

MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS

EDUCATIONAL INSTITUTION  
“GRODNO STATE MEDICAL UNIVERSITY”

DEPARTMENT OF SURGICAL DISEASES №1

PRACTICAL CLASSES  
IN SURGERY

GUIDELINES  
FOR 4<sup>TH</sup> YEAR STUDENTS  
OF THE FACULTY OF FOREIGN STUDENTS  
(IN ENGLISH)

**Grodno 2010**

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## INTRODUCTION

Teaching of private surgery in the 4<sup>th</sup> year at the faculty of foreign students is organized in a classic way. Students learn the etiology, pathogenesis, typical clinical representation of the most common surgical diseases and their complications, modern methods of clinical, instrumental and laboratory tests, and modern approaches to their treatment.

These methodological recommendations are based on the curriculum for the 4<sup>th</sup> year students of the faculty of foreign students and are aimed at improving the process of mastering the theoretical material during preparation for the practical studies.

Acute appendicitis. Part 1

**MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

**Acute appendicitis** is one of the most common acute surgical diseases of abdominal organs. Its diagnosing deals with numerous difficulties, as this disease in its development has much in common with a number of acute diseases of abdominal cavity and retroperitoneal space. Therefore the problem of this disease treatment remains relevant till now.

**LESSON OBJECTIVE:**

To learn how to diagnose acute appendicitis, on the basis of knowledge in ileocecal region anatomy, clinical picture of acute appendicitis and examination techniques.

**STUDENTS SHOULD KNOW:**

1. Etiology and pathogenesis of acute appendicitis;
2. Clinical and anatomical classification of acute appendicitis;
3. Variants of the appendix localization;
4. Clinical symptoms of various forms of acute appendicitis and peculiarities of the symptoms depending on the disposition of the appendix;
5. Peculiarities of acute appendicitis while pregnancy, and at old and senile age;
6. The differential diagnosis of acute appendicitis (with kidney disease, genitals, other acute surgical diseases of the abdominal cavity);
7. Laboratory and instrumental diagnosing of acute appendicitis;
8. Therapeutic approach in acute appendicitis;
9. Treatment of acute appendicitis.

**STUDENTS SHOULD BE ABLE TO:**

- 1 Take history of a patient with acute appendicitis;
2. Examine the patient and properly assess the results of physical examination: Rovzing, Sitkovskiy, Bartame-Michaelson, Voskresenskiy, Schetkin-Blumberg, Yaure-Rozanov, etc.
3. Make a differential diagnosing from other diseases;
4. Give a correct estimation of the results of laboratory examination;
5. Determine indications for additional methods of study, early surgical intervention and type of anesthesia;
6. Properly maintain the postoperative period in typical situations.

**TEST CHECK:**

1. What symptoms does acute appendicitis have?
2. What characterizes the clinical picture of acute gangrenous appendicitis?
3. What supplementary methods can be used to confirm the diagnosis of acute appendicitis?
4. What therapeutic approach proves its value in acute appendicitis?
5. In what cases is general anesthesia for patients with acute appendicitis absolutely contra-indicated?
6. What are the diseases which often have to be differentiated with acute appendicitis?
7. What are the objectives of rectal examination of people with acute appendicitis?
8. What kind of access can be used during the appendectomy operation?

9. Indications for use of tamponade of the abdominal cavity while acute appendicitis.
10. What peculiarities of surgical treatment of acute appendicitis during pregnancy do you know?
11. Diagnosis and treatment protocols for surgery, approved by order MHRB N2 32 from 19.01.2006. "On the implementation of diagnosis and treatment protocols in health care organizations of Belarus"

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### **Supplementary**

Колесов В.И. Клиника и лечение острого аппендицита. – Л., 1972.

## Lesson № 2

### Complications of acute appendicitis. Appendicium. Part 2

## **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Timely recognition of complications of acute appendicitis, the right tactics of treating such patients is one of the major challenges that practitioners face.

## **LESSON OBJECTIVE:**

To learn how to recognize complications of acute appendicitis and how to treat them knowing the clinical picture of acute appendicitis and the data from additional methods

## **STUDENTS SHOULD KNOW:**

1. Classification of complications of acute appendicitis;
2. Clinical symptoms of typical complications of acute appendicitis, abscesses (appendicular infiltrate, and subdiaphragmatic appendicitis, pelvic abscess, pylephlebitis, peritonitis);
3. Indications for conservative and surgical methods of treatment of complications of acute appendicitis;
4. Principles of surgical treatment of these complications;
5. Diagnosis and treatment of chronic appendicitis.

### **TEST CHECK:**

1. What is appendicular infiltrate?
2. Under what forms of acute appendicitis does appendicular infiltrate occur?
3. In what form of acute appendicitis does pylephlebitis occur?
4. What are the main causes of pelvic abscess while acute appendicitis?
5. What factors contribute to the development of complications of acute appendicitis?
6. What is a contraindication to an appendectomy in acute appendicitis?
7. The complex of what activities is the most reasonable for appendicular infiltrate in the first 3 days?
8. During surgery on acute appendicitis appendicular infiltrate is detected. What decision will you take?
9. Which of the accesses is the most optimal while opening subdiaphragmatic abscess?
10. What is the prompt access for opening a pelvic abscess?
11. What are the diseases which have to be differentiated with chronic appendicitis?

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### **Supplementary**

Колесов В.И. Клиника и лечение острого аппендицита. – Л., 1972.

## Lesson №3

### External Abdominal Hernias. Part 1

#### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

External abdominal hernias are common surgical diseases. They disable patients and pose a risk to the patient's life because of possible complications.

#### **LESSON OBJECTIVE:**

To learn how to diagnose external abdominal hernias and to determine methods of treatment for each patient knowing the aetiopathogenesis, clinical picture and anatomy of the anterior abdominal wall.

#### **STUDENTS SHOULD KNOW:**

1. Definition of the notion " External abdominal hernias "
2. Etiology of external abdominal hernias. Predisposing and producing factors;
3. Anatomy of the anterior abdominal wall, inguinal canal, femoral canal and the umbilical ring;
4. Elements of external abdominal hernias;
5. Sliding hernia;
6. Classification of external abdominal hernias;
7. Clinical picture of external abdominal hernias;
8. Differential diagnosis of external abdominal hernias;
9. Relative and absolute contraindications for surgical treatment of external abdominal hernias;
10. Methods of treatment of external abdominal hernias;
  - With tension of the soft tissues:
    - a / inguinal (Girard, Spasokukotskiy, Kimbarovski, Bassini, Kukudzhanov, Postemski).
    - b / femoral (Bassini, Rudzhi);
    - c / Umbilical (Mayo Sapezhko, Leksner);
    - d / midline hernias (Sapezhko, Napalkov);
  - Without tension of soft tissues:
    - a / laparoscopic;
    - b / with the use of PHS systems.
11. Rare kinds of external abdominal hernias:
  - xiphoid hernias;
  - spigelian hernias;
  - entereshiocele;
  - lumbar hernias;
  - perineal hernias;
  - obturator hernias.

#### **STUDENTS SHOULD BE ABLE TO:**

1. Take history and examine a patient with an external abdominal hernia properly;



2. Make an examination plan;
3. Determine the absolute and relative contraindications for herniotomy surgery;
4. Choose the surgical treatment of external abdominal hernia.

### **TEST CHECK:**

1. What local predisposing factors contribute to the emergence of external abdominal hernia?
2. What is the reason of the congenital inguinal hernias origin?
3. What is the difference between direct and oblique inguinal hernia?
4. Describe intraparietal inguinal hernias.
5. How to distinguish femoral hernia from inguinal one?
6. The peculiarities of appendicocele surgical treatment.
7. Name the absolute and relative contraindications for herniotomy surgery.
8. What methods are used to treat midline hernias?
9. What operations are applied for direct inguinal hernias treating?
10. What operations are applied for femoral hernia treating?

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#### **Supplementary**

К.Д. Тоскин, В.В. Жебровский «Грыжи живота», 1983

## Lesson №4

### Complications of External Abdominal Hernias. Postoperative ventral hernias. Part 2

#### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Modern sanitation of people with hernias and correct tactic in possible complications is an important problem of practical surgery.

#### **LESSON OBJECTIVE:**

To learn to diagnose the complications of external abdominal hernias (incarceration, inflammation, coprostasis, incarcerated hernia) and to define the treatment mode knowing the clinical picture of such hernias, their etiology and pathogenesis.

#### **STUDENTS SHOULD KNOW:**

1. Complications of external abdominal hernias (incarceration, inflammation, coprostasis, incarcerated hernia);
2. Therapeutic approach to each kind of external abdominal hernia;
3. Etiology of postoperative abdominal hernias;
4. Clinical picture of postoperative abdominal hernias;
5. Choice of method of hernial orifice plastic surgery in postoperative abdominal hernias (aponeurotic, muscular-aponeurotic, explant application);
6. Peculiarities and extent of surgical help in external abdominal hernias;
7. Kinds of external abdominal hernias incarceration (elastic, fecal, mixed, retrograde, parietal hernia);
8. Signs of viability of the strangulated intestinal loop;
9. The main stages of surgery for strangulated hernias;
10. Peculiarities of tactics in self reduction of strangulated hernia;
11. Basic differences between strangulated and incarcerated hernias;

#### **STUDENTS SHOULD BE ABLE TO:**

1. Take history of the patients with complicated hernias;
2. Examine a patient and properly interpret the results;
3. Carry out a differential diagnosis between strangulated and incarcerated abdominal hernias;
4. Carry out a clinical examination of a patient with postoperative ventral hernia;
5. Make up an examination plan of a patient with postoperative ventral hernia.

#### **TEST CHECK:**

1. What symptoms are characteristic of strangulated hernia?
2. By what are the incarcerated hernias conditioned?
3. What reasons of hernia inflammation do you know?
4. What is the most often contents of hernial sac in fecal incarceration?
5. What should be the approach of surgeon in self reduction of strangulated hernia?
6. What are the main reasons for postoperative hernias?
7. What are the main surgical methods of postoperative hernias treatment?
8. What is retrograde incarceration?

9. With what diseases should be strangulated femoral hernia should be diagnosed?

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#### Supplementary

К.Д. Тоскин, В.В. Жебровский «Грыжи живота», 1983

### Lesson №5

#### Cholelithiasis and its complications

### MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT

The considerable growth of patients with cholelithiasis is observed. According to Shalimov's data 40% of population over 40 years old is amenable to that disease. Early diagnosis and sanitation of such patients considerably lowers the risk of severe complications. One of the complications is acute cholecystitis, which takes the second place in emergency surgery. At present, dew to implementation of modern technologies, the possibilities of diagnosing and minimally invasive surgeries have increased. They include:

- ultrasonic scanning of biliary system and drainage according to cholecyst indications under ultrasonic control.
- endoscopic retrograde cholangiography and endoscopic retrograde papillotomy with possible choledoch concrements removal. In purulent cholangitis the nasobiliar drainage is necessary.
- diagnostic laparoscopy and laparoscopic cholecystectomy.

### LESSON OBJECTIVE:

To learn to diagnose cholelithiasis, acute cholecystitis, hydrops of gallbladder, gallbladder empyema, choledocholithiasis, acute cholangitis and to institute the therapy for every patient on the basis of knowledge in anatomy, physiology of hepatobiliary system, clinical picture of cholelithiasis and its complications, laboratory and instrumental diagnosing techniques.

### **STUDENTS SHOULD KNOW:**

1. Etiology and pathogenesis of cholelithiasis;
2. Clinical and anatomical classification of acute cholecystitis;
3. Clinical symptomatology of different forms of acute cholecystitis;
4. Laboratory and instrumental diagnosing of acute cholecystitis and its complications
5. Differential diagnosing of cholelithiasis;
6. Indications for operation and principles of surgical treatment;
7. Diagnosing and treatment of postoperative complications and their prevention.

### **STUDENTS SHOULD BE ABLE TO:**

1. Take history of the patients with cholelithiasis and acute cholecystitis;
2. Examine a patient and evaluate the results of physical examination correctly. Kehr's, Ortner's, Mussy-Georgievsky's, Pekarsky's, Voskresensky's symptoms, sensitivity shift in Zaharyin-Ged's area, Spector's symptom;
3. To carry out a differential diagnosing with other diseases;
4. Give correct interpretation of the laboratory and instrumental examination results;
5. Write a treatment sheet for a patient with acute cholecystitis.

### **TEST CHECK:**

1. Main reasons for stone formation.
2. Describe the process of stone formation.
3. Symptomatology of acute cholangiogenic pancreatitis.
4. Describe the mechanism of inflammatory process development in the cholecyst wall in acute calculous and acalculous cholecystitis.
5. What symptoms are characteristic of acute cholecystitis?
6. Name the main instrumental techniques of cholecyst and extrahepatic biliary tracts examination.
7. Name the indications for emergency, urgent and elective surgeries in the patients with acute cholecystitis.
8. Complications after cholecystectomy.
9. Methods of biliary tracts drainage.

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### Lesson №6

#### Chronic complications of stomach and duodenal ulcer

#### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Stomach and duodenal ulcer is a widespread disease. Its diagnosing and treatment is therapeutic clinic prerogative. However, 30 % of patients have complications, demanding operative measures. At the same time there are patients with ulcers, resistant to conservative therapy. In such cases it is important to determine the appropriate time for operation, which should precede the development of complications. Often stomach ulcer regenerates into a malignant tumor; therefore it is important to know the indications for operation in chronic non-complicated ulcers. Among chronic ulcer complications pyloroduodenal stenosis, penetrating ulcer, regeneration into malignant tumor are distinguished. At the present time the possibilities for surgical treatment of such patients have increased, that's why knowledge of chronic complications of stomach ulcer and duodenum are necessary for every practicing physician.

#### **LESSON OBJECTIVE:**

To learn to diagnose pyloroduodenal stenosis, penetrating ulcer, regeneration of ulcer into malignant tumor and to determine the treatment mode for every patient on the basis of knowledge in anatomy, physiology of stomach and duodenum, clinical picture of chronic complications, the results of laboratory and instrumental research methods.

#### **STUDENTS SHOULD KNOW:**

1. Etiology and pathogenesis of chronic complications of stomach ulcer.
2. Clinical picture of pyloroduodenal stenosis, penetrating ulcer, regeneration of ulcer into cancer.
3. Modern methods of laboratory and instrumental diagnosing of patients.
4. Differential diagnosing of the mentioned complications.
5. Indications for operation and principles of surgical treatment.
6. Diagnosing and treatment of postoperative complications and their prevention.

#### **STUDENTS SHOULD BE ABLE TO:**

1. Take history, carry out clinical examination and analyze the results.

2. Make up a plan of laboratory and instrumental examination techniques, evaluate the results.
3. Formulate a detailed clinical diagnosis; substantiate it according to differential diagnosis.
4. Define the indications for operation.

### **TEST CHECK:**

#### **I. Pyloroduodenal stenosis of ulcerous etiology**

1. Etiology and pathogenesis of pyloroduodenal stenosis.
2. Clinical representation of the disease depending on stenosis stage.
3. Roentgenologic and endoscopic disease semiotics.
4. Differential diagnosing of pyloroduodenal stenosis.
5. Preoperative preparation of the patients.
6. Indications for organ-saving operations. Kinds of such operations.
7. Indications for stomach resection. Methods of stomach resection.
8. Peculiarities of postoperative period. Early postvagotomy and postresection complications, their prevention and treatment.

#### **II. Penetrating ulcers of stomach and duodenum**

1. Etiology and pathogenesis of penetrating ulcers.
2. Penetration stages
3. Peculiarities of clinical representation of penetrating ulcers.
4. Laboratory and instrumental diagnosing of patients.
5. Indications for a surgery and its peculiarities depending on ulcer localization.
6. Early postoperative complications, their prevention and treatment

#### **III. Regeneration of ulcer into cancer**

1. Reasons for regeneration of ulcer into cancer.
2. Fundamentals of such complication prevention.
3. Peculiarities of clinical representation.
4. Laboratory, roentgenologic and endoscopic examinations methods. Their evaluation.
5. Surgical methods depending on localization of the pathological process.
6. Postoperative complications

#### **IV. Surgery of non-complicated stomach and duodenum ulcers**

1. Notion of "Ulcer, resistant to the conservative treatment"
2. Indications for operation of stomach ulcers, methods of surgery, depending on localization by Johnson.
3. Indications for operation and the choice of its method in duodenal ulcers.
4. Peculiarities of postoperative regimen management after vagotomy and stomach resection.

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### Lesson №7

#### Acute complications of stomach and duodenum ulcer

### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Despite the success of conservative therapy of stomach and duodenal ulcer, about 15 % of patients undergo surgeries. Surgeries in ulcerous bleeding are less common. Nevertheless these severe complications of stomach and duodenal ulcer demand urgent diagnosing and adequate use of modern treatment modes.

### **LESSON OBJECTIVE:**

To learn to diagnose acute stomach and duodenal ulcer complications, perforated ulcer and ulcerous bleedings on the basis of knowledge of clinical representation of the disease and skills to evaluate the results of modern instrumental and laboratory examination techniques.

### **STUDENTS SHOULD KNOW:**

1. Etiology and pathogenesis of acute complications of stomach and duodenal ulcer.
2. Clinical representation of perforated ulcer depending on its localization and variants of the clinical course.
3. Modern methods of laboratory and instrumental diagnosing in perforated ulcer.
4. Differential diagnosing of perforated ulcer.
5. Methods of surgical treatment of perforated ulcer.
6. Clinical representation of ulcerous bleedings, its peculiarities depending on ulcer localization.

7. Differential diagnosing of gastrointestinal hemorrhage.
8. Methods of conservative therapy, methods of endoscopic hemostasia.
9. Variants of surgeries in ulcerous bleedings, radical and palliative surgeries.

### **STUDENTS SHOULD BE ABLE TO:**

1. Take history purposefully, carry out clinical examination and analyze the results correctly.
2. Make up a plan of laboratory and instrumental examination techniques, evaluate their results, interpret the results of endoscopy and radiography.
3. Formulate the detailed clinical diagnosis, substantiate it.
4. Determine the method of surgery in perforated ulcer.
5. Determine the indications for operation, time of operation and its extent.
6. Diagnose early postoperative complications, prescribe the appropriate therapy.

### **TEST CHECK:**

#### **I. Perforated stomach and duodenal ulcer.**

1. Etiology and pathogenesis of perforated ulcer.
2. Clinical representation of free perforation, perforation into omental bursa, retroperitoneal space.
3. Instrumental diagnosing methods, evaluation of their importance.
4. Differential diagnosing of perforated ulcer.
5. Preoperative preparation of the patients.
6. Variants of surgeries (radical and palliative surgeries).
7. Postoperative regimen management, diagnosing and treatment of complications.

#### **II. Stomach and duodenal ulcer, complicated by bleeding**

1. Pathogenesis of the disease, source of bleeding.
2. Clinical representation of stomach and duodenal ulcer.
3. Instrumental diagnosing methods, evaluation of their results.
4. Differential diagnosing of bleedings into gastrointestinal tract lumen.
5. Conservative therapy of the patients.
6. Local hemostatic treatment.
7. Endoscopic methods of bleeding arrest.
8. Indications for surgeries, radical and palliative surgeries.
9. Complications of postoperative period, their prevention and treatment.

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Lesson №8  
Acute intestinal obstruction

**MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Acute intestinal obstruction is a disease, characterized by disorder of intestine content passage from the stomach to the anus.

From the academic point of view, acute intestinal obstruction is hardly a nosologic unit, as the disorder of intestine content passage can be conditioned by various reasons. But nevertheless, despite the variety of intestinal obstruction reasons it is regarded as a particular disease independent of a reason, as after its development different pathological processes appear in the organism. These processes demand immediate conservative or operative treatment to avoid the fatal outcome.

**LESSON OBJECTIVE:**

On the basis of knowledge in anatomy and physiology of intestine, objective and instrumental examination techniques to learn to make diagnosing and differential diagnosing of acute intestinal obstruction, determine the extent of surgical treatment methods. The knowledge of criteria when to change conservative therapy for surgical is compulsory.

**STUDENTS SHOULD KNOW:**

1. Etiology, classification, pathophysiological shifts in the organism in various stages of acute intestinal obstruction.
2. Clinical and instrumental symptomatology of acute intestinal obstruction.
3. Methods of objective and instrumental examination
4. Approach and principles of mechanical and dynamic acute intestinal obstruction therapy.
5. Conservative and surgical treatment of acute intestinal obstruction.
6. Postoperative regimen management of patients with acute intestinal obstruction

## **STUDENTS SHOULD BE ABLE TO:**

1. Take history of a patient with acute intestinal obstruction.
2. Carry out an objective examination of a patient.
3. Determine the necessary extent of instrumental examination.
4. Carry out a differential diagnosing of a patient with acute intestinal obstruction
5. Determine the therapeutic approach
6. Determine the extent of medical aid to a patient correctly.
7. Prescribe conservative treatment and determine when to change it for operative.
8. Determine the surgery extent.
9. Correctly evaluate the extent of medical aid in postoperative period.

## **TEST CHECK**

1. Classification of acute intestinal obstruction.
2. What pathophysiological shifts in the organism in various stages of acute intestinal obstruction are observed?
3. Clinical symptoms, characteristic of acute intestinal obstruction.
4. What is informativeness and sequence of instrumental examination techniques?
5. What is therapeutic approach in acute intestinal obstruction?
6. Name the main principles of conservative therapy in acute intestinal obstruction/
7. How to determine criteria of change conservative therapy for surgical?
8. Enumerate the main approaches in surgical treatment and postoperative regimen management of the patients with acute intestinal obstruction.
9. Invagination: clinical picture, diagnosing, therapy.
10. Volvulus of small bowel: clinical picture, diagnosing, therapy.
11. Volvulus of sigmoid colon: clinical picture, diagnosing, therapy.
12. Obturation intestinal obstruction: reasons, clinical picture, diagnosing, therapy.
13. Strangulated intestinal obstruction: clinical picture, diagnosing, therapy.
14. Dynamic intestinal obstruction: kinds, clinical picture, diagnosing, therapy.
15. Acute adhesive obstruction: clinical picture, diagnosing, therapy.

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### Lesson №9 Peritonitis

### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Peritonitis still takes an important place in the structure of urgent surgical pathologies. Lethality after severe forms of purulent peritonitis is 25 – 30%, lethality after development of multiple organ failure is 85 – 90%.

### **LESSON OBJECTIVE:**

Knowing the anatomy and physiology of peritoneum, main clinical, laboratory and instrumental methods of research, to learn how to diagnose different kinds of peritonitis.

### **STUDENTS SHOULD KNOW:**

1. Classification of peritonitis based on etiology, prevalence, course and nature of peritoneal exudates, phases of development;
2. Pathogenesis of acute peritonitis;
3. Clinic of widespread and localized peritonitis;
4. Preoperative preparation of patients with peritonitis;
5. Main steps of surgical treatment;
6. Corrective therapy in the postoperative period;
7. Clinic and treatment of specific kinds of peritonitis (gonococcal, pneumococcal, and tuberculosis peritonitis).

### **STUDENTS SHOULD BE ABLE TO:**

1. Take history of a patient with peritonitis;
2. Examine a patient with peritonitis and find out main symptoms (strain of muscles of the front abdominal wall, rebound tenderness).
3. Plan preoperational preparations.
4. Prescribe baseline corrective therapy for postoperational period.

### **TEST CHECK:**

1. What are the main reasons of secondary peritonitis?
2. What groups of bacteria can be removed from the exudation of the abdominal cavity during bacterial peritonitis?
3. What phases (stages) of peritonitis development do you know?

4. Name main symptoms of subdiaphragmatic abscess.
5. Name main methods of diagnostics of pelvic abscesses.
6. Name main methods of treatment of subdiaphragmatic and pelvic abscess.
7. When is peritoneotomy indicated during peritonitis treatment?
8. What methods of intestines decompression are used for widespread peritonitis?
9. Name detoxication methods used for peritonitis.
10. Name the most rational patterns of antibiotics usage for peritonitis treatment.
11. What indications for surgical treatment of tuberculosis peritonitis do exist?

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## Lesson № 10. Acute pancreatitis

### MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT

Acute pancreatitis is one of the most difficult and unsolved problems in abdominal surgery, and its frequency takes the third place after an acute appendicitis and acute cholecystitis

### LESSON OBJECTIVE:

To learn to diagnose acute pancreatitis and its complications on the basis of knowledge in anatomy and physiology of the pancreas, the clinical representation and results of supplementary research methods.

### **STUDENTS SHOULD KNOW:**

1. Etiology and pathogenesis of acute pancreatitis;
2. Clinical and anatomical classification of acute pancreatitis;
3. Clinical symptoms of acute pancreatitis (Mondor's, Cullen's, Turner's, Voskresensky's, Mayo-Robson's symptoms);
4. Laboratory and instrumental diagnosing of acute pancreatitis;
5. Conservative treatment of acute pancreatitis;
6. Indications for surgical treatment of acute pancreatitis;
7. Surgical treatment of acute pancreatitis;
8. Complications after acute pancreatitis.

### **STUDENTS SHOULD BE ABLE TO:**

1. Take history of patients with acute pancreatitis;
2. Examine patients with acute pancreatitis and determine the presence of symptoms (Voskresensky, Mayo-Robson, Shchetkin-Blumberg, Turner, Cullen);
3. Write a list of destination the patient with acute pancreatitis.

### **TEST CHECK:**

1. Name the functions of pancreas.
2. What factors can cause a violation of the passage of pancreatic secretion in the duct?
3. What are the main periods of pancreatonecrosis?
4. What symptoms are typical for acute cholecystopancreatitis?
5. What treatment is effective for edematous form of acute pancreatitis?
6. Name the indications for early surgery during acute pancreatitis.
7. How to relieve pain of patients with acute pancreatitis?
8. How is forced diuresis held during acute pancreatitis?
9. What antienzyme drugs can be used for acute pancreatitis treatment?
10. Name the methods of surgical treatment of acute pancreatitis.
11. Name the complications after acute pancreatitis.

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### Lesson №11.

#### Thrombophlebitis of subcutaneous and deep veins of extremities

### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Thrombophlebitis of subcutaneous (superficial) and deep (main) veins of extremities often complicates the clinical course of varicose disease. However, sometimes it occurs in the vein system, having no symptoms of varicose lesion. Late thrombophlebitis treatment can result in thromboembolism of pulmonary artery and its branches, chronic venous insufficiency of the extremity.

### **LESSON OBJECTIVE:**

On the basis of knowledge in anatomy and physiology of venous system, analysis of laboratory and instrumental examination results to learn to diagnose thrombophlebitis of subcutaneous and deep veins, to define conservative and surgical methods of its treatment and the means of its prevention.

### **STUDENTS SHOULD KNOW:**

1. Anatomy and physiology of extremities venous system;
2. Etiology and pathogenesis of thrombophlebitises;
3. Clinical picture of subcutaneous veins thrombophlebitis;
4. Clinical picture of deep veins thrombophlebitis;
5. Specific symptoms of acute thrombophlebitis of shin deep veins (Homans', Moses', Levenberg's, Bishard's, Опейс-Ramines's);
6. Variants of ileofemoral venous thrombophlebitis clinical therapy;
7. Classification of thrombophlebitises;
8. Methods of phlebography and their technique;
9. Principles of conservative therapy of thrombophlebitis of subcutaneous and deep veins;
10. Indications for surgical treatment of thrombophlebitises;
11. Variants of surgical treatment of thrombophlebitises;
12. Methods of prevention of thrombophlebitises and thromboembolic complications;
13. Principles of patients' rehabilitation and mass health examination with recent thrombophlebitis and conditioned or surgical intervention.

### **STUDENTS SHOULD BE ABLE TO:**

1. Take patients' complaints and history, to carry out clinical examination of the patients with thrombophlebitis;
2. Make up a plan of special examination techniques, define their indications;
3. Carry out differential diagnosing between thrombophlebitises of subcutaneous and deep veins, thrombophlebitises and elephantiasis, lower extremities edemas in chronic heart and kidneys diseases;
4. Formulate clinical diagnosis of the disease;
5. Make up a medical disposal for the patients with thrombophlebitis.

### **TEST CHECK:**

1. Draw the scheme of lower extremities venous system.
2. Name the main symptoms of acute thrombophlebitises of subcutaneous and deep veins.
3. Describe the pathogenesis of lower extremities venous gangrene.
4. What is Unna's boot. What are the cases of its use?
5. What are the principles of thrombophlebitises conservative therapy?
6. Give the schemes of fractionated heparin.
7. Enumerate the indications for surgical treatment of deep veins thrombophlebitises.
8. When is postcava reefing used?
9. Describe the principles of thrombophlebitises prevention and mass health examination of the patients with recent thrombophlebitis.

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## Lesson №12.

### Mammary gland diseases.

#### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Neoplasms of mammary glands take one of the leading positions in women with malignant tumors. The most important factors in mammary gland cancer genesis are: age, closeness to industrial zone, environmental factors, mammary gland diseases (fibroadenoma, mastopathy, etc).

If the patients have early signs of the mammary gland disease, indistinct and trivial symptomatology the most effective are instrumental examination techniques.

At present the complex method of mammary gland cancer treatment is used: operative, radiotherapy, hormono- and chemotherapy.

#### **LESSON OBJECTIVE:**

On the basis of knowledge in anatomy, physiology, pathogenic mechanisms of a disease development, objective instrumental examination methods to learn to diagnose, to carry out differential diagnosing, to define approach and extent of medical help in different forms of mammary glands diseases.

#### **STUDENTS SHOULD KNOW:**

1. Dyshormonal hyperplasia, mastopathy: classification, diagnosing, treatment.
2. Gynecomastia, bleeding mammary gland: clinical picture, diagnosing, treatment.
3. Benign tumor of mammary gland (fibroadenoma, adenoma, nipple tumor lipoma, giant sarcomalike fibroadenoma, mammary cyst).
4. Mammary gland cancer: epidemiology, classification, clinical picture, diagnosing and treatment.
5. Complex methods of mammary gland cancer treatment.

#### **STUDENTS SHOULD BE ABLE TO:**

1. Take history and carry out an objective examination of a patient with mammary gland disease.
2. Make up an examination plan.
3. Carry out a differential diagnosing
4. Evaluate the results of objective, laboratory and instrumental examination methods correctly.
5. Define an approach and extent of surgical and complex therapy.

#### **TEST CHECK:**

1. Dyshormonal hyperplasia: kinds, symptoms, diagnosing, treatment.
2. Mastitises: classification, diagnosing, treatment.
3. Benign tumor of mammary gland: clinical picture, diagnosing, treatment.
4. Methods of diagnosing of mammary gland diseases.
5. Forms of mammary gland cancer.
6. Clinical symptoms of mammary gland cancer.
7. Ways of mammary gland cancer metastasis
8. Differential diagnosing of mammary gland diseases.
9. Stages of mammary gland cancer according to international classification.
10. Kinds of surgeries in mammary gland cancer.
11. Scheme of combination therapy of mammary gland cancer.
12. Indications for hormonal, radio- and chemotherapy.



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Lesson №13.

Stomach cancer.

## **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Stomach cancer is a malignant stomach tumor, which takes the first place among the malignant neoplasms. The questions of stomach cancer etiology and pathogenesis are being intensively discussed, but have not been solved yet.

In 80% of cases a malignant process arises as a result of pre-cancerous condition (chronic atrophic gastritis, polyposis gastrica, chronic stomach cancer). Clinical presentations of the disease vary depending on localization, form and stage of a malignant process.

At present the only radical treatment method of stomach cancer is surgery with following complex therapy (chemotherapy, hormonotherapy, etc).

## **LESSON OBJECTIVES:**

On the basis of knowledge in anatomy, pathophysiology, methods of objective and instrumental examination to learn to diagnose, carry out differential diagnosing, define approach and extent of medical help in stomach cancer and pre-cancerous diseases.

**STUDENTS SHOULD KNOW:**

1. Etiology, pathogenic mechanisms of the disease development, statistic data on stomach cancer.
2. Classifications of stomach cancer and pre-cancerous diseases.
3. Metastasis scheme (by Melnikov) of stomach cancer depending on localization. Diseases stages.
4. Stomach cancer clinical representation depending on development period of the tumor, its localization and growth form.
5. Instrumental diagnosing of stomach cancer.
6. Differential diagnosing of stomach cancer.
7. Surgical treatment. Palliative and radical operations. Basic difference from the surgeries in nonneoplastic diseases.
8. Complications of stomach cancer (bleeding, stenosis, perforation): clinical picture, diagnosing, therapy.
9. Pre-cancerous diseases (chronic anacidic gastritis, stomach polyps, chronic cancer): clinical picture, diagnosing and therapy.

**STUDENTS SHOULD BE ABLE TO:**

1. Take history of the patients with stomach cancer.
2. Carry out an objective examination and to prescribe therapy and further examination for patients.
3. Carry out differential diagnosing (chronic anacidic gastritis, chronic pancreatitis, chronic cholecystitis, stomach tuberculosis and polyposis).
4. Make a diagnosis according to international classification.
5. Define an approach of stomach cancer therapy.

**TEST CHECK:**

1. Blood supply and lymph outflow of stomach.
2. Scheme of stomach cancer metastasis along the blood lymphatic system.
3. Early symptoms of stomach cancer.
4. Stomach cancer: classification, clinical picture according to stage of disease and localization.
5. Clinical signs of stomach cancer inoperability.
6. Radiological methods, gastroscopy and laparoscopy in stomach cancer diagnosing.
7. Chemotherapy and radiation therapy of stomach cancer.
8. Radical surgeries. Palliative operations.
9. Pre-cancerous diseases: diagnosing, approach, therapy.

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Lesson №14.

Hemorrhoids and its complications, acute proctitis, anal fissures, cryptitis, rectal prolapse

**MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Proctology is one of the special surgery parts. In diagnosing of rectum diseases special methods are used, besides general clinical patients examination:

- Digital rectum examination, proctoscopy, colonoscopy;
- Methods of radioisotopic diagnosing, computer tomography, magneto-laser resonator;
- Methods of examination of sphincter muscle of anus functional condition (sphincterometry, electromyography, dilatometry);
- Biopsy and cytological examination.

Early diagnosing and effective timely treatment of a rectum disease prevents the development of rectum cancer.

**LESSON OBJECTIVE:**

On the basis of knowledge in anatomy and physiology of rectum, clinical picture of rectum disease and its complications, results of laboratory instrumental examination techniques to learn to diagnose rectum diseases and determine the methods of therapy for each patient.

**STUDENTS SHOULD KNOW:**

7. Hemorrhoids etiology. Predisposing and producing factors;
8. Classification of stages of prolapsed internal hemorrhoid;
9. Classification of acute hemorrhoid degree;
10. Clinical picture and differential diagnosing of acute and chronic hemorrhoid;
11. Instrumental examination methods;
12. Conservative and operative methods of acute and chronic hemorrhoid treatment.
13. Etiology and pathologic anatomy of anal fissure;
14. Diagnosing of anal fissure;
15. Treatment of anal fissure;
16. Etiology of cryptitis;

17. Treatment of cryptitis;
18. Etiology and pathogenesis of acute paraproctitis;
19. Classification of acute paraproctitis;
20. Diagnosing of acute paraproctitis ;
21. Surgeries in acute perianal submucous abscess, ischiorectal periproctitis, pelviorectal abscess and presacral abscess;
22. Etiology and pathogenesis of rectal prolapse;
23. Clinical representation of rectal prolapse;
24. Treatment of rectal prolapse.

### **STUDENTS SHOULD BE ABLE TO**

1. Take history of a patient with mentioned diseases, carry out clinical examination and analyze the results.
2. Carry out rectal digital investigation as well as proctoscopy and evaluate the results.
3. Define the indications for a surgery.

### **TEST CHECK:**

1. Etiology and pathogenesis of hemorrhoid and its complications, acute paraproctitis, anal fissures, cryptitis, rectal prolapse.
2. Clinical representation depending on the stage of a disease.
3. Radiological and endoscopic semiotics of a disease.
4. Differential diagnosing of the mentioned diseases.
5. Preoperative preparation of the patients.
6. Indications for operations. Kinds of operations.
7. Peculiarities of postoperative regimen management.

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Проктология. В.Д. Фелоров, Ю.В. Дульцев. Москва 1984.

Chronic paraproctitises, pilonidal cysts, rectovaginal fistulas, nonneoplastic colon diseases.

### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Chronic benign diseases of rectum and colon have long and mainly recurrent course. As a rule, the conservative therapy leads to a limited improvement and surgeries are rather complicated. Hence, it is important to know modern diagnosing techniques, methods of complex conservative and surgical treatment of the patients with mentioned diseases.

### **LESSON OBJECTIVES:**

On the basis of knowledge in anatomy and physiology of rectum and colon, clinical picture of chronic paraproctitises, pilonidal cysts, rectovaginal fistulas, nonneoplastic colon diseases, interpretation of the results of laboratory and instrumental examination techniques to learn to diagnose methods of conservative and surgical therapy for each nosological form.

### **STUDENTS SHOULD KNOW:**

1. Anatomy of colon and rectum.
2. Etiology and pathogenesis of chronic paraproctitises, pilonidal cysts, rectovaginal fistulas, nonneoplastic colon diseases.
3. Clinical representation of the diseases.
4. Classification of chronic paraproctitises, pilonidal cysts, rectovaginal fistulas, nonneoplastic colon diseases.
5. Differential diagnosing of the mentioned diseases.
6. Principles and methods of examination of the patients with rectum and colon diseases.
7. Indications for surgeries and variants of surgeries.

### **STUDENTS SHOULD BE ABLE TO**

1. Take history and examine the patients with benign rectum and colon diseases carefully.
2. Make up a plan of patients examination
3. Interpret the results of irrigogram and fistulogram.
4. Make indications for surgical and conservative diseases therapy.

### **TEST CHECK:**

1. What clinical forms of chronic paraproctitises exist?
2. Name the principles of chronic paraproctitises conservative therapy?
3. What surgeries are used in intra-, extra- and transsphincteric rectum fistulas?
4. Carry out a differential diagnosis of pilonidal cysts.
5. What is the reason for possible recidivations after pilonidal cysts surgical treatment?
6. What is classification of rectovaginal fistulas?
7. What is the essence of surgeries in rectovaginal fistulas?
8. State the complications of nonspecific ulcerative colitis.
9. When do the indications for ulcerative colitis surgical therapy arise?
10. Enumerate the surgical therapy methods for polyps and diverticulosis of the large intestine?

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Lesson №15  
Cancer of esophagus

**MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

In the whole structure of malignant tumors cancer of esophagus takes the 8<sup>th</sup> place. It takes the 3<sup>rd</sup> place among malignant tumors of the digestive system after stomach and rectum cancer. 80-90% of patients are hospitalized with the III-IV stage of the disease, 17% with the IV stage what shows the late diagnosing of esophageal cancer.

**LESSON OBJECTIVE:**

To teach students to reveal early symptoms and diagnose cancer of esophagus. To acquaint with therapeutic approach in this disease.

**STUDENTS SHOULD KNOW:**

1. History of esophagus surgery development.
2. Classification of esophageal cancer (histological, clinical according to stages, according to TMN), clinical picture of esophageal cancer, classification of dysphagy according to stages).
3. Examination techniques ( X-ray, endoscopic, computer examination )
4. Surgical treatment of esophageal cancer, indications for operation, preoperative preparation.
5. Choice of operative approach in different localization of esophageal cancer.
6. Nasilov, Dobromyslov-Torek, Garlock-Osava, Lewis, Saviny surgeries. Abdomino-cervical extirpation of esophagus.
7. Methods of esophagoplasty;
8. Symptomatic surgeries (gastrostomy, bypassed loop, tumor intubation).
9. Radiation and complex therapy of esophageal cancer.

**STUDENTS SHOULD BE ABLE TO**

Take history, detect:

1. Primary (local) symptoms (dysphagia, pains, hypersalivation, regurgitation, stomatodysodia);
2. Secondary symptoms (hoarseness, severe coughing, hemoptysis, Horner's syndrome, hiccup, palpable lymph nodes, erosive hemorrhage).
3. General symptoms (weight loss, anaemia, lack of appetite)
4. On the basis of anamnesis to distinguish between functional and morphological dysphagia).
5. Make up an examination plan for a patient.
6. Interpret the results of esophagography and esophagoscopy.
7. Make clinical diagnosis on the basis of clinical and special examination techniques.
8. Make up a therapy plan for a patient.

### **TEST CHECK:**

1. History of esophagus surgery development
2. Anatomy of esophagus.
3. Pre-cancerous esophageal diseases.
4. Esophageal cancer classification (histological, clinical according to TMN stages).
5. Clinical picture of cancer of esophagus.
6. Examination techniques.
7. Indications and contraindications for surgeries in cancer of esophagus.
8. Palliative and radical surgeries in cancer of esophagus.
9. Kinds of surgeries depending on tumor localization.
10. Radiation and complex therapy of esophageal cancer.

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#### Lesson №16

Suppurative diseases of lungs and pleura. Lung cancer.

### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Pulmonary surgery is the part of surgery, which has developed greatly and has become successful due to considerable interest of surgeons to the study of organs and systems state functioning of a patient. First of all it concerns such diseases as acute and chronic suppurative pleurisy, acute and chronic pulmonary abscesses, pulmonary gangrene, spontaneous pneumothoraxes, complications after clotted hemothorax.

Lately in diagnosing and treating of mentioned diseases surgical clinics have adopted thoroscopic operations, which should be introduced to 4<sup>th</sup> year students as traditional methods. Lung cancer takes the 1<sup>st</sup> place among other oncological diseases and the 1<sup>st</sup> place among male malignant growths. Annually about 2 million people die of lung cancer. Incidence rate is growing mostly because of ecological factors (smoking, carcinogen pollution of the environment) and also because of chronic inflammatory pulmonary diseases (chronic bronchitis, pneumosclerosis, chronic pneumonia, chronic suppurative lungs diseases). The main method of cancer treatment is the surgical one, but respectable are only 20% of cancer patients, what is connected with late disease diagnosing.

### **LESSON OBJECTIVE:**

To learn to diagnose and determine methods of treatment of acute and chronic pulmonary abscesses, acute and chronic pleural empyema, spontaneous pneumothorax, clotted hemothorax, pulmonary gangrene, mycotic pulmonary suppuration on the basis of knowledge in anatomy and physiology of respiratory system, clinical findings of the disease, results of laboratory and special research methods.

To teach students to detect early symptoms of lung cancer, present clinical findings, diagnostics and treatment tactics.

### **STUDENTS SHOULD KNOW:**

1. Etiology and pathogenesis of suppurative lungs and pleura diseases.
2. Clinical findings of acute and chronic lung abscesses, acute and chronic pleural empyema, pulmonary gangrene, spontaneous pneumothorax and its complications, clotted hemothorax, mycotic pulmonary suppuration.
3. Modern laboratory and instrumental methods of patient examination (bronchoscopy, thoracoscopy, ultrasound, CAT, magnetic resonance imaging and others).
4. Differential diagnostics of diseases mentioned above with other pathologic changes in organs and thorax systems.
5. Methods of conservative treatment of suppurative lungs and pleura diseases.
6. Minimally invasive operations in the surgery of pleural empyems, complications after spontaneous pneumothorax and clotted hemothorax.
7. Methods of surgical treatment of patients with the mentioned diseases.
8. Lungs anatomy, segmental lungs structure, lungs physiology.
9. Predisposing factors and pre-cancerous lungs diseases.
10. Pathogenesis of the disease.
11. Clinicopathologic and histomorphologic classification, classification according to TMN stages.
12. Ways of lung cancer metastasis.
13. Symptoms of the disease (primary or local, secondary or late), paraneoplastic syndromes.
14. Diagnostics methods (rontgenologic, bronchologic, paracentetic).
15. Treatment of lung cancer, indications to operations and types of operations.
16. Principles of ablastics and anti-ablastics.
17. Indications to radial chemotherapy, combined therapy.

### **STUDENTS SHOULD BE ABLE TO:**

1. Take history, carry out clinical examination and analyze the data obtained.



2. Make a plan of laboratory and instrumental research methods for each disease mentioned above.
3. Estimate results of special research methods (thoracoscopy, bronchoscopy, ultrasound, CAT, magnetic resonance imaging and others).
4. Formulate and prove the clinical diagnosis.
5. Define indications for minimally invasive operations and traditional surgical treatment.
6. Take history, carry out physical examination (examination, palpation, percussion, auscultation).
7. Make up a plan of special examination techniques.
8. Interpret the pulmonary radiological evidence.
9. Make a diagnosis on the basis of general clinical, specific, cytological and histological data.
10. Make up a plan of a patient treatment.

### **TEST CHECK:**

1. Etiology and pathogenesis of suppurative lungs and pleura diseases, spontaneous pneumothorax, complications after clotted hemothorax, pulmonary gangrene, mycotic pulmonary suppuration.
2. Clinical representation of the diseases mentioned above and their complications.
3. Rontgenologic and surgery semiotics of the thorax pathologic changes mentioned above.
4. Differential diagnostics of the diseases mentioned above with another pathology of lungs and mediastinum.
5. Algorithm of surgical operations for patients with acute and chronic empyema, spontaneous pneumothorax, clotted hemothorax.
6. Essence of endoscopic therapy in surgery of lungs and pleura.
7. Surgical treatment of patients with the lungs and pleura diseases mentioned above.
8. Peculiarities of post-operational period of patients after traditional and thoracoscopic operations.
9. Surgical anatomy of lungs.
10. Predisposing factors and pre-cancerous lungs diseases.
11. Classification of lung cancer.
12. Main clinical symptoms of lung cancer.
13. Differential diagnostic of lung cancer and tuberculosis, abscesses, cysts.
14. Plan and methods of examining a patient with lung cancer.
15. Rontgenologic and bronchologic signs of lung cancer.
16. Determine degree of operationability according to the results of examination.
17. Pre-operational preparation of patients for radical lungs operation.
18. Types of operative intervention during lung cancer.
19. Radiotherapy, chemotherapy, combined therapy.

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#### LESSON #17.

### SURGERY OF CONGENITAL AND EVOKED HEART DISEASES, CORONARY HEART DISEASE, PERICARDITIS

#### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

More than 50% of world population dies of cardiovascular diseases. Surgery is very important in decreasing of the level of death-rate of heart and vessels diseases. Diagnostics and surgical treatment of heart surgical pathology has become a new part of medicine.

Especially prominent success has been achieved during the last 10-15 years. Such operations have become popular as heart transplantation, reconstructive surgery during inoperable surgery of congenital heart disease, correction of complicated cardiac rate disturbance, minimally invasive coronary arteries plastic surgery.

#### **LESSON OBJECTIVE:**

To study diagnosing techniques and ways of treatment of heart and vessel diseases on the basis of knowledge in anatomy and physiology of heart and pericardium, coronary blood flow, clinic of heart surgical pathology, methods of laboratory and instrumental research.

#### **STUDENTS SHOULD KNOW:**

1. Modern methods of instrumental diagnosing of heart surgical pathology and pericardium.
2. Occurrence and causes of the most frequent congenital heart diseases.
3. Etiology and pathogenesis of acquired valvular diseases and pericarditis.
4. Clinical and anatomic classifications of valvular diseases and pericarditis.
5. Hemodynamic disorders identified during instrumental diagnostics of heart diseases.
6. Conservative treatment of surgical heart diseases and pericarditis.
7. Terms and results of surgical treatment of heart pathology and pericarditis.

#### **STUDENTS SHOULD BE ABLE TO:**

1. Take history of a patient with pericarditis and heart rhythm disturbances.
2. Carry out clinical examination of the patient with this pathology.
3. Interpret the results of instrumental examination.
4. Define the therapeutic approach and make prescriptions for patients with surgical pathology of heart and pericarditis.

#### **TEST CHECK:**

- I. Congenital and evoked heart diseases.

1. What are the modern techniques of surgical heart and pericarditis pathology functional diagnosing?
2. What reasons lead to valvular defects?
3. What symptoms are characteristic of most widespread valvular defects?
4. What are informative examination techniques in various nosologic congenital and evoked valvular defects?
5. What hemodynamic disorders are detected in the mentioned examination techniques?
6. How should be conservative therapy of patients with valvular defects carried out?
7. What are the terms and methods of surgeries in congenital and evoked valvular defects?
8. By what are the results of valvular defects surgical therapy conditioned?

## II. Pericarditises

1. The prevalence and classification of pericarditises.
2. Etiology and pathogenesis of pericarditises.
3. What clinical representation is characteristic of the disease depending on its form?
4. What special examination techniques are used for pericarditises diagnosing?
5. Differential pericarditises diagnosing.
6. Name the treatment mode and indications for operation in pericarditises.

## III. Coronary artery diseases

1. Definition of coronary artery disease as a surgical notion.
2. Name the methods of instrumental and X-ray examination in the patients with coronary artery disease.
3. Indications for operation and its choice (stenting, balloon dilatation, coronaroplasty, shunting).
4. Peculiarities of postoperative therapy and rehabilitation of patients with coronary artery disease.

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## Lesson №18

### Obliterating diseases of peripheral arteries

#### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Obliterating diseases of peripheral arteries (obliterating atherosclerosis, endarteritis) have been very widespread in recent decade. They are registered in considerable part of population, especially in people of middle age. Steady disease progression, disposition to the disease threatens the extremities and the whole organism lesion. It makes the problem of obliterating diseases of peripheral arteries extremely urgent.

#### **LESSON OBJECTIVE:**

On the basis of knowledge in anatomy and physiology of lower extremities arterial system, the disease clinical picture, analysis of laboratory and instrumental tests results to learn to diagnose and define methods of conservative and surgical treatment of obliterating diseases of peripheral arteries of lower extremities.

#### **STUDENTS SHOULD KNOW:**

1. Anatomy and physiology of arterial system
2. Etiology and pathogenesis of obliterating diseases of peripheral arteries;
3. Clinical representation of obliterating atherosclerosis and endarteritis;
4. Symptoms of chronic ischemia of lower extremities.
5. Classification of arterial circulation deficiency of extremities;
6. Differential diagnosing of obliterating diseases;
7. Physical and special methods of patients examination
8. Indications for conservative and surgical therapy of patients with obliterating diseases of peripheral arteries;
9. Principles of conservative therapy of obliterating diseases of peripheral arteries;
10. Variants of surgical treatment of lower extremities main arteries occlusions and stenoses.

#### **STUDENTS SHOULD BE ABLE TO:**

1. Take history and examine patients according to systems properly, define the vessels puls, carry out vessels auscultation and functional tests;
2. Read arteriography and interpret angiograms;
3. Formulate clinical diagnosis taking into account the etiology, character and localization of occlusive-stenotic process, and the stage of arterial circulation disorder.
4. Define a treatment mode according to diagnosis.

#### **TEST CHECK:**

1. Draw a scheme of human arterial system (the heart, vessels, aorta, its main branches, main arteries of upper and lower extremities).
2. Describe the functional tests, using the evaluation of arterial circulation into ischemic extremities.
3. What examination complex should be used to detect level, extent and character of occlusive-stenotic lesion of lower extremities main arteries and to define the stage of arterial circulation chronic disorder in extremities?
4. Name the contraindications for reconstructive surgeries in obliterating diseases of peripheral arteries.
5. Give the scheme of surgical treatment of patients with obliterating diseases of peripheral arteries.
6. Enumerate the methods of surgical treatment of obliterating diseases of peripheral arteries.
7. The results of the research by Prof. Ioskevich N.N. (1 – improvement of the postoperative period course of the patients with recent lower extremities arteries reconstructive operation, 2- improvement of endarterectomy technique).
8. The results of the research by associate professor Vasilevsky V.P (1 – the methods of distal anastomosis imposing in femoral-tibial bypass, 2-nonstandard methods of vessel bed plastic surgery)
9. Balloon angioplasty and stenting of extremity main arteries.

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#### Lesson №19

#### Varicose vein disease of lower extremities

#### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

15-17% of CIS (Commonwealth of Independent States) population suffers from varix dilatation and its complications. In connection with rather high level of patients' disability this problem acquires social and economic importance.

### **LESSON OBJECTIVE:**

To learn to diagnose varicose diseases and determine the treatment mode on the basis of knowledge of venous system anatomy, peculiarities of lower extremities phlebohemodynamics and results of instrumental and objective examination techniques.

### **STUDENTS SHOULD KNOW:**

1. Etiology and pathogenesis of varicose disease of lower extremities;
2. Classification of varicose disease of lower extremities;
3. Clinical picture of varicose disease of lower extremities;
4. Instrumental diagnosing of the disease.
5. Prevention and conservative therapy of varicose disease of lower extremities;
6. Methods of varicose disease of lower extremities surgical treatment.
7. Main trends of cosmetic treatment of varicose disease of lower extremities.

### **STUDENTS SHOULD BE ABLE TO:**

1. Reveal predisposing and producing factors of the disease development, take history of the patients with varicose disease of lower extremities.
2. Carry out clinical examination of the patients with varicose disease of lower extremities and take functional tests (Brodie-Troyanov-Trendelenburg, Hackenbruch, Shvarts, Pratt, Barrow-Sheynis, Mayo-Pratt, Delbe-Pertes);
3. Prescribe basic corrective conservative therapy;
4. Determine indications for surgical therapy of varicose disease of lower extremities and make up a plan of a surgery;
5. Prescribe activities on prevention of complications in postoperative period.

### **TEST CHECK:**

1. Name the peculiarities of phlebohemodynamics in lower extremities.
2. What factors play the leading role in varicose disease of lower extremities origin?
3. Name the main theories of varicose disease of lower extremities origin.
4. What symptoms are characteristic of varicose disease of lower extremities?
5. What methods of instrumental examination are used in patients with varicose disease of lower extremities?
6. What treatment should be applied to patients with varicose disease of lower extremities?
7. Name the methods of cosmetic treatment and prevention of varicose disease of lower extremities.

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2. Диагностика и лечение варикозной болезни и хронической венозной недостаточности нижних конечностей (А.В. Гавриленко, Москва, 1999).

## Lesson №20 Thyroid diseases

### **MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

In the recent decade the number of patients with thyroid gland diseases with nodular and autoimmune goiter has increased while with thyrotoxic goiter has decreased. This is connected with ecological factors, first of all with radiation background. The number of patients with blastomatogenic regeneration nodules of thyroid gland has increased as well. At present, the possibilities of detection of small masses in thyroid gland, of early thyroid gland cancer diagnosing and timely surgeries have widened. Knowledge of clinical representation, diagnosing, treatment of different forms of goiter is necessary for each doctor.

### **LESSON OBJECTIVE:**

To teach students to diagnose the diseases of thyroid gland (different forms of goiter, acute and chronic inflammatory diseases, benign and malignant gland lesions) and to determine the therapeutic approach in various thyroid gland diseases.

### **STUDENTS SHOULD KNOW:**

1. Anatomic and physiological information on thyroid gland;
2. Methods of thyroid gland examination;
3. Classification of thyroid gland diseases;
4. Etiology, pathogenesis, clinical representation of endemic goiter;
5. Conservative and surgical treatment methods, prevention of endemic goiter;
6. Carry out a differential diagnosing between eu-, hypo-, hyperthyroid forms of goiter.
7. Conservative methods of thyrotoxic goiter treatment;
8. Pre-operative preparation, indications for surgeries and their methods in thyrotoxic goiter.
9. Post-operative complications and their prevention in patients of thyrotoxic goiter.
10. Acute inflammatory diseases (strumitis, thyroiditis), etiology, clinical picture, therapy;
11. Chronic inflammatory diseases of the thyroid gland (Riedel's goiter, Hashimoto's disease), etiology, pathogenesis, clinical picture, therapy;
12. Benign tumors of thyroid gland, clinical picture, diagnosing, therapy;
13. Malignant tumors of thyroid gland, classification, clinical picture, diagnosing, therapy.

### **STUDENTS SHOULD BE ABLE TO:**

1. Take history of patients with thyroid gland pathology.
2. Carry out examination, palpation of thyroid gland for its sizes, mobility, consistency and goiter extension detection.
3. Detect symptoms, characteristic of thyrotoxic goiter.
4. Find major symptoms (Stellwag's, Dalrymple's, Grefe's, Möbius's, Koher's, Geoffroy's, Elinek's).
5. Detect the degree of thyrotoxicosis;
6. Carry out differential diagnosing between eu-, hypo- and hyperthyroid forms of goiter.
7. Interpret the results of thyroid gland functional state examination (protein-bound iodine, cumulative function with J. I3I, basal metabolism, content of T<sub>3</sub>, T<sub>4</sub>, cholesterol in blood).
8. Read a thyroid gland scanogram, detect cold and hot nodes.
9. Prescribe thyrostatic therapy for the patients with thyrotoxic goiter.
10. Choose the surgical methods for each patient.

### **TEST CHECK:**

1. Interrelation of thyroid gland with neighbor organs, blood supply, innervation, interrelation with recurrent nerves;
2. Hormones of thyroid gland and their synthesis;
3. Influence of gland hormones on basal, protein, carbohydrate and lipid metabolism;
4. Influence of thyroid gland hormones on central nervous system, cardiovascular system, respiratory and digestive system;
5. Degree of thyroid enlargement;
6. Clinical manifestations of Graves' disease;
7. Stages of exophthalmos.
8. Changes in the nervous and cardiovascular system in thyrotoxic goiter.
9. Draw the curve of cumulative gland function J. I3I in hypo and thyrotoxic goiter.
10. Conservative therapy of thyrotoxic goiter by iodine microdoses, indications. What are disadvantages of the method? Thyreostatic treatment (doses, indications, drawbacks of the method).
11. Thyreostatics crisis, prevention and therapy.
12. Postoperative therapy (etiology, therapy, prevention);
13. Clinical signs of hypothyroidism. Therapy.
14. What are endemic and sporadic goiters?
15. Examination of disability and rehabilitation of patients with thyroid diseases

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Lesson №21  
RECTAL AND COLON CANCER

**MOTIVATIONAL CHARACTERISTICS OF THE SUBJECT**

Digestive apparatus tumors still play the leading role in mortality factors. Colorectal cancer has a 3<sup>rd</sup> place among malignant neoplasms in most countries of the world, in both men and women. According to WHO, more than 500 thousand cases of colorectal cancer are recorded. The most frequently colorectal cancer is recorded in economically developed countries: USA, Canada, Western Europe countries, Russia, European CIS countries.

**LESSON OBJECTIVE:**

To learn to diagnose cancer lesion of intestinal formations mentioned above and determine methods of surgical treatment for each patients on the basis of knowledge in anatomy, blood circulation and lymph outflow of rectum and colon, oncopathology clinic of large intestine, results of laboratory and instrumental research methods.

**STUDENTS SHOULD KNOW:**

1. General information on prevalence, localization, ultrastructural characteristics of colorectal cancer.
2. Classification of colorectal cancer.
3. Clinical course of colon rectal cancer and peculiarities of symptomatology of colon cancer.
4. Laboratory and instrumental diagnosing of colorectal cancer.
5. Main principles of colorectal cancer treatment.
6. Surgical treatment of colorectal cancer.
7. Post-operative treatment and rehabilitation of patients.

**STUDENTS SHOULD BE ABLE TO:**

1. Collect claims and history of a patient with colorectal cancer.
2. Carry out clinical examination of a patient with colorectal cancer.
3. Make up an examination plan and interpret the data obtained.
4. Ground the extent of operation when choosing the way of surgical intervention.

**TEST CHECK:**

**I Colon cancer**

1. What factors can cause and promote the development of colorectal cancer.
2. What elements of colorectal cancer international classification do you know?
3. What forms of colon cancer course do you know?
4. Name the methods of colon cancer instrumental diagnosing.
5. By what is the choice of colon cancer treatment mode conditioned?
6. What surgeries are used in colon cancer?
7. Name the complications of surgical treatment of colon cancer.

## **II Rectal cancer**

1. What reasons cause rectal cancer?
2. Name main clinical presentations of rectal cancer.
3. What methods of instrumental examination are used in rectal cancer diagnosing and diagnosis verification?
4. Differential diagnosing of rectal cancer.
5. Choice of surgery method in accordance with rectal oncological process localization and prevalence.
6. What early postoperative complications do you know? Name the methods of their prevention and therapy.
7. What are results and rehabilitation of the patients with colorectal cancer?

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