthous stomatitis	dental caries	pancreatic cancer
colonic polyps	esophageal cancer	periodontal disease

1. Mr. Jones, a smoker and heavy drinker, complained of dysphagia in recent months. A longstanding condition of Barrett esophagus resulted in his malignant condition.
Diagnosis: _____.
2. An abnormal tube-like passageway near his anus caused Mr. Rosen's proctalgia. His doctor performed surgery to close off the abnormality. Diagnosis: _____.
3. Carol's dentist informed her that the enamel of three teeth was damaged by bacteria-producing acid. Diagnosis: _____.
4. Paola's symptoms of chronic diarrhea, abdominal cramps, and fever led her doctor to suspect that she suffered from an inflammatory bowel disease affecting the distal portion of her ileum. The doctor prescribed steroid drugs to heal her condition. Diagnosis: _____.
5. Mr. Hart learned that his colonoscopy showed the presence of small benign growths protruding from the mucous membrane of his large intestine. Diagnosis: _____.
6. During a routine dental checkup, Dr. Friedman discovered white plaques on Mr. Longo's buccal mucosa. He advised Mr. Longo, who was a chronic smoker and heavy drinker, to have these precancerous lesions removed. Diagnosis: _____.
7. Every time Carl had a stressful time at work, he developed a fever blister (cold sore) on his lip, resulting from reactivation of a previous viral infection. His doctor told him that there was no treatment 100% effective in preventing the reappearance of these lesions.
Diagnosis: _____.
8. Mr. Green had a biopsy of a neoplastic lesion in his descending colon. The pathology report indicated a malignancy. A partial colectomy was necessary. Diagnosis: _____.
9. Small ulcers (canker sores) appeared on Diane's gums. They were painful and annoying.
Diagnosis: _____.
10. Sharon's failure to floss her teeth and remove dental plaque regularly led to development of gingivitis. Her dentist advised consulting a specialist who could treat her condition.
Diagnosis: _____.
11. Imaging tests revealed a tumor in a section of Mr. Smith's pancreas. His physician told him that since it had not spread, he could hope for a cure with surgery. He had a pancreaticoduodenectomy (Whipple procedure), which was successful. Diagnosis: _____.
12. Mr. Clark complained of pain during swallowing. His physician explained that the pain was caused by a failure of muscles in his lower esophagus to relax during swallowing.
Diagnosis: _____.

K Match the following pathologic diagnoses with their definitions.

cholecystolithiasis (gallstones)	hemorrhoids	pancreatitis
cirrhosis	hiatal hernia	peptic ulcer
diverticulosis	ileus	ulcerative colitis
dysentery	intussusception	viral hepatitis
esophageal varices	irritable bowel syndrome	volvulus

1. protrusion of the upper part of the stomach through the diaphragm _____
2. painful, inflamed intestines caused by bacterial infection _____
3. swollen, twisted veins in the rectal region _____
4. open sore or lesion of the mucous membrane of the stomach or duodenum

5. loss of peristalsis _____
6. twisting of the intestine on itself _____
7. swollen, varicose veins on the surface of the distal portion of the esophagus

8. a condition of abnormal outpouchings in the intestinal wall _____
9. chronic inflammation of the colon with destruction of its inner surface _____
10. telescoping of the intestines _____
11. inflammation of the liver caused by type A, type B, or type C virus _____
12. inflammation of the pancreas _____
13. calculi in the sac that stores bile _____
14. chronic degenerative liver disease with scarring resulting from alcoholism or infectious
hepatitis _____
15. symptoms (diarrhea or constipation, abdominal pain, bloating) associated with stress and
tension, but without inflammation of the intestine _____