MODULE № 1 STUDY GUIDE

«EMERGENCY ABDOMINAL SURGERY AND PROCTOLOGY (with electronic control of practical skills' assimilation)»

2022-2023 academic year

DNIPRO STATE MEDICAL UNIVERSITY

Study guide
for independent training of students
to practical classes in surgery

Module 1 “Urgent abdominal surgery
and proctology
(with electronic control of practical skills’ assimilation)”

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Dnipro

2022-2023 academic year

Study guide

for 4th year students of higher medical educational institutions of the IV level of accreditation, studying according to the credit-modular system - Master of Medicine

Recommended:
By the Central Methodical Office of Dnipro State Medical University as a study guide for students of higher medical educational institutions of the IU level of accreditation/

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PREFACE

Training a qualified master of medicine or a general practitioner is the main case of higher medical education, and therefore proper teaching of surgery in a range of other disciplines will create conditions for quality medical practice in the future, which must meet the following requirements: trained professionals, optimal use of resources, minimization risk to patients with the use of medical technology and satisfaction of the patient from contact with the medical community. Considering that in the first place in this list there is the level of qualification of the specialist, it is clear to figure out the need to improve the quality of training of doctors in the school, which is aimed at the implementation of the educational process of a credit-module system.

The main direction in the preparation of the doctor, which will stimulate the student to improve learning, will be to change the assessment vector in the control of knowledge from existing volume indicators (assessments according to tests and exams) to manage and control the quality of education during the school year at each practical lesson, schemes with the involvement of developed textbooks, manuals, and guidelines.

The cases of the general practitioner's professional activity determine the main requirements for the amount of knowledge and practical skills for a graduate of a higher educational institution of III-IV level of accreditation: purposeful methodical sequence of actions for interviewing a patient, performing a physical examination, conducting differential diagnosis, forming a clinical diagnosis, building a treatment program and its implementation.

Therefore, it is necessary to restructure the educational process, including the teaching of surgery, to achieve a positive effect in the training of physicians, which, in our opinion, is the purpose of this manual.

At the same time, each class has obligatory types of control for each student:

a) on the topic - *current* - with the evaluation of tests, supervision of the patient, and the implementation of two practical skills, the survey; in a practical lesson on the topic, the student receives 4 (four) grades.

b) for the syndrome - ***intermediate*** - with the assessment of the situational clinical case on five issues, which was solved at home, with 1 (one) assessment.

c) **by module - *final*** - with the evaluation of computer testing, patient supervision and written answers to the patient's survey, physical examination, justification of preliminary diagnosis, the appointment of diagnostic program, analysis of additional research results, differential diagnosis, clinical diagnosis, and plan treatment; in a practical lesson on module control the student receives 9 (nine) grades.

The student is admitted to the final control of the module provided that the requirements of the curriculum are met and if for the current and intermediate study activities he scored at least **70 points out of 120** (this number of ECTS points is equal to the sum of traditional grades "3").

The final module control is credited to the student if he scored at least **50 points out of 80** (this number of ECTS points is equal to the sum of traditional grades "3").

The course is credited to the student if he scored at least **120 points out of 200** (current, intermediate knowledge + final module control, this number of ECTS points is equal to the sum of traditional grades "3").

Contents

STRUCTURED TRAINING PLAN IN THE DISCIPLINE "SURGERY" BY MODULE 1. "URGENT ABDOMINAL SURGERY AND PROCTOLOGY"

Discipline structure	Number of hours				Year of study	Control type
	Total	Classroom hours		CPC		
		Lectures	Practical classes			
Module 1: Urgent abdominal surgery and proctology *3 training modules:* 1. General principles of recognition and formation of clinical diagnosis 2. Urgent surgical abdominal diseases 3. Urgent surgical diseases of the colon and rectum and perianal area	135 hours. 4,50 credits	10	62	55	4	Modular control
Final modular control	*4 hours* *(2h.40min.)*					

Note 1 credit ECTS - 30 hours; teaching load– 56%, CPC –44%.
During the training of students, the professional medical practice in surgery takes place (doctor's assistant in the hospital) in the departments of the surgical profile of the bases of the cathedra which is reflected in the students' daily schedule.

METHODOLOGICAL DEVELOPMENT
of a practical lesson

Topic № 1.
Introductory lesson on the training discipline «Surgery»

<u>Module 1.</u> Urgent abdominal surgery and proctology
<u>Content module 1.</u> General principles of recognition and formation of clinical diagnosis

Topic № 1. Introductory lesson on the training discipline «Surgery»

Definition: In the 4th year surgery studies the most common surgical diseases of the digestive tract and abdominal organs with features of their clinical course on the basis of learning a technique of objective patient workup and formation of a preliminary diagnosis, development of a diagnostic program, differential diagnosis, formation of a clinical diagnosis and determination of a treatment program taking into account clinical and statistical classifications within the professionally-oriented cases of a general practitioner.

Carrying out curation according to survey methods, physical methods of examination, the appointment of additional research methods and their analysis, conducting differential diagnosis, formation of clinical diagnosis on the basis of clinical and statistical classifications, and substantiation of treatment tactics.

Incoming control of residual knowledge level:

Definition: The residual level of knowledge of students, which they received in the I-III courses, is the basis for further acquisition of theoretical knowledge and practical surgery skills within the professionally-oriented cases of a general practitioner.

Methods of curation of the patient, diagnosis, and determination of treatment tactics:

1. Method of questioning and physical examination of the patient is an algorithm of collecting patient complaints, medical history, and life history if it affects the occurrence or course of the disease, patient's examination, palpation, percussion, and auscultation.

2. Method of forming a preliminary diagnosis is an algorithm of substantiation of the previous diagnosis on the basis of the patient's survey (complaints, medical and life history) and physical examination data (examination, palpation, percussion, auscultation).

3. Method of developing a diagnostic program is an algorithm of appointment necessary for specification of the diagnosis, the definition of a condition of the patient before the beginning of treatment, efficiency control of the carried-out treatment, additional researches (laboratory; instrumental: esophagogastroduodenoscopy, rectoromanoscopy, fibrocolonoscopy, etc .; radiological: review, contrast radiography, ERCP, etc.; ultrasound) and consultations related specialists with the analysis of the obtained results.

4. Method of differential diagnosis is an algorithm of determining the list of similar diseases for differential diagnosis, a compilation of differential diagnostic tables and their analysis taking into account similar and comparing different clinical manifestations and results of additional studies.

5. Method of forming a clinical diagnosis is a principle of evaluation of the received data of physical examination and additional research of the patient with the formation of the clinical diagnosis with the use of the clinical and statistical classification of a disease.

6. Method of determining the treatment program is an algorithm of determining the need for hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient), or the possibility of outpatient treatment with guidance of groups of drugs and their action.

Patients' curation by students at clinical departments aims to:

1. To solidify the ability to collect complaints, history and clarify the physical condition of the patient.
2. Learn the method of differential diagnosis, registration of a detailed clinical diagnosis.
3. To find out the etiology and pathogenesis of diseases of the internal organs and learn to teach these questions.

To find out the etiology and pathogenesis of diseases of the internal organs.

4. Master the principles of etiological, pathogenetic therapy and prevention of diseases, methods of their dietary, medical, surgical, physiotherapeutic, and sanatorium treatment, as well as the recipe of the used drugs.

5. Master the method of predicting the course of the disease.
6. Improve the ability to draw up a medical record for a surgical inpatient.

The ultimate goals of training in a practical lesson:

1. To know the scope and features of the curriculum in the discipline "Surgery" for module 1 "Abdominal surgery".

2. To know the lecturing staff of the surgery department № 1, the order of the department's work, rules of conduct, and training at the department.

3. To know the list and components of the departments of the clinical base of the department, the order of work, rules of conduct, and training on the clinical base.

4. Determine the residual level of knowledge for I-III courses

5. To know:

a. Method of questioning and physical examination of the patient
b. Method of forming a preliminary diagnosis
c. Method of developing a diagnostic program
d. Method of differential diagnosis
e. Method of forming a clinical diagnosis
f. Method of determining the treatment program

The purpose of the practical lesson:

To achieve the required level of theoretical knowledge of the method of patient's curation, formation of the diagnosis and determination of treatment tactics within the professionally-oriented cases of a general practitioner for an introductory lesson in the discipline "Surgery" after acquaintance with the department, clinical base and obtaining a residual level of knowledge for I-III courses. Practically confirm the achieved level of knowledge in the supervision of the patient.

Forms of knowledge and skills control in practical classes:

1. Test control of the residual knowledge level on 20 test cases in the disciplines of I-III courses.
2. Theoretical survey of each student on the methods of curation of the patient, the formation of the diagnosis and determination of treatment tactics, with the evaluation
3. Evaluation of each student's performance of practical skills: -

- survey of the patient (collection of complaints, medical history, and life history)
- physical examination of the patient (examination, palpation, percussion, auscultation) on a medical simulator (mannequin), student-volunteer, patient.

The informational part of methodical development

The minimum basic level of knowledge required to master the topic:

Within the framework of professionally oriented cases of a general practitioner (based on I-III courses):

1. **Anatomy, topographic anatomy, and operative surgery**
2. **Physiology**
3. **Pathological physiology**
4. **Pathological anatomy**
5. **Microbiology, virology, and immunology**
6. **Pharmacology**
7. **Radiology**
8. **General surgery, propaedeutics of internal diseases**

The specific purpose of independent preparation for practical training:

Using basic knowledge and skills (residual level), learn information about the department and clinical base, get theoretical knowledge that will provide mastery of practically oriented cases in the following areas:

1. Method of questioning and physical examination of the patient

2. Method of forming a preliminary diagnosis
3. Method of developing a diagnostic program
4. Method of differential diagnosis
5. Method of forming a clinical diagnosis
6. Method of determining the treatment program

The program of independent preparation for a practical lesson:

1. Relevance of the discipline "Surgery".
2. Repetition of the minimum basic level of knowledge in disciplines for I-III courses to determine the residual level.
3. Assimilation of theoretical knowledge on the methods of curation of a surgical patient: survey and physical examination, formation of a preliminary diagnosis, development of a diagnostic program, differential diagnosis, formulation of a clinical diagnosis based on clinical and statistical classifications, definition of a treatment program.

Practical skills that are assigned to the practical lesson:

1. Patient's survey (collection of complaints, medical history, and life history
2. Patient's physical examination (examination, palpation, percussion, auscultation)

Practical skills' features in the patient's examination:

1. While questioning the patient it is necessary to define:

what patient complaints about:

- main patient's complaints when consulting a doctor that indicates the affected organ or system

- additional complaints that accompany the main ones and are associated with the processes of inflammation, asthenia, intoxication and characterize the general patient's condition.

A) Pain:

1) pain localization
2) pain intensity
3) pain irradiation
4) character of pain
5) pain periodicity
6) connection with the food nature/origin and its intake
7) changes associated with the appearance of the abdominal pain
8) conditions of pain strengthening or weakening

B) Other complaints are gradually identified

nausea

vomiting

stool changes

body temperature changes

other organs and systems changes

Medical history

A) Date and time of the disease onset

Disease onset: acute - gradual.

First manifestations of a disease
Possible causes of the disease

Dynamics of disease development from the beginning to hospitalization.

When and where patient sought medical attention
What kind of treatment patient received before admission to the clinic
When taken to hospital (date, time)

Life history:
Biographical details: living and growing conditions
Living and working conditions that could cause the disease
Bad health habits
Previous diseases, operations, traumas
Diseases and causes of death of close family members
For women - obstetric and gynecological history:

the number of pregnancies

the number of births

the date of the last menstrual period

whether the last menstrual period was on time
Allergic and blood transfusion anamnesis
Whether the patient was issued a sick leave certificate during the year (insurance status)

Practical skill 1 (Instructions for the test performance)

The control of practical skills is based on the principle of a test with five questions, each on a separate screen, four of which contain lists of answers from which the student, using his knowledge of this topic, has to choose the correct ones, put a mark in front of them. The number of correct answers is not regulated. One question is to select a specific sequence of actions in the algorithm by selecting from identical lists provided for each number in the algorithm. After that, the student has to complete the attempt by pressing the appropriate button and then confirm the action or return to the questionable answer and review the question, and reaffirm the completion of the test and send the results.

2. Physical examination
Examination:
A) General examination:
1) the severity of the patient's condition (good, fair, serious, critical)
2) conscious state (clouding of consciousness, confusional state, lethargy, stupor, coma)
3) position in bed (active, passive, forced)
4) the patient's behavior: calm or restless
5) facial expression
6) body temperature, pulse rate
7) skin cover condition
8) visible mucous membranes condition
9) subcutaneous tissue condition
10) examination and palpation of lymph nodes

11) condition of muscles, bones, and joints

Physical examination of individual systems.

Respiratory system

Examination: form, symmetry, participation in the act of breathing, breathing pattern, and type of respiration

Palpation: pain, resistance, vocal jitter, crepitation, noise and friction of the pleura

Percussion: comparative (the nature of the percussion sound, the presence of fluid or gas), topographic (boundaries and mobility of the edge of the lungs, Traube space, heart)

Auscultation; the nature of the main and secondary respiratory noises, bronchophony

Cardiovascular system

Examination: chest protrusion (cardiac hump), apex beat (localization, area, rhythm, strength).

Palpation: features of the apex beat, systolic and diastolic tremor

Percussion: topographic (boundaries of the absolute and relative dullness of the heart)

Auscultation; cardiac rhythm, heartbeat rate, characteristics of heart tones, and the presence and type of heart murmurs

Examination of blood vessels

Examination: protrusion and pulsation of large vessels, twisted vessels, dilated vessels of the chest, abdomen, lower extremities.

Palpation: properties of the pulse on the radial arteries, pulsation of the aorta, arteries of the feet, thighs, popliteal artery, temporal, carotid, subclavian.

Percussion: topographic (boundaries of vascular bundles)

Auscultation; tones and noises over large vessels, blood pressure, pulse pressure, average dynamic pressure.

Urinary system

Examination: skin discoloration and swelling, changes in the shape of the lumbar area, protrusion impaction.

Palpation: at a deep palpation kidneys' condition can be defined, size, shape, kind of pain, surface, displacement, consistency, condition of the urinary bladder, renal and urinary points.

Percussion: determination of Pasternatsky's (Murphy's punch) sign, the position of the urinary bladder

Auscultation: the noise of peritoneal friction over the kidneys, vascular murmur over the renal arteries.

Status localis (examination of the digestive system)

Oral cavity examination

1) condition of mucous membranes, gums, teeth, tonsils

2) condition of the tongue (shape, size, colour, cracks, crust, tongue plaque teeth indentations, cicatricial tissue, tongue papilla manifestation rate, mobility, tongue moisture)

Abdomen examination

1. Abdomen form: a regular shape, irregular shape, enlarged abdomen, retracted abdomen

2. Symmetry: bloating, bulging, retraction of certain parts of the abdomen, hernias

3. The degree of involvement of the anterior abdominal wall in the breathing act: active or lag of certain areas

4. Visible through the abdominal wall peristalsis of the stomach and intestines, postoperative scars, dilation of the subcutaneous veins of the anterior abdominal wall (arachnogastria)

5. Umbilicus: shape, size, protrusion, displacement

Palpation (including rectal examination):

Superficial palpation

1) Localization of pain and muscle tension

2) Examination of protrusions and weaknesses of the anterior abdominal wall

Deep palpation by the method of Obraztsov-Strazhesko's

1) successive palpation of the digestive tract
2) determination of the shape, type of the surface, increased pain, the presence of infiltrates, displacement
3) liver condition (edge, consistency, pain)
4) urinary bladder condition (size, consistency, pain)
5) spleen condition (edge, size, consistency, surface)
6) determination of palpatory symptoms (Kehr's , Murphy's, Mussi-Georgievsky's, Parturier's, Courvoisier's, Mayo-Robson's, Chukhrienko's, Voskresensky's, Boas's, Rovsing's, Obraztsov's, Bartomie-Michelson's, Sklyarov's, Shchetkin-Blumberg's)

Digital rectal examination (condition of the anus, walls of the rectum, prostate, uterus)

Percussion

Comparative (determination of free fluid or gas in the abdominal cavity)
Topographic (determination of organ boundaries, tumors' localization, infiltrates)
Percussion symptoms (Razdolsky's, Mendel's, Spizharniy's, De Quervain's, Ortner's, Kywul's)

Auscultation: characteristics of intestinal murmurs, peritoneal friction noise, determination of the lower edge of the stomach, auscultatory symptoms (Sklyarov's, Spasokukotsky's)

Practical skill 2 (Instructions for the test performance)

The control of practical skills is based on the principle of a test with four questions, with two questions on one screen and the other on separate screens. Two of which contain lists of answers from which the student has to, using their knowledge of this topic, choose the correct ones. The number of correct answers is not regulated. The first question needs to be arranged in a certain order of action in the algorithm by choosing from identical lists provided for each number in the algorithm.

To formulate a clinical diagnosis, the student has to choose the correct sequence of actions, so the answers are selected considering the studied algorithm of formulating a clinical diagnosis.

In the case of entering the correct answer in an empty box, the correct answer has to be selected and moved with the mouse to the appropriate window, it is needed to fill in all the empty windows. After that, the student has to complete the attempt by pressing the appropriate button and then confirm the action or return to the questionable answer and review the question, and reaffirm the completion of the test and send the results.

Description of the local status of the disease (Status localis):

For example, a practical study and writing of local status in one of the acute diseases of the abdominal cavity:

The patient's tongue is wet, coated with a white film. The abdomen is symmetrical, the anterior abdominal wall in the right iliac region lags behind in the act of breathing. At superficial palpation in the right iliac region, there is moderate muscle tension and marked pain. At deep palpation of other sites, the stomach is soft, but it is not painful. The liver and spleen are not palpable. There is noticed a further increase in pain in the position on the left side (Sitkovsky's symptom), at deep palpation in the position on

the left side (Bartomier-Michelson's symptom), at pushing in the left iliac area (Rovsing's symptom), at deep palpation during lifting. outstretched right leg (symptom Obraztsov). Pain is aggravated also at fast carrying out by a hand from the left hypochondrium to the right iliac area (Voskresensky's symptom). The pain is significantly exacerbated by rapid removal of the hand after slow pressure in the right iliac region (a symptom of Shchotkin - Blumberg). At percussion, the zone of hepatic dullness is saved, in sloping places of a stomach - a tympanitis, at the percussion of the right iliac site the increased pain (Rozdolsky's symptom). At auscultation of a stomach peristaltic sounds are listened to accurately. A rectal examination: the tone of the anal pulp is preserved, noticeable pain and a slight overhang of the right wall of the rectum. When measuring axillary and rectal temperatures, the difference reaches 1.00 C. On a glove, there is feces of normal color.

On the basis of the received data the preliminary diagnosis is formed:

Example of substantiation of the preliminary diagnosis at the patient:

Given the patient's complaints on:

Pain in the right iliac region, permanent prickly, moderate intensity, without irradiation. Pain at the beginning of the disease appeared in the epigastrium and after 3-4 hours shifted to the right iliac region - symptoms of Kocher-Volkovich (or a symptom of pain; or a symptom of simulated peptic ulcer and duodenal ulcer);

nausea, coinciding with the onset of pain, single vomiting;

anamnesis data, which show that the disease arose acutely, without connection with possible provoking factors (there was no violation of diet, physical and psycho-emotional overload, abuse of smoking and alcohol, etc.), so to speak, in good health (more often Pain occurs during night rest);

the presence of slight weakness, low-grade fever (37.3-37.8 ° C), tachycardia;

at local examination - the tongue is wet, coated with a gray film. The abdomen is symmetrical, the right iliac region "lags" in the act of breathing. At superficial palpation, there is a local reflector, no muscle tension of the anterior abdominal wall ("protective tension" of the muscles) is noticed. At a deep palpation, local pain occurs. There is positive symptoms of Sitkovsky, Rovsing, Bartomier - Michelson, Rozdolsky, Obraztsov, Voskresensky's, Shchotkin-Blumberg. At finger rectal research there is soreness of the right anterolateral wall rectum; the difference between rectal and axillary temperatures Pain more than 1.0 ° C; - you can establish a preliminary diagnosis - acute appendicitis.

3. Additional research:

Laboratory tests and their results

Hardware (instrumental) research and their results

Consultations of related specialists and their recommendations.

Additional research is needed to:

1) clarification of the diagnosis;

2) preparation and treatment (conservative or operative), you need to know the condition of the patient's body, the presence and course of comorbid or undetected diseases, such as cardiovascular disease or diabetes, etc.;

3) monitoring the effectiveness of treatment during and after (at discharge).

4. **On the basis of the analysis of complaints, anamnesis of illness and life, data of physical examination, and the received data of additional researches diseases for differential diagnosis are defined and the differential diagnosis is carried out:**

An example of a differential diagnosis after determining the list of similar diseases:

The presence of some similar clinical manifestations of the disease of the supervised patient and acute cholecystitis necessitates a differential diagnosis between them.

Such similar manifestations are complaints of abdominal pain, nausea, vomiting.

Anamnestic is an acute onset of the disease.

Objectively: there is an increase in body temperature, resistance (tension) of muscles of an anterior abdominal wall, local pain at deep palpation, the existence of symptoms of irritation of peritoneum and inflammatory changes in clinical research of blood.

Although, a careful comparison of even similar manifestations and the removal of pathognomonic symptoms (characteristic of only one of these diseases), allows to exclude the diagnosis of acute cholecystitis.

Thus, the pain syndrome in a supervised patient is characterized by the presence of intense prickly pain, which is localized in the right iliac region, has no irradiation, and is not relieved by the use of antispasmodics.

Pain in cholecystitis is marked by considerable intensity, localized in the right hypochondrium, and has characteristic irradiation in the right shoulder, right upper arm, right half of the chest. Pain is reduced with the introduction of antispasmodics and non-narcotic analgesics.

This patient also complains that the pain appeared in the epigastrium and after 3-4 hours shifted to the right iliac region (a symptom of Kocher-Volkovich), which does not happen when acute cholecystitis is developing at the beginning.

Our patient is worried about nausea and one-time vomiting. Acute cholecystitis is characterized by repeated vomiting with bile.

There are no general complaints in the supervised patient, while acute cholecystitis is characterized by complaints of significant general weakness, even fever.

As for the anamnesis, the patient's disease developed acutely, but the patient is in good health condition, and he does not associate it with any provoking factors (there was no violation of diet, hypothermia, emotional and physical overload, etc.). The occurrence of acute cholecystitis is often associated with a violation of the patient's diet (eating fried, spicy, fatty foods), in the anamnesis - the presence of attacks of pain in the right hypochondrium, gallstone disease, women are more likely to get sick.

The general condition of the patient is almost unchanged, skin color is pale pink, subfebrile body temperature is (37.60 C), and moderate tachycardia. In acute cholecystitis, the color of the skin and sclera may be icteric, t is above 38 ° C, heart rate is up to 100 or more in one minute.

In addition, there are significant differences in local manifestations.

The tongue of our patient is covered with a white plaque, wet. In acute cholecystitis, the tongue is covered with a brown plaque, dry.

During the examination of an abdominal wall in our patient, the lag of the right iliac site in the act of breathing is appreciable, at acute cholecystitis in the act of breath the right hypochondrial and epigastric sites will lag behind.

On superficial palpation, our patient has muscle tension in the right iliac region, and in acute cholecystitis - in the right hypochondrium. At deep palpation, we find local pain in the right iliac area, and at acute cholecystitis accordingly in the right hypochondrium.

In addition, in acute cholecystitis, we can often palpate an enlarged, tense, and painful gallbladder (a positive symptom of Parturier), or a painful infiltrate, which is not observed in our patient.

o\Our patient symptoms of Rovsing, Sitkovsky, Bartomie-Michelson, Obraztsov, Rozdolsky, Gabay, Yaure-Rozanov are defined.

These symptoms do not occur in acute cholecystitis. It is characterized by symptoms of Ortner's, Murphy, Kehr , Georgievsky-Mussey. If our patient has a weakly positive Schotkin-Blumberg symptom is observed in the right iliac region, then acute cholecystitis is found in the right hypochondrium.

Finger rectal research at our patient pain of the right front wall of the rectum and a difference of axillary and rectal temperatures more than 1^0 C (Lenander's symptom) is conducted.

These symptoms are not typical for uncomplicated acute cholecystitis.

Of the auxiliary methods of research, our patient has low leukocytosis ($9 \cdot 10^9$/l) with a shift of the formula to the left (sticky leukocytes up to 12%).

In acute cholecystitis, inflammatory changes in white blood are much greater, there is often an increase in the activity of ALT, AST, and alkaline phosphatase.

The cardinal difference is the presence of inflammatory changes in the walls of the gallbladder and echo positive formations with an acoustic shadow in patients with acute cholecystitis on ultrasound.

Having made such a detailed comparison and noting the difference between the clinic of acute cholecystitis in terms of cardinal manifestations from the clinic of the disease in a supervised patient, the diagnosis of acute cholecystitis can be ruled out.

5. Clinical diagnosis:

The nosological unit and the form of the disease (chronic or acute, after the operation - pathological form), existing complications, and concomitant diseases are indicated on the basis of clinical and statistical classification.

6. Organizational and medical tactics:

The need for hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions.

Test questions for self-assessment of preparation for the lesson:

1. The importance of studying the course of the most common surgical diseases.
2. What is found when interviewing a patient?
3. Why is it important to identify all the complaints that the patient has?
4. Why is it important to know the date and time of onset?
5. Why is it important to know what previous treatment was given to the patient?
6. How can living and working conditions affect the onset and course of the disease?
7. Why is the following sequence important in the patient's survey: a collection of complaints, medical history disease, and life?
8. What is found during the examination of the patient?
9. Why is the possible asymmetry of the abdomen?
10. Why is it important to identify the degree of involvement of the anterior abdominal wall in the act of breathing?
11. What changes can be detected on palpation of the patient's abdomen?
12. What changes can be detected during percussion of the patient's chest?
13. What changes can be detected by auscultation of the patient's abdomen?
14. What is the basis for the preliminary diagnosis?
15. What should be noted when describing local status?

16. Why is it important to take full advantage of the diagnostic program?

17. On what principles is the list of diseases for carrying out the differential diagnosis formed?

18. Why in the clinical diagnosis it is important to reflect not only the nosological form of the disease but also its course and complications?

19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?

20. What is important to determine in the formation of treatment tactics?

GUIDANCE PAPER

Intermediate control of knowledge for
"General principles of recognition and formation of clinical diagnosis"

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:

1. Independently, in terms of extracurricular training (at home, dormitory), to solve in writing the situational clinical problem of one of the diseases that are part of the syndrome studied.
2. When solving a situational clinical problem, based on the conditions, formulate in writing:
- preliminary diagnosis
- diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- differential diagnosis of two diseases, the most probable in this case
- clinical diagnosis
- treatment program
3. In the next practical lesson, the written work is submitted for verification to the teacher, who assesses the level of mastery of a professionally-oriented case.

Cases for "General principles of recognition and formation of clinical diagnosis" (individual clinical cases):

CASE №1

Patient T. (male), 17-year-old complains of a protrusion in the right groin area, which falls into the scrotum, increases when performing physical exercises. The protrusion appeared in early childhood and gradually increased in its size.

During examination: in the vertical position of the patient in the right inguinal area there is a protrusion which goes down the scrotum; protrusion of soft elastic consistency, painless. In the horizontal position of the patient, the protrusion is partially reduced in size, on palpation - is reduced into the abdominal cavity, on percussion over the protrusion - tympanitis, on auscultation - peristaltic sounds. The spermatic cord is thickened, the outer opening of the inguinal canal is 2.5x3.0 cm, positive cough push symptom.

CASE №2

Patient T., 17 years old, complains of a protrusion in the right groin area, which falls into the scrotum, increases with exercise. The protrusion appeared in early childhood and gradually increased in size.

On examination: in the vertical position of the patient in the right inguinal area there is a protrusion which goes down the scrotum ; protrusion of soft-elastic consistency, painless. In the horizontal position of the patient, the protrusion is partially reduced in size, on palpation - is reduced into the abdominal cavity, on percussion over the protrusion - tympanitis, on auscultation - peristaltic sounds. The spermatic cord is thickened, the outer opening of the inguinal canal is 2.5x3.0 cm, the cough push symptom is positive.

CASE № 3

Patient A., 18 years old, complains of constant sharp abdominal pain, nausea, general weakness. From the anamnesis: 2 hours ago there was a knife pain in the epigastric region, which then spread throughout the abdomen. Previously, the patient experienced heartburn, night pain and fasting pain in the epigastrium.

On examination: the patient's condition is fair, body temperature is 37.2˚C, pulse 86 bpm, blood pressure is 140/80 mm Hg. The tongue is covered with whitish plaque, dry. The abdomen is retracted; the anterior abdominal wall does not participate in the act of breathing. At a superficial palpation the

muscular guarding of abdominal wall defined, considerable pain across abdomen, a positive symptom of Shchotkin - Blumberg is noted. Hepatic dullness is absent.

CASE № 4

Patient N., 35 years old, complains of constant intense abdominal pain, which is exacerbated by coughing, nausea, vomiting, delayed stool and gas. From the anamnesis: suffers from right inguinal hernia for 5 years; 12 hours ago, after a cough attack, the hernia increased and stopped exercising, there was pain in the protrusion area; after 8 hours there was a constant intense abdominal pain, which was exacerbated by coughing; there was a general weakness, nausea, repeated vomiting, which did not bring relief, the body temperature rose to 38.2˚C.

On examination: the patient's condition is serious , body temperature 38.2˚C, pulse 102 bpm , Blood pressure is 110/70 mm Hg. The tongue covered with a white plaque is dry. The anterior abdominal wall in the lower half lags behind in the act of breathing. On superficial palpation, the abdomen is painful throughout, more to the right and below the navel. Positive symptom of Stchotkin - Bloomberg in the lower half, percussion - dullness is determined in the sloping areas of the abdominal cavity, hepatic dullness is preserved; auscultatory there was no peristaltic sounds.

CASE №5

Patient V., 26 years old, went to the doctor with complaints of constant pain in the right iliac region, nausea, weakness. From the anamnesis: the pain appeared a day later in the epigastric region for no apparent reason, after 4 hours moved to the right iliac region, there was a single vomiting. The stool is regular, the feces is formed.

On examination: the general condition is satisfactory, body temperature is 37,6 ° C, pulse is 94 bpm The tongue is wet, the abdomen is slightly swollen, the anterior abdominal wall lags behind in breathing in the right half, palpation determines the tension of the anterior abdominal wall and a pronounced local pain in the right iliac region. There are positive symptoms of Rovsing, Bartomier-Michelson, Shchotkin-Blumberg.

CASE №6

Patient R., 43 years old, complains of severe acute pain in the right half of the abdomen, more - in the right hypochondrium, with irradiation to the right supraclavicular area; fever, dryness and bitterness in the mouth. From the anamnesis: I fell ill 10 hours later, the appearance of pain is associated with the consumption of fatty and fried foods.

On examination: general condition is fair, the patient lies on the right side, pale, body temperature 38.2 ° C, pulse 104 bpm The tongue is dry. The abdomen is moderately swollen, the upper half does not participate in respiration. Palpation reveals marked pain and tension in the muscles of the abdominal wall in the right hypochondrium. There are positive symptoms of Ortner's, Kehr , Mussi-Georgievsky; Razdolsky and Shchetkin-Blumberg in the right hypochondrium.

CASE №7

Patient P., 42 years old, complains of sharp girdle pain in the epigastric region. Against the background of constant pain there are attacks of its intensification, which are accompanied by heartburn, vomiting, which does not bring relief. From the anamnesis: I fell ill 5 hours later, the appearance of the disease is associated with the use of alcohol, a significant amount of fatty and spicy foods.

On examination: the general condition of the patient is fair. Pulse rate 94 bpm AT is 150/90 mm Hg The tongue is wet, coated. The abdomen is swollen in the upper half, palpation reveals moderate muscle tension and marked pain in the epigastrium and left hypochondrium. The pulsation of the abdominal aorta is not determined, the symptoms of peritoneal irritation are negative. There are positive symptoms of Corte, Chukhrienko's, Mayo-Robson. At auscultation of a stomach - peristaltic sounds are weakened.

CASE №8

Patient A., 57 years old, was admitted to the hospital on the second day after the onset of the disease with complaints of sharp, very severe girdle, pain in the upper abdomen, increased abdominal volume, brethlessness, nausea, vomiting, delayed stool and gas. From the anamnesis: the disease is associated with the consumption of spicy and fatty foods, a significant amount of alcohol.
On examination: the general condition of the patient is severe. The position in bed is passive. Pulse rate 140 per 1 minute, respiration rate - 27 per minute. AT is 100/70 mm Hg The abdomen is swollen in the upper half, the anterior abdominal wall above the navel does not participate in the act of breathing. On palpation - moderate tension and marked pain in the epigastric region and left hypochondrium. Positive symptoms of Kyorte, Chukhrienko's, Voskresensky's, symptoms of peritoneal irritation are negative. At auscultation of a stomach - peristalsis noises are weakened.

CASE №9

Patient A., 36 years old, went to the doctor with complaints of general weakness, dizziness, and repeated vomiting with dark contents. She got ill 3 hours ago, when there was a general weakness, palpitations, vomiting "coffee grounds". During the last 6 months, the patient noted intermittent pain in the epigastric region, heartburn. About 5 hours ago the pain disappeared.
On examination: general condition is fair, dry tongue. Pulse 100 bpm, Blood pressure is 100/70 mm Hg. The abdomen is somewhat bloated. At a palpation in an epigastric site moderate pain is noted. At a deep palpation pain in an epigastric site to the right of the average line is defined. At percussion there is tympanitis. Auscultatory there are active noises of peristalsis. At digital rectal examination there is liquid feces of black color on a glove.

CASE №10

Patient B., 66 years old, went to the doctor with complaints of general weakness, dizziness, and repeated vomiting with dark contents. She got ill 3 hours ago, when there was a general weakness, palpitations, vomiting "coffee grounds". During the last year, the patient noted moderate pain in the epigastric region, noted a decrease in body weight by 20 kg for 2 months, intolerance to meat dishes, intermittent vomiting with food eaten.
On examination: general condition is fair, dry tongue. Pulse 100 bpm, Blood pressure is 100/70 mm Hg. Art. The abdomen is somewhat bloated. On palpation in the epigastric region there is moderate pain, vaguely defined tumor-like formation without clear contours, moderately painful, little mobility. At percussion there is tympanitis in the lower parts, in the epigastric region there is dullness. Auscultatory there are active noises of peristalsis. At digital rectal examination there is on a glove the feces of black color is formed.

CASE №11

Patient V., 26 years old, complains of general weakness, dizziness, repeated vomiting with red blood clots. She got ill 3 hours ago, when there was repeated vomiting with gastric contents, and then - vomiting with red blood clots, increased weakness, palpitations. She called an ambulance. The patient is 12 weeks pregnant, toxicosis occurred during the 1st half of pregnancy. On the examination: general condition was fair, tongue was dry. Pulse is 108 bpm, Blood pressure is 100/70 mm Hg. Art. The abdomen is symmetrical, the anterior abdominal wall is involved in the act of breathing. On palpation the abdomen is painless, on percussion there is tympanitis. Auscultatory there are active noises of peristalsis. At digital rectal examination there is the feces of usual color on a glove.

CASE №12

Patient G., 56 years old, complains of general weakness, dizziness, repeated vomiting with "coffee grounds" and blood clots. She fell ill 6 hours ago when she developed general weakness, palpitations, and vomiting with red blood clots. She suffers from chronic hepatitis for a long time. During the last month, the patient noted pain in the right hypochondrium. On the examination: general condition was fair, tongue is dry . Pulse is 110 per minute, blood pressure is 100/70 mm Hg. Art. The abdomen is slightly enlarged, there is an increase in venous pattern on the anterior abdominal wall. On palpation

there is an increase in the size of the liver and spleen, Percussion - in the sloping parts of the abdomen dull sound. Auscultatory there are active noises of peristalsis. At digital rectal examination there is liquid feces of black color on a glove.

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Topic № 2.
"Syndrome of hernia protrusion.
Uncomplicated hernias: inguinal hernia, femoral hernia, umbilical hernia, ventral hernia »

Module 1. Emergency abdominal surgery and proctology.
Content module 2. Urgent abdominal surgery.
Topic № 2. Herniated protrusion syndrome. Uncomplicated hernias: inguinal hernia, femoral hernia, umbilical hernia, ventral hernia.
Definition: **Hernia bulging** is a set of signs of a pathological human condition caused by increased intra-abdominal pressure, clinical and anatomical manifestations of which are the exit of the abdominal organs under the skin or other interstitial spaces through canals, slits, or everywhere stretched weaknesses in the abdominal wall. connect these formations (hernias) with an abdominal cavity.
At a hernia bulging syndrome the patient is shown consultation of the surgeon for planned operative treatment, and at emergence of complications - urgent hospitalization in the surgical department for performance of urgent operation.
The most common localization of hernia protrusion is **inguinal, femoral, umbilical, white line of the abdomen and anterior abdominal wall in the area of postoperative scars**.

General doctrine of hernia:

Under pressure of abdominal organs at increase of intra-abdominal pressure fabrics of an abdominal wall in the weakest places stretch, and cracks and channels expand and become hernial ring through which the hernia bag (it, as a rule, is formed by a peritoneum) with hernia contents leaves (abdominal organs - more often the small intestine, mesentery, and bladder (sliding hernia) The hernia consists of a hernial ring, a hernia sac, hernia membranes, and the contents of a hernia.
1. Inguinal hernia (hernia inguinalis) is a pathological condition in which the inguinal canal through the unhealed vaginal process of the peritoneum or in the formed hernia sac, which is located in the spermatic cord or outside it, go (protrude) internal abdominal organs: in the medial area pits - direct inguinal hernia, in the lateral fossa - oblique inguinal hernia
2. Femoral hernia (hernia femoralis) is a pathological condition in which the internal organs through the femoral canal go below the pupal ligament under the skin in the femoral triangle, while the femoral canal in topographic and anatomical terms is conditionally isolated and occurs only in cases formation of a femoral hernia
3. Umbilical hernia (hernia umbilicalis) is a pathological condition in which the internal organs go under the skin through the umbilical ring or the anterior abdominal wall in the umbilical region

4. Ventral hernia (postoperative) is a pathological condition in which the internal organs go under the skin in the area of the postoperative scar due to operations on the abdominal organs.
Hernias are congenital and acquired, sliding (part of the hernia sac is the wall of the mesoperitoneal located organ - often the bladder, cecum). According to the clinical course, there are: uncomplicated, complicated and recurrent hernias.

The ultimate goals of training in a practical lesson:
1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, diff.-diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAM:
A) Resolving the issue of the planned operation
B) Contraindications to surgery
C) Principles of surgical operations

The purpose of the practical lesson: To establish the level of theoretical knowledge and practical skills of students within the professionally oriented cases of a general practitioner on the topic -
Uncomplicated hernias: inguinal hernia, femoral hernia, umbilical hernia, ventral hernia, which belongs to the hernia bulging.

Forms of control of knowledge and skills in practical classes:
1. Test control of knowledge (computer control of knowledge on 30 test cases)
2. Theoretical survey of each student with an assessment on the following issues:
- substantiation of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formulation of clinical diagnosis
- definition of the treatment program
3. Assessment of each student's performance of practical skills:
- examination of the hernia protrusion and hernial ring
- examination of the inguinal rings with a finger and determination of the symptom of "coughing"

Information part of methodical development

The minimum basic level of knowledge required to master the topic:
1. **Anatomy, topographic anatomy and operative surgery** are topographic and anatomical characteristics of the inguinal region, inguinal canal, spermatic cord, vascular lacuna and muscle lacuna, femoral triangle, white line of the abdomen and umbilical region.
2. **Physiology** is the functional features of the contents of the inguinal canal and femoral triangle.
3. **Pathological physiology** is a change in the peritoneum with uncomplicated hernias.
4**. Pathological anatomy** is a morphological change in the peritoneum, from which the hernia sac and abdominal organs are formed.
5. **Microbiology, virology and immunology** are the place of microbial factors in wound healing in the postoperative period.
6. **General surgery, propaedeutics of internal diseases** are methods of questioning and physical examination of the patient.

The specific purpose of independent preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:

1. Examination of the patient to determine the clinical course of inguinal (oblique and straight), femoral, umbilical and ventral hernias (examination of the patient and physical examination, including inflating and retracting the abdomen, palpation, percussion, auscultation of the hernia protrusion).
2. Substantiation and formation of the preliminary diagnosis of diseases.
3. Drawing up a diagnostic program and analysis of the results of additional research.
4. Formation of the list of diseases for differential diagnosis and its carrying out.
5. Formulation of the clinical diagnosis on the basis of clinical and statistical classification of diseases.
6. Formation of a treatment program for uncomplicated inguinal (oblique or straight), femoral, umbilical and ventral hernias.

The program of independent preparation for a practical lesson:
1. The urgency of the problem of hernias.
2. Identification of diseases that belong to the hernia bulging.
3. Causes and mechanism of diseases related to hernia bulging.
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of uncomplicated inguinal (oblique or straight), femoral, umbilical and ventral hernias.
5. Principles of diagnosis and the amount of data required for the formation of a preliminary diagnosis in diseases related to the hernia bulging.
6. Principles of drawing up a diagnostic program to clarify the previous diagnosis for further treatment.
7. List of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of uncomplicated inguinal (oblique or straight), femoral, umbilical and ventral hernias, and formulation of clinical diagnosis.
9. Justification of the organizational and medical program.

Practical skills that are assigned to the practical lesson:
1. Examination of the hernial protrusion and hernial ring
2. Examination of the inguinal rings with a finger and determination of the symptom of "cough push"

1. Examination of the hernial protrusion and hernial ring:

The examination is performed in upright and supine position (for this purpose it is necessary to release the abdomen and the upper third of the thighs from clothing). Visual examination of the protrusion evaluates its location, size, changes in the skin and reducibility when changing the patient's position. At a palpation of a hernial protrusion define a consistency of contents of a hernia (feeling of elastic consistency when hernial sac contains an intestinal loop, soft consistency - greater omentum). In addition to visual examination and palpation, percussion and auscultation can be used during the examination of hernias allowing to determine the presence of a hollow organ (intestine) as its contents - tympanic sound during percussion, and peristalsis sounds during auscultation. If there is an omentum or bladder in the hernia sac, the percussion makes a dull sound, there will be no noise of peristalsis during auscultation.

At a palpation of a hernia protrusion in supine position the patient a reducibility of hernia content into the abdominal cavity can be assessed. During the reducing of a large hernia, you can hear the characteristic rumbling in the intestines. After reducing the contents of the hernia with a finger inserted into the hernial ring, one can assess the size and shape of the outer opening of the hernial ring.

Practical skills №1 (Instructions for the test performance)
Practical skills control: several cases are built on the principle of a MCQ test, where the student is supposed to choose the correct one and tick a mark in front of it. Other questions contains images of hernias, where the student is supposed to choose the correct name from the identical lists provided for each image in the box on the right. After that, the student completes the attempt and confirms the action

and completes the test, or returns to the questionable answer and reviews the questions, reaffirms the completion of the test and sends the results.

2. Examination of the inguinal rings with a finger and determination of the symptom of "cough push":

Examine the entire groin area in the upright and supine position of the patient. At such examination it is possible to see in a groin area a protrusion of a frontal abdominal wall . This protrusion increases in size when inflating the abdomen and decreases with its retraction. Especially, it is noticeable reduction in protrusion when examining the patient in a supine position. In this position, the protrusion can self-reduce into the abdominal cavity, and sometimes the patient can reduce it himself with his hands.

Examination of inguinal rings is carried out by the second, or fifth fingers of the right hand. During examination of female, a finger index is inducted in an inguinal ring through skin in the center of a hernia protrusion, and in men it is better to run a finger through a wall of a scrotum in the direction of an external opening of the inguinal channel. When inserting a finger into the outer hole of the inguinal canal, pay attention to the size of this hole. Normally, it can let insertion only the tip of the fifth finger. In the presence of a hernia, the hole is significantly enlarged and can let insertion of even two or more fingers. In the inguinal canal you can feel the presence of a hernia sac with the content, which is often soft. If it is difficult to palpate the hernia sac, then the patient is offered to cough and at the same time the push the hernial sac will be felt against the fingertip, inserted into the inguinal canal - a positive symptom of "cough push".

Examination and palpation of the inguinal region and inguinal canal can distinguish indirect inguinal hernia from direct inguinal and femoral hernia, as well as from diseases that may be manifested by symptoms that are also characteristic of inguinal hernia.

Direct inguinal hernia has an oval or round shape, is more common in the elderly, often bilateral, and in men almost never falls into the scrotum. With indirect inguinal hernia, protrusion has an elongated shape, is placed obliquely along the inguinal canal, and often descends into the scrotum. Half of the scrotum into which the hernia descends is enlarged, its skin is stretched, and the genitals are displaced in the opposite direction. At finger examination of the inguinal channel it is possible to reveal a pulsation of the lower epigastric artery. If it is palpated from the outside of the hernia sac, it is a direct inguinal hernia, and if to the middle from it - indirect. The difference between inguinal hernia and femoral hernia is that the first is located above the inguinal ligament, and the second - below it.

Practical skills №2 (Instructions for the test performance)

Practical skills control: cases are built on the principle of a MCQ test, with several questions, where the student is supposed to choose the correct one and tick a mark in front of it. The fourth question contains images of hernias, where the student is supposed to choose the correct name from the identical lists provided for each image in the box on the right. After that, the student completes the attempt and confirms the action and completes the test, or returns to the questionable answer and reviews the questions, reaffirms the completion of the test and sends the results.

Features of examination of patients with *hernia bulging*:

1. While questioning the patient it is necessary to define:

Patient complains about:

A) Pain:

1) pain localization
2) pain intensity
3) pain irradiation

B) Other complains are gradually identified

1) nausea
2) vomit
3) stool changes
4) body temperature changes
5) other organs and systems changes

Medical history:

A) What may be the reason for the onset of the disease(weight lifting, cough, diarrhea, undergone surgery, especially with abdominal drainage, other abdominal injuries)

B) When and where patient sought medical attention:

1. what kind of treatment was received before admission to hospital, its efficiency
2. when taken to the hospital

C) Other possible reasons for the onset of the disease

Life history:

A) Living and working conditions that could cause the disease

B) For women - obstetric and gynecological history:

1) the number of pregnancies
2) the number of births
3) the date of the last menstrual period
4) whether the last menstrual period was on time

2. Physical examination:

Examination:

A) General examination:

1) the severity of the patient's condition
2) the patient's behavior: calm or restless
3) body temperature, pulse rate
4) the condition of the tongue (dry, wet)
5) the condition of the pharynx and tonsils
6) the condition of the lower extremities

B) The next following examination:

Thorax examination

Abdomen examination:

1) retracted, distended
2) symmetrical, asymmetrical
3) the degree of involvement of the anterior abdominal wall in the breathing act
4) the presence of a protrusion of the anterior abdominal wall (localization)

Palpation:

A) Palpation of the protrusion to determine the contents of the hernia sac and the size and shape of the hernial ring

B) Determination of local manifestations of the disease in the finger examination of the protrusion in the groin, thigh, umbilical region and along the white line of the abdomen or postoperative scar, palpation of the inguinal rings, determination of the symptom of "coughing".

Manifestations of uncomplicated hernias: the presence of a protrusion, the correctness of the protrusion on palpation, dilation of the hernial ring, a positive symptom of "coughing"

C) Determination of symptoms by other organs and systems

Percussion:

A) Thorax percussion

Б) Abdomen percussion

The presence of tympanitis over the hernia protrusion will indicate a hollow organ in the hernia sac, and a dull sound - in the presence of an omental or bladder in the sac

Auscultation:

А) Thorax auscultation

Б) Abdomen auscultation

peristaltic sounds will be heard in the hernia sac in the presence of the intestine.

Based on the data obtained after interviewing the patient (complaints, anamnesis of disease and life) and his physical examination (examination, palpation, percussion, auscultation) the justification of the preliminary diagnosis is carried out.

3. Diagnostic program with data analysis of additional studies:

To clarify the diagnosis of uncomplicated hernias, additional studies are not required, the diagnosis is based on the clinical picture.

4. Differential diagnosis:

At a hernia ***hernia bulging*** it is made:

-between complicated hernias (pinching, interactivity, inflammation, coprostasis) and uncomplicated;
-between inguinal hernias and femoral
-between inguinal hernias and lipomas, tumors, infiltrates with inflammation of the lymph nodes in the groin area, hydrocephalus of the testicles and spermatic cord.

5. Clinical diagnosis:

The nosological unit and the form of the course of the disease are indicated, the existing complications are based on the clinical-statistical classification (see “Unified clinical-statistical classifications of digestive diseases”. Departmental instructions. with singing.- Kyiv, Dnipro-VAL, 2004).

6. Organizational and therapeutic tactics:

The need for hospitalization for planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action) is determined.

Treatment of uncomplicated hernias - planned surgery: herniotomy with hernial ring plastic with tissue tension (autoplasty) or without tissue tension (alloplasty).

Preventive syndrome of "small abdominal cavity" (syndrome of high intra-abdominal pressure leads to the development in the first hours after surgery of acute pulmonary heart failure and death of the patient) is required before planned surgical interventions for large ventral hernia - preoperative training to find abdominal organs in the abdominal cavity on the previous volume of space or carrying out an operative measure without tension of fabrics.

Test questions for self-assessment of preparation for the lesson:

1. The importance of studying the course of diseases related to hernia syndrome protrusion?
2. What is defined during a patient’s interview with a suspect of herniated disc syndrome?
3. Why is it important to identify all the complaints that a patient with herniated disc syndrome has?
4. Why is it important to know the date and time of onset of the disease in a patient with herniated disc syndrome?
5. Why is it important to know what previous treatment was given to a patient with herniated disc syndrome?
6. How can living and working conditions affect the occurrence and course of herniated disc syndrome?
7. Why is the following sequence important in the patient's survey: collecting complaints, medical history and life?

8. What is found when examining the groin area?
9. Why is there a protrusion in the groin area?
10. What changes can be detected on palpation of the protrusion of the abdominal wall?
11. What changes can be detected by finger examination of the inguinal rings?
12. Features of physical examination of a patient with suspected inguinal hernia?
13. Features of physical examination of a patient with suspected femoral hernia?
14. Features of physical examination of a patient with suspected umbilical hernia?
15. Features of physical examination of a patient with suspected ventral postoperative hernia?
16. What is the basis for the preliminary diagnosis of diseases in ***hernia bulging***?
17. On what principles the list of diseases for carrying out the differential diagnosis is formed?
18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics in patients with hernias and to prevent the syndrome of "small abdominal cavity"?

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Topic № 3.
"Syndrome of hernia bulging.
Complicated hernias »

Module 1. Emergency abdominal surgery and proctology.
Content module 2. Urgent abdominal surgery.
Topic № 3. Syndrome of hernia bulging. General doctrine of complicated hernias
Definition: hernia bulging is a set of signs of a pathological human condition caused by increased intra-abdominal pressure, clinical and anatomical manifestations of which are the exit of the abdominal organs under the skin or other interstitial spaces through channels, slits, or everywhere stretched weaknesses in the abdominal wall. connect these formations (hernias) with an abdominal cavity.
At a hernia protrusion syndrome the patient is shown consultation of the surgeon for planned operative treatment, and at emergence of complications - urgent hospitalization in surgical department for performance of urgent operation.
The most common localization of hernia bulging is inguinal, femoral, umbilical, white line of the abdomen and anterior abdominal wall in the area of postoperative scars.

General doctrine of hernias and complicated hernias:

Under pressure of abdominal organs at increase of intra-abdominal pressure fabrics of an abdominal wall in the weakest places stretch, and cracks and channels expand and become hernial ring through which the hernia bag leaves (it, as a rule, is formed by a peritoneum) with hernia contents (abdominal organs - more often the small intestine, mesentery, and bladder (sliding hernia) The hernia consists of a hernial ring, a hernia sac, hernia membranes, and the contents of a hernia.

According to the clinical course of complicated hernias are:

1) Chronic complications of hernia: intractivity, coprostasis
2) Acute complications of hernia: pinching, inflammation
3) Secondary complications of hernias: strangulation, acute intestinal obstruction, diffuse peritonitis, phlegmon of the hernia.

Irreversibility of a hernia develops at long-term existing hernia in response to trauma and an inflammation of an internal surface of a hernia bag that causes merging of its contents with a hernia bag with formation of scars.

Coprostasis (fecal stagnation) develops more often in the elderly suffering from constipation, due to the filling of the loops of the intestines located in the hernia sac, intestinal contents due to the complication of its outflow, which gradually leads to compression of the crowded drain loop.

Hernia compression is compression of the contents of the hernia sac by the muscular-aponeurotic layer of the abdominal wall, which forms the hernial ring. There are:

• elastic pinching (sudden increase in intra-abdominal pressure during physical exertion, straining, coughing, release of the contents of the abdominal cavity into the hernia sac and its compression in the hernial ring with the development of impaired blood supply in the pinched organ);
• fecal entrapment (the drain loop of the intestine is compressed by the stool-filled drive loop with the development of obstructive bowel obstruction);
• mixed form of pinching (joining the fecal clamping elastic due to compression in the hernial ring crowded loops of the intestine);
• special forms of pinching:

Richter pinching is parietal pinching of the mesenteric region of the intestine.

Retrograde pinching is pinching the mesentery of the loop of the small intestine located in the abdominal cavity, between the two loops of the intestine located in the hernia sac.

Inflammation of the hernia develops as a result of infection of the hernia sac either inside or outside.

The ultimate goals of training in a practical lesson:

1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAM:

A) Urgency of hospitalization
B) Urgency of the operation
C) Preoperative preparation
D) Postoperative treatment

The purpose of the practical lesson: To establish the level of theoretical knowledge and practical skills of students within the professionally oriented cases of a general practitioner on the topic - Complicated hernias: pinched hernia, intractable hernia, hernia inflammation, coprostasis, which belongs to the herniated disc syndrome.

Forms of control of knowledge and skills in practical classes:

1. Test control of knowledge (computer control of knowledge on 30 test cases)
2. Theoretical survey of each student with an assessment on the following issues:

- substantiation of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of a clinical diagnosis
- definition of the treatment program

3. Assessment of each student's performance of practical skills:
- analysis of radiographs for pinched hernia
- a symptom of a deviation of a scrotum

Information part of methodical development

The minimum basic level of knowledge required to master the topic:

1. **Anatomy, topographic anatomy and operative surgery** are topographic and anatomical characteristics of the inguinal region, inguinal canal, spermatic cord, vascular lacuna and muscle lacuna, femoral triangle, white line of the abdomen and umbilical region
2. **Physiology** is functional features of the contents of the inguinal canal and femoral triangle
3. **Pathological physiology** is changes in the peritoneum with inflammation and increased intra-abdominal pressure, changes in the development of the syndrome of "small abdominal cavity"
4. **Pathological anatomy** is a morphological change in inflammation in the peritoneum, which forms the hernia sac and abdominal organs, which suffer from complications of hernias, signs of viability and non-viability of pinched organs (intestines)
5. **Microbiology, virology and immunology** are the place of microbial factor in the occurrence of complications of hernias and wound healing in the postoperative period
6. **Radiology** is the ability to analyze X-rays of the abdominal organs (pinching, acute intestinal obstruction, peritonitis)
7. **General surgery, propaedeutics of internal diseases** are methods of questioning and physical examination of the patient.

The specific purpose of independent preparation for practical training:

Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine possible complications of inguinal (oblique and straight), femoral, umbilical and ventral hernias (examination of the patient and physical examination, including inflating and retracting the abdomen, palpation, percussion, auscultation of the hernia bulging)
2. Substantiation and formation of the preliminary diagnosis of diseases
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the list of diseases for differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for complicated inguinal (oblique or straight), femoral, umbilical and ventral hernias.

The program of independent preparation for a practical lesson:

1. The urgency of the problem of complicated hernias.
2. Identification of diseases that belong to the herniated disc syndrome.
3. Causes and mechanism of diseases related to herniated disc syndrome.
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of complicated inguinal (oblique or straight), femoral, umbilical and ventral hernias.
5. Principles of diagnosis and the amount of data required for the formation of a preliminary diagnosis in diseases related to the herniated disc syndrome.
6. Principles of drawing up a diagnostic program to clarify the previous diagnosis for further treatment.
7. List of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of complicated inguinal (oblique or straight), femoral, umbilical and ventral hernias, and the formation of clinical diagnosis.
9. Justification of the organizational and medical program.

Practical skills that are assigned to the practical lesson:

1. Examination of the patient with strangulated hernia
2. Plain x-ray analysis for strangulated hernia.

1. Examination of the patient with strangulated hernia

The patient's complaints of sudden acute persistent pain in the area of the hernia protrusion or in the abdomen; rapid increase in the volume of the hernia protrusion, the appearance of its intractability.When the intestine is pinched the clinical picture of obstruction appears (nausea, vomiting, delayed defecation and gas, flatulence), when intestinal necrosis - the clinic of peritonitis (pain spreads throughout the abdomen).

It is necessary to find out the hernia anamnesis, the time that has elapsed since the strangulation, the presence of similar manifestations in the past.

Locally finding out if there is an increase in hernia protrusion, the stability of its size in the case of a changing body position. The protrusion becomes painful and tense, it becomes impossible to insert (reduce) it into the abdominal cavity. During palpation of a hernia protrusion the expressed pain cannot be found, examination of a hernial ring is impossible both because of pain, and because of considerable pressure of a hernia.The “cough push” symptom is absent, the sizes of a hernia do not change if there is a tension. During percussion in cases of intestinal entrapment, tympanitis is determined, and when the omentum and bladder are pinched, a dull percussion sound is detected. Auscultatory peristaltic sounds are absent when hernia protrusion.

Practical skills №1(Instructions for the test performance)

Practical skills control on the topic “examination of a patient with a complicated hernia” is built on the principle of the MCQ test. After selecting the answer to a question from several given, the student must place the cursor on the field with the correct answer and confirm his choice. The following question automatically appears. Then complete the attempt by clicking the "continue" button again. After that, the test form closes and shows the result.

Attention, returning to the question where the answer was already given is not possible

2. Analysis of radiographs for strangulated hernia.

With chronic complications of a hernia the clinic of partial intestinal obstruction can develop. On the plain x-ray of the abdominal cavity hyper pneumatosis and moderate expansion in a afferent loop is noted.

With the strangulated hernia clinic of acute intestinal obstruction develops, on the plain x-ray of the abdominal cavity levels of darkening and arches of enlightenment are noted – “Kloiber’s cups” (horizontal fluid levels with the presence of gas above them)

Practical skills №2 (Instructions for the test performance)

Practical skills control on the topic “Plain x-ray analysis for strangulated hernia” is built on the principle of the test. After selecting the answer to a question from several given, the student must place the cursor on the field with the correct answer and confirm his choice. The following question automatically appears. The third question contains four images of plain x-rays, from which you need to choose an x-ray with signs of intestinal obstruction and remember its sequence number.Next on a separate screen which appears after clicking on the button marked "next", select the sequence number of the previously chosen x-ray and click on the selected field. Then complete the attempt by clicking the "continue" button again. After that, the test form closes and shows the result.

Attention, returning to the question where the answer was already given is not possible!

Features of examination of patients with hernia bulging:

1. **Interview of the patient it is necessary to define:**

Complaints of:

A) The presence of a protrusion of the anterior abdominal wall:

Localization of a protrusion - an inguinal site over a pupart ligament, an inguinal site below it, an umbilical zone, a white line of a stomach, a spigel's line, a zone of earlier performed operation.

B) Pain:

1. localization of pain (in the area of hernia protrusion, all over the abdomen).
2. intensity of pain (weak, moderate, strong)
3. irradiation of pain (in the prostate gland in men, in the vagina in women, in the abdominal cavity, in the scrotum)
4. nature of pain (constant, convulsive), connection with the act of defecation
5. Have there been similar attacks of pain before

C) Consistently identified other complaints:

1. features of feces and gases
2. nausea, vomiting
3. the correctness of the protrusion into the abdominal cavity
4. bloating
5. changes in body temperature (within which limits are elevated)
6. changes in other organs and systems (dysuric disorders in inguinal hernia occur in the presence of a hernia sac of the bladder)

Medical history:

A) What may be the reason for the onset of the disease(weight lifting, cough, diarrhea, undergone surgery, especially with abdominal drainage, other abdominal injuries)

B) When and where patient sought medical attention:

1. what kind of treatment was received before admission to hospital, its efficiency
2. when taken to the hospital

C) Other possible reasons dor the onset of the disease

Life history:

A) Living and working conditions that could cause the disease

B) For women - obstetric and gynecological history:

1) the number of pregnancies
2) the number of births
3) the date of the last menstrual period
4) whether the last menstrual period was on time

2. **Physical examination:**

Review:

A) General overview:

1. degree of severity of the patient's condition
2. behavior of the patient: calm or restless
3. body temperature, pulse rate
4. condition of the tongue (dry, wet)
5. condition of the pharynx and tonsils
6. condition of the lower extremities

B) Overview:

Chest

Abdomen:

1. retracted, distended
2. symmetrical, asymmetrical
3. degree of participation of the anterior abdominal wall in the act of breathing
4. the presence of a protrusion of the anterior abdominal wall (localization)

Palpation:

A) Palpation of the protrusion to determine the contents of the hernia sac and the size and shape of the hernial ring

B) Determination of local manifestations of the disease in the finger examination of the protrusion in the groin, thigh, umbilical region and along the white line of the abdomen or postoperative scar, palpation of the inguinal rings, determination of the symptom of "coughing".

Manifestations of uncomplicated hernias: the presence of a protrusion, the correctness of the protrusion on palpation, dilation of the hernial ring, a positive symptom of "coughing"

C) Determination of symptoms by other organs and systems

Percussion:

A) Thorax

B) Abdomen:

The presence of tympanitis over the hernia protrusion will indicate a hollow organ in the hernia sac, and a dull sound is in the presence of an omental or bladder in the sac

Auscultation:

A) Thorax

B) Abdomen:

peristaltic sounds will be heard in the hernia sac in the presence of the intestine.

Based on the data obtained after interviewing the patient (complaints, anamnesis of disease and life) and his physical examination (examination, palpation, percussion, auscultation) the justification of the preliminary diagnosis is carried out.

3. Diagnostic program with data analysis of additional studies:

In the ambulance if complicated hernias are suspected - counting the number of leukocytes in the blood, then a general clinical analysis of blood to detect changes in the leukocyte formula - its shift to the left, increased ESR. General clinical analysis of urine (changes are possible in sliding hernia with a bladder in the hernia sac and peritonitis). It is an execution of a review radiograph of the abdominal cavity in case of suspicion of hernia complications (hyper pneumatosis, Kloiber's "bowl" and eclipse).

4. Differential diagnosis:

At a hernia protrusion syndrome it is made:

-between complicated hernias (pinching, interactivity, inflammation, coprostasis) and uncomplicated;
-between inguinal hernias and femoral
-between inguinal hernias and lipomas, tumors, infiltrates with inflammation of the lymph nodes in the groin area, hydrocephalus of the testicles and spermatic cord.

5. Clinical diagnosis:

The nosological unit and the form of the course of the disease are indicated, the existing complications are based on the clinical-statistical classification (see “Unified clinical-statistical classifications of digestive diseases”. Departmental instructions. with singing.- Kyiv, Dnipro-VAL, 2004).

6. Organizational and therapeutic tactics:

The need for hospitalization for planned or urgent surgery is indicated (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action).

In the treatment of complicated hernias, it is important to determine the viability of the pinched bowel. Signs of intestinal viability: pale pink color and shine of the raw membrane, elasticity of the intestinal wall, the presence of peristalsis and pulsation
vessels of the mesentery. If measures to restore the viability of the intestine do not work, perform resection of the necrotic area of the intestine, further mobilizing and removing 35-40 cm of the afferent loop and 15-20 cm of the abducting loop.

Test questions for self-assessment of preparation for the lesson:

1. The importance of studying the course of diseases related to hernia syndrome protrusion?
2. What is defined during a patient's interview with a suspect of herniated disc syndrome?
3. Why is it important to identify all the complaints that a patient with herniated disc syndrome has?
4. Why is it important to know the date and time of onset of the disease in a patient with herniated disc syndrome?
5. Why is it important to know what previous treatment was given to a patient hernia bulging?
6. How can living and working conditions affect the occurrence and course of hernia bulging?
7. Why is the following sequence important in the patient's survey: collecting complaints, anamnesis of disease and life?
8. What is found when examining the groin area?
9. Why is there a protrusion in the groin area?
10. What changes can be detected on palpation of the protrusion of the abdominal wall?
11. What changes can be detected by finger examination of the inguinal rings?
12. Features of physical examination of a patient with suspected pinched hernia?
13. Features of physical examination of a patient with suspected intractable hernia?
14. Features of physical examination of a patient with suspected coprostasis and hernia inflammation?
15. Features of physical examination of a patient with suspected inguinal, femoral, umbilical and ventral postoperative hernia?
16. What is the basis for the preliminary diagnosis of diseases in herniated disc syndrome?
17. On what principles the list of diseases for carrying out the differential diagnosis is formed?
18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics in patients with hernias and to prevent the syndrome of "small abdominal cavity"?

GUIDANCE PAPER

of

intermediate control of knowledge of

Syndrome of hernia bulging

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:

1. Independently, in terms of extracurricular training (at home, dormitory), to solve in written form the situational clinical problem of one of the diseases that are part of the syndrome studied.

2. When solving a situational clinical problem, based on the conditions, formulate in writing:

- preliminary diagnosis
- diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- differential diagnosis of two diseases, the most probable in this case
- clinical diagnosis
- treatment program

3. In the next practical lesson, the written work is submitted for verification to the teacher, who assesses the level of mastery of a professionally oriented case.

Cases for "Herniated protrusion syndrome" (individual clinical cases):

Case №1

Patient M-ko, 70 years old, complains of a protrusion in both groin areas, which appeared a year and a half ago after gaining weight. Gradually the protrusion increased in size.
On examination: the general condition of the patient is satisfactory. In the vertical position in both inguinal areas there is a protrusion, size 5x5 cm, painless on palpation, is reduced into the abdominal cavity, with percussion - above the protrusion of the tympanitis. In the horizontal position of the patient's protrusion disappears. The spermatic cords are located laterally from the protrusion, the external openings of the inguinal canal are round, up to 2.5-3.0 cm in diameter, the cough push symptom is positive on both sides.

Case №2

Patient T-ov, 17 years old, complains of a protrusion in the right groin area, which falls into the scrotum, increases with exercise. The protrusion appeared in early childhood and gradually increased in size.
On examination: in the vertical position of the patient in the right inguinal area there is a protrusion which goes down the scrotum ; protrusion of soft-elastic consistency, painless. In the horizontal position of the patient, the protrusion is partially reduced in size, on palpation it is reduced into the abdominal cavity, on percussion over the protrusion - tympanitis, on auscultation - peristaltic sounds. The spermatic cord is thickened, the outer opening of the inguinal canal is 2.5x3.0 cm, the cough push symptom is positive.

Case № 3

Patient P-va, 56 years old, complains of a protrusion in the left groin area, which appears in the vertical position of the patient, as well as dull pain in the protrusion area during exercise. The protrusion appeared a year ago, the patient associates the appearance of the protrusion with hard physical work.
On examination: a patient with high nutrition, in a vertical position on the left below the inguinal fold is defined protrusion, rounded, up to 3 cm in diameter, elastic consistency, painless, located below the inguinal ligament, is reduced into the abdominal cavity; hernial ring up to 2 cm in diameter; cough push symptom is positive.

Case № 4

Patient Sh-ko, 36 years old, complains of a protrusion in the umbilical region. The protrusion appeared six years ago, during the second pregnancy, gradually increased in size, disappeared in the horizontal position. A year ago, there was a dull aching pain in the navel during exercise, the protrusion stopped exercising.
On examination: in the umbilical region there is a protrusion, rounded, 6x7 cm, the skin above the protrusion of normal color; on palpation, the protrusion of soft elastic consistency, painless, when trying to exercise - decreases in size, but does not exercise; at percussion - over a protrusion of a tympanitis; during auscultation - intestinal murmurs. The hernial ring is not clearly defined.

Case № 5

Patient P-va, 56 years old, complains of protrusion and severe pain in the left groin, as well as nausea, gas retention.
From the anamnesis: the protrusion appeared a year ago, the patient associates the appearance of the protrusion with hard physical work. Three hours ago, after gaining weight, I developed severe pain in the left groin area, the protrusion increased slightly in size, and I stopped exercising.
On examination: the patient of a raised food, the general condition is fair, pulse 92 posts / min. On the left below the inguinal fold is defined protrusion, rounded, up to 4 cm in diameter, dense, elastic consistency, painful, located below the inguinal ligament, does not fit into the abdominal cavity; hernial ring is not defined; coughing symptom is negative.

Case № 6

Patient Sh-ko, 36 years old, complains of a protrusion in the umbilical region, constant pain in the protrusion and mesogastric region, nausea, vomiting. From the anamnesis: the protrusion appeared six years ago, during the second pregnancy, gradually increased in size, and disappeared in the horizontal position. A year ago, there was a dull aching pain in the navel during exercise, the protrusion stopped exercising. Five hours ago, after gaining weight, there was severe pain in the umbilical region, nausea, and vomiting twice.

On examination: the general condition is fair, pulse 88 beat per 1 min ; in the umbilical region there is a protrusion, rounded, 6x7 cm in size, the skin above the protrusion of normal color; at a palpation of a protrusion of dense elastic consistency, intense, painful, does not exercise; at percussion - over a protrusion of a tympanitis; at auscultation intestinal noises are absent. hernial ring is not defined, the cough push symptom is negative.

Case № 7

Patient S-ov, 47 years old, complains of a protrusion in the area of the postoperative scar along the midline of the abdomen above the navel. From the anamnesis: three years ago he underwent surgery for perforated gastric ulcer, peritonitis; in the lower half the postoperative wound healed with secondary tension. One year after the operation, a protrusion appeared in the area of the postoperative scar, which gradually increased

Case № 8

Patient D-va, 57, complains of bulging in the area of the postoperative scar along the middle line of the abdomen below the navel. From anamnesis: three years ago she was operated on for a benign uterine tumor; postoperative wound was healed by secondary interference. One year after the operation, a protrusion appeared in the area of the postoperative scar, which gradually increased, in the horizontal position the patient independently exercised in the abdominal cavity, but did not exercise for the last 4 months.

On examination: the general condition of the patient is satisfactory; along the middle line of the abdomen from the navel to the bosom there is a postoperative scar, in the lower half of which there is bulging, measuring 6x8 cm, of a soft-elastic consistency, painless, does not exercise in the abdominal cavity; hernial rings are not clearly defined.

Case № 9

The patient P-s, 52 years old, complains of bulging in the area of the postoperative scar along the middle of the abdomen above the umbilical cord, Pain in the upper half of the abdomen, nausea. From anamnesis: three years ago he was operated on for a perforating ulcer of the stomach, peritonitis; in the lower half, the postoperative wound was healed by secondary interference. A year after the operation, a protrusion occurred in the postoperative scar area, which gradually began to fade. Six hours ago, after exercise, pain appeared in the area of bulging and the upper half of the abdomen, nausea, bulging stopped exercising.

On the examination: the general condition of the patient is unsatisfactory, pulse is 102 bpm . Along the middle line of the abdomen from the sword-shaped process to the navel there is a postoperative scar, in the lower half of which there is bulging, measuring 8x10 cm, of a densely elastic consistency, does not exercise in the abdominal cavity, which is significantly painful with palpation; the abdominal wall around the protrusion is resistant, painful; hernial rings are not determined, the cough push symptom push is negative.

Case № 10

Patient P-co, 60 years old, complains of bulging in both inguinal areas, pain in the area of bulging on the left, nausea, vomiting, gas retention. From the anamnesis: protrusions appeared a year and a half ago after lifting excess weight, gradually increased in size; 10 hours ago, after exercise, there was pain in the left groin area, protrusion stopped exercising, nausea appeared.
On the examination: the general condition of the patient is unsatisfactory, pulse 102 bpm In vertical position in both inguinal sites there is a protrusion, roundish form, the size of 5x5 cm; on the right the protrusion is painless on palpation, is reduced into the abdominal cavity, with percussion - on the protrusion of the tympanitis. On the left there is a protrusion of dense elastic consistency, not exercising, much painful on palpation. Moderate abdominal wall tension and pain below the navel, peritoneal symptoms are negative. The external opening of the inguinal canal on the right is round, up to 2.5-3.0 cm in diameter, the cough push symptom is positive. On the left - the hernial ring is not defined, the cough push symptom is negative.

Case № 11

Patient Zh-va, 42 years old, complains of the presence of a protrusion along the midline of the abdomen above the navel, periodically occurring moderate pain in the epigastric region.
From the anamnesis: the protrusion occurred 7 years ago after lifting excess weight, gradually increased in size, and disappeared in the horizontal position of the patient. A year ago, the protrusion stopped exercising, periodically there is a moderate aching pain in the epigastric region.
On the examination: the general condition of the patient is satisfactory, the abdomen is symmetrical, on the average line on 6 cm above a navel the protrusion, roundish form, in the size 5x6 cm, soft elastic consistency, painless is defined, at a palpation partially decreases in the sizes, but does not manage in an abdominal cavity, hernial ring is not clearly defined, the cough push symptom is positive.

Case №12

Patient B-va, 32 years old, complains of a protrusion along the midline of the abdomen above the navel, constant severe pain in the protrusion and epigastric region, nausea.
From the anamnesis: the protrusion occurred 7 years ago after lifting excess weight, gradually increased in size, and disappeared in the horizontal position of the patient. A year ago, the protrusion stopped exercising, periodically there was a moderate aching pain in the epigastric region. Five hours ago, after exercise, there was severe pain in the area of the protrusion, which increased slightly in size, nausea.
On the examination: the general condition of the patient is unsatisfactory, pulse 94 bpm ; the abdomen is symmetrical, along the midline 6 cm above the navel is defined by a protrusion, rounded, 6x7 cm in size, dense-elastic consistency, painful on palpation, does not fit into the abdominal cavity, hernial ring is not defined, the cough push symptom is negative; when percussion over the protrusion - dullness. The abdominal wall around the protrusion is moderately tense, painful, peritoneal symptoms are negative.

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practical training

Topic # 4

"Acute inflammatory abdominal syndrome
Acute inflammatory diseases of the abdominal organs: acute appendix"

Module 1. Emergency abdominal surgery and proctology.
Contents module 2. Emergency abdominal surgery.
Topic # 4. Acute inflammatory diseases of the abdominal organs: acute appendix
Definition: Acute inflammatory abdominal syndrome occurs as a result of obstruction of the cavity of one of the abdominal organs of various etiologies with the progressive development of inflammation and destruction in it, subsequently with the transition to reed, manifesting pain, a clinic of growing intoxication and inflammatory changes in the indicators of additional studies.
If acute inflammatory abdominal syndrome is suspected, the patient is shown urgent consultation of the surgeon, and if confirmed, urgent hospitalization in the surgical department for further examination, treatment and surgical surgery.
The most common causes of acute inflammatory abdominal syndrome are acute appendix, acute cholecystitis, and acute pancreatitis.

Acute inflammatory diseases of the abdominal organs: acute appendix.
Acute apptraditiitis is an acute nonspecific inflammation of the worm-like (worm-shaped) process of the blind intestine.

Final goals of practical training:
1. Pre-diagnosis formation
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, dif. diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAMM:
A) Urgency of hospitalization
B) Urgency of operation
C) Preoperative preparation
D) Postoperative treatment

The goal of the practical lesson: To establish the level of assimilation of theoretical knowledge and practical skills by students within the framework of professionally oriented cases of a general practitioner on the topic - Acute inflammatory diseases of the abdominal organs: acute apptraditiitis, which refers to acute inflammatory abdominal syndrome.

Forms of control of knowledge and skills in a practical lesson:
1. Test knowledge control (computer knowledge control for 30 test cases)
2. A theoretical survey of each student with an assessment on:
- justification of preliminary diagnosis
- definition of diagnostic program and analysis of the obtained data
- differential diagnostics
- formation of clinical diagnosis
- definition of treatment program
3. Completion of practical skills by each student:
- Determination of pathognomonic symptoms of acute appendix (Bartomier-Michelson, Voskresensky's, Obraztsov, Razdolsky, Rovsing)
- Analysis of clinical blood and urine values in acute inflammatory diseases of abdominal organs.

Information part of methodical development

The minimum basic level of knowledge required to master the topic:

1. Anatomy, topographic anatomy and operative surgery - topographic and anatomical characteristics of the cecum and worm-like (worm-like) process.
2. Physiology - the function of the appendix.
3. Pathological physiology - dysfunction of organs and systems in inflammation, including inflammation in the abdomen and peritoneum.
4. Pathological anatomy - morphological changes in the appendix with inflammation.
5. Microbiology, virology and immunology - the place of microbial and immune factors in the occurrence of inflammatory processes in the appendix.
6. General surgery, propaedeutics of internal diseases - survey methods and fi-
physical examination of the patient.

The specific purpose of independent preparation for practical training:

Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:

1. Examination of the patient to determine the clinical course and possible complications of acute appendicitis, (examination of the patient and physical examination, including the determination of pathognomonic symptoms)
2. Substantiation and formation of the preliminary diagnosis of the disease
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the list of diseases for differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for acute appendicitis.

The program of independent preparation for a practical lesson:

1. The urgency of the problem of diseases that belong to the acute inflammatory abdominal syndrome.
2. Definition of diseases that belong to the acute inflammatory abdominal syndrome.
3. Causes and mechanisms of development of diseases that belong to the acute inflammatory abdominal syndrome, in particular, acute appendicitis.
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of acute appendicitis.
5. Principles of diagnosis and the amount of data required for the formation of the previous one
diagnosis in diseases related to acute inflammatory abdominal syndrome
rum.
6. Principles of drawing up the diagnostic program for specification of the previous diagnosis and the subsequent treatment.
7. List of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of acute appendicitis and principles of clinical diagnosis.
9. Substantiation of the organizational and medical program.

<u>Practical skills that are assigned to the practical lesson:</u>

1. Determination of pathognomonic symptoms of acute appendicitis (Bartomie-Michelson’s, Voskresensky’s, Obraztsov's, Razdolsky's, Rovsing's)
2. Predicting the probability of acute appendicitis using the Alvarado diagnostic scale.

1. Determination of pathognomonic symptoms of acute appendicitis:

- Bartomie-Michelson’s symptom is pain intensification in the patient’s the right iliac area during palpation in the right iliac area of the abdomen when moving the patient to a position on the left side compared to the position on the back;

- Voskresensky’s or a symptom of a "shirt" is a symptom of "slipping". The doctor pulls the patient's shirt by the lower edge with the left hand, the tips of 2-3-4 fingers of the doctor's right hand are installed on the right at the patient's rib edge and during his breath in (with a weakened abdominal wall) slide with moderate pressure on the abdomen to the right iliac region and then on the thigh. While sliding the doctor's fingers, the patient notes a sharp increase in pain in the right iliac area and no pain on the left side;

- Obraztsov’s symptom is found when the doctor presses with fingers to the patient's abdominal wall in the right iliac area until moderate pain appears and fix the hand. The pain is exacerbated when the patient lifts the straightened, unbent in the knee joint right leg. This symptom is specifically attributed to retrocecal location of the appendix;

- Razdolsky’s symptom is pain in the form of an oval in the right iliac area of the patient during percussion of the anterior abdominal wall of the patient with a hammer or a doctor's finger (the so-called surgical Razdolsky’s symptom, (Prof. Rozdolsky was a neurologist);

- Rovsing's symptom is a pain in the right iliac area when applying palpation with the right hand of the doctor on the left in the area of the descending colon of the patient, while the patient's sigmoid colon is pressed with the left hand of the doctor to the posterior abdominal wall.

Practical skills №1 ***(Instructions for the test performance)***

Practical skills control: the first question is based on the principle of the MCQ test: several videos with symptoms of acute appendicitis are given. After watching each video the student is supposed to choose the correct name of this symptom in the box on the right. After that, the student completes the attempt and confirms the action and completes the test, or returns to the questionable answer and reviews the questions, reaffirms the completion of the test and sends the results.

2. Predicting the probability of acute appendicitis using the Alvarado diagnostic scale.

Each clinical sign of appendicitis singly has low prognostic value. However, in combination, their predictive capabilities are much stronger, although not perfectly accurate. The introduction into practice of integrated diagnostic scales, allowed to systematize and standardize the signs of acute appendicitis. A significant help in making a diagnosis of acute appendicitis can be the calculated Alvarado score scale, which is based on clinical and laboratory data.

Alvarado Score

CLINICAL SIGNS	POINTS
Migration of pain to the right iliac area (Kocher's symptom)	+1
Anorexia	+1
Nausea / single vomiting	+1
Tenderness in the right iliac area	+2
Rebound pain (positive Shchetkin-Blumberg's symptom)	+1
Elevated temperature (>37.3° C)	+1
Leukocytosis > $10x10^9$/L	+2
Shift of the white blood cells count to the left (neutrophils > 75%, immature cells)	+1
Total	10
DATA EVALUATION	
LESS THAN 5 POINTS	Low-probability of acute appendicitis
5-6 POINTS	Acute appendicitis is probable and the patient is prescribed dynamic supervision
7-8 POINTS	Acute appendicitis cannot be ruled out
9-10 POINTS	Acute appendicitis is present and the patient needs urgent surgery.

*to remember, use the mnemonic **MANTRELS** that covers ol the factors described by Alvarado.

Practical skills №2 ***(Instructions for the test performance)***

Practical skills control is built on the principle of a test with four questions, where the student is supposed to choose the correct one and tick a mark in front of it. To complete the case, read the condition of the clinical case, count the number of points on the diagnostic scale of Alvarado, and assess the probability of acute appendicitis on this scale. Consecutively, after answering tests, the student completes the attempt and confirms the action and completes the test, or returns to the questionable answer and reviews the questions, reaffirms the completion of the test and sends the results.

Features of examination of patients with *acute inflammatory abdominal syndrome*:

1. Interview of the patient it is necessary to define:

Complaints of:

A) Pain:

1. localization of pain (right half of the abdomen, right hypochondrium, left half of the abdomen, left hypochondrium, right iliac region, epigastrium, other areas throughout the abdomen)
2. intensity of pain (weak, moderate, strong)
3. irradiation of pain (in the right thigh, in the lumbar region, in the external genitalia, right shoulder, etc.)
4. Nature of pain (constant, convulsive, connection with the act of defecation, movement, cough
5. There have been similar attacks of pain before

B) Consistently identified other complaints:

1. features of excretion of feces and gases, the nature of the stool - normal, diarrhea, delay
2. nausea, vomiting (single, repeated), or relief after vomiting
3. bloating
4. changes in body temperature (within which limits is increased)
5. changes from other organs and systems

Medical history:

A) Date and time of the disease onset

Previous pain localization (Kocher-Volkovich symptom is a symptom of painful movement or a symptom of "simulation" of gastric or duodenal ulcer with perforation), the onset of acute or sudden.

B) When and where patient sought medical attention:

1. what kind of treatment was received before admission to hospital, its efficiency
2. when taken to the hospital

C) Other possible reasons for the onset of the disease

Life history:

A) Living and working conditions that could cause the disease

B) For women - obstetric and gynecological history:

1) the number of pregnancies
2) the number of births
3) the date of the last menstrual period
4) whether the last menstrual period was on time

2. **Physical examination:**

Review:

A) General overview:

1. degree of severity of the patient's condition
2. behavior of the patient: calm or restless
3. body temperature, pulse rate
4. condition of the tongue (dry, wet)
5. condition of the pharynx and tonsils
6. condition of the lower extremities

B) Overview:

Thorax

Abdomen:

1. retracted, distended
2. symmetrical, asymmetrical
3. degree of participation of the anterior abdominal wall in the act of breathing
4. the presence of a protrusion of the anterior abdominal wall (localization)

Palpation:

a) localization of pain and tension of abdominal wall muscles, presence of infiltrate, localization, mobility, its dimensions in centimeters (outline its contours), hyperesthesia of abdominal skin;
b) the presence of pathognomonic symptoms of acute appendix (Rovsing, Voskresensky's, Sitkovsky, Bart's-Mikhelson, Obraztsov, Yaure-Rozanov);
c) presence of peritoneal symptoms and their localization (protective muscle tension, symptoms of Schetkin-Blumberg, Mendel);
g) disease symptoms with oriental clinical picture (symptom generation in the lumbar area of Pasternatsky, Zakharyin, diaphragmatic nerve, symptoms of bowel obstruction, etc.);
h) in vaginal and rectal examination - overhanging of the arch and pelvic reed, soreness (Douglas "cry"), blasting of the anterior wall of the rectum.

Percussion:

A) Thorax

B) Abdomen:

The presence of symptoms of Razdolsky, Lépine's sign, changes in the percutaneous limits of the liver, gallbladder, the presence of hepatic dullness, blunt sound on the flanks of the belly on the right and left, below the belly.

Auscultation:

A) Thorax

B) Abdomen: Presence or absence of peristaltic sounds.

Based on the data obtained after interviewing the patient (complaints, anamnesis of disease and life) and his physical examination (examination, palpation, percussion, auscultation) the justification of the preliminary diagnosis is carried out.

3. Diagnostic program with analysis of additional research data:

a) **CBC** is the presence of inflammatory changes in the blood, which is manifested by leukocytosis and a shift in the leukocyte formula to the left. More pronounced changes in destructive forms of acute appendix

b) **clinical analysis of urine** is with a simple form of acute appendix, there are no changes in urine, with destructive forms - in the urine there can be protein, cylinders, and with the retrocecal arrangement of the process, fresh red blood cells, which must be taken into account when making a differential diagnosis

Additional instrumental research methods (applied in case of difficulty in diagnosis):

a) **visual radiography** of abdominal organs (to exclude or confirm intestinal obstruction, perforated ulcer)

b) **sonography** (to assess the condition of the gallbladder, pelvic organs in women, the presence of fluid in the abdomen, and the condition of the kidneys). In patients with acute apptraditiitis, the sonographic picture is represented by a thickening of the worm-like process, the presence of effusion
c) **laparoscopy diagnostic** (which can, upon confirmation of a diagnosis of the acute appendix, end with endoscopic removal of the worm-like process)

4. Differential diagnosis:
- **acute appendix** is with acute cholecystitis, perforation of the stomach ulcer and duodenum, acute pancreatitis, acute obstruction of the intestine, acute gastritis, renal colic on the right, Crohn's disease, right-handed pneumonia; in women one with acute sexual diseases (sudden pregnancy, ruptured ovarian cyst, ovarian hemorrhage, adnexitis, pyosalpinx, acute gonorrhea pelvic peritonitis);

5. Clinical diagnosis:
The nosological unit and the form of the disease course are indicated, the existing complications are indicated on the basis of clinical and statistical classification (see "Unified clinical and statistical classifications of digestive diseases." Departmental instruction. Dziak G. V., Bereznitsky Y.S., Filipov Yu.A. Kiev, Dnipro-VAL, 2004).

6. Organizational and therapeutic tactics:
Determination of the need for hospitalization for urgent surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their action), or the possibility of conservative treatment (only for appendicular infiltrate) with the definition of groups of drugs and their actions.

Acute appendix is performed an acute operation, endoscopic surgery can be performed. In destructive forms, the operation is completed by draining the abdominal cavity through a separate counterpertura.

Test questions for self-assessment of preparation for the lesson:
1. **The importance of studying the course of diseases related to the acute inflammatory abdominal syndrome, in particular, acute appendicitis?**
2. What is defined during a patient's interview with a suspect of acute inflammatory abdominal syndrome, in particular, acute appendicitis?
3. Why is it important to identify all the complaints that a patient with the acute inflammatory abdominal syndrome, in particular, acute appendicitis?
4. Why is it important to know the date and time of onset of the disease in a patient with the acute inflammatory abdominal syndrome, in particular, acute appendicitis?
5. Why is it important to know what previous treatment was given to a patient with the acute inflammatory abdominal syndrome, in particular, acute appendicitis?
6. How living and working conditions can affect the occurrence and course of acute inflammation abdominal syndrome, in particular, acute appendicitis?
7. Why is the following sequence important in the survey of the patient, in particular, acute appendicitis: collecting complaints, medical history, and life?
8. What is found during the examination of the patient and his abdomen on suspicion of acute appendicitis?
9. Why is it possible to delay the participation of parts of the anterior abdominal wall in respiration in acute inflammatory abdominal syndrome, in particular, acute appendicitis?
10. What changes can be detected on palpation of the abdominal wall in acute inflammatory abdominal syndrome, in particular, acute appendicitis?
11. What changes can be detected by finger examination of the vagina and rectum in acute inflammatory abdominal syndrome, in particular, acute appendicitis?
12. Features of physical examination of a patient with suspected acute appendicitis?

13. Features of physical examination of a patient with suspected development of destructive forms of diseases that belong to the acute inflammatory abdominal syndrome, in particular, acute appendicitis?
14. What is the basis for the preliminary diagnosis of diseases in acute inflammatory abdominal syndrome, in particular, acute appendicitis?
17. On what principles the list of diseases for carrying out the differential diagnosis at suspicion of acute appendicitis is formed?
18. Why in the clinical diagnosis of acute appendicitis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics in patients with acute appendicitis and in destructive forms of this disease and the development of complications?

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Topic № 5
"Acute inflammatory abdominal syndrome.
Acute inflammatory diseases of the abdominal organs: acute cholecystitis"

Module 1. Emergency abdominal surgery and proctology.
Contents module 2. Emergency abdominal surgery**.**
Topic No. 5. Acute inflammatory diseases of the abdominal organs: acute cholecystitis
Definition: Acute inflammatory abdominal syndrome occurs as a result of obstruction of the cavity of one of the abdominal organs of various etiologies with the progressive development of inflammation and destruction in it, subsequently with the transition to the peritoneum, manifesting pain, a clinic of growing intoxication and inflammatory changes in the indicators of additional studies.
If acute inflammatory abdominal syndrome is suspected, the patient needs an urgent consultation of the surgeon, and if confirmed, urgent hospitalization in the surgical department for further examination, treatment and emergency surgery.
The most common causes of acute inflammatory abdominal syndrome are acute appendicitis, acute cholecystitis, and acute pancreatitis.

Acute inflammatory diseases of the abdominal organs: acute cholecystitis.
Acute cholecystitis - acute nonspecific inflammation of the gallbladder.

Final goals of practical training:
1. Preliminary diagnosis formation
2. Diagnostic the program and analysis of the obtained data
3. Differential diagnosis (list of diseases, dif. diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. Treatment programm:
A) Urgency of hospitalization
B) Urgency of surgery
C) Preoperative preparation
D) Postoperative treatment

The goal of the practical lesson: To establish the level of assimilation of theoretical knowledge and practical skills by students within the framework of professionally oriented cases of a general practitioner on the topic - Acute inflammatory diseases of the abdominal organs: acute cholecystitis, which refers to acute inflammatory abdominal syndrome.

Forms of control of knowledge and skills in a practical lesson:
1. Test knowledge control (computer knowledge control for 30 test cases)
2. A theoretical survey of each student with an assessment on:
- justification of preliminary diagnosis
- definition of diagnostic program and analysis of the obtained data
- differential diagnostics
- formation of clinical diagnosis
- definition of treatment program
3. Completion of practical skills by each student:
- Definition of pathognomonic symptoms of acute cholecystitis
(Georgievsky-Mussey, Grekov-Ortner's, Murphy)
-Analysis of biochemical blood indices in acute inflammatory diseases of abdominal organs.

Information part of methodical development

The minimum basic level of knowledge required to master the topic:
1. Anatomy, topographic anatomy, and operative surgery are topographic and anatomical characteristics of the gallbladder and extrahepatic excretory ducts, peritoneum
2. Physiology of gallbladder
3. Pathological physiology is the dysfunction of organs and systems in inflammation, including inflammation in the abdomen and peritoneum.
4. Pathological anatomy is morphological changes in the gallbladder and peritoneum in various forms of inflammation
5. Microbiology, virology, and immunology are the place of microbial and immune factors in the occurrence of inflammatory processes in the gallbladder and peritoneum
6. Radiology is endoscopic retrograde cholangiopancreatography, ultrasound of the abdominal cavity
7. General surgery, propaedeutics of internal diseases are survey methods and physical examination of the patient.

The specific purpose of independent preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:

1. Examination of the patient to determine the clinical course and possible complications of acute cholecystitis, (examination of the patient and physical examination, including the determination of pathognomonic symptoms)
2. Substantiation and formation of the preliminary diagnosis of the disease
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the list of diseases for differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of the clinical and statistical classification of diseases
6. Formation of a treatment program for **acute cholecystitis**.

Program for self-training for practical classes:
1. Relevance of the problem of diseases that pertain to the acute inflammatory abdominal syndrome, in particular acute cholecystitis.
2. Identification of diseases that pertain to the acute inflammatory abdominal syndrome.
3. Causes and mechanisms for the development of diseases that relate to the acute inflammatory abdominal syndrome, in particular acute cholecystitis.
4. Clinical manifestations (complaints, history, data from the physical examination of the patient) of acute cholecystitis**.**
5. Diagnosis principles and amount of data required for preliminary generation diagnosis in diseases relating to the acute inflammatory abdominal syndrome, in particular, acute cholecystitis.
6. The principle is to draw up a diagnostic program to clarify the preliminary diagnosis and further treatment.
7. A list of diseases for differential diagnosis, a compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of acute cholecystitis and principles of clinical diagnosis formation.
9. Justification of an organizational-medical program.

Practical skills that are assigned to the practice:
1. Definition of pathognomonic symptoms of acute cholecystitis (Georgievsky-Mussi's, Grekov-Ortner's, Murphy's, Parturier's)
2. Analysis of ultrasonography in case of cholecystitis.

1. Definition of pathognomonic symptoms:
1. **Acute cholecystitis**:

- Mussi-Georgievsky's or " phrenicus symptom" is a soreness when pressing the doctor's finger between the pedicles of the right sternoclavicular-mammary muscle (Musculus sternocleidomastoideus) of the patient, in the absence of pain on the left;

- Ortner-Grekov's symptom is soreness in the projection of the gallbladder when tapping with the edge of the doctor's hand on the costal arch of the patient on the right;

- Murphy's symptom is soreness in the projection of the gallbladder when inhaled during palpation with three fingers of the doctor of the patient's abdomen at the Kehr's point.

- **Parturier's** symptom is an enlarged, tensed, and painful gallbladder, palpated in the right hypochondrium on the right.

Instructions for performing the test
In the cases concerning the symptoms of acute cholecystitis, the student has to choose the correct interpretation of this symptom (only one answer is possible).

The second question is based on the principle of the MCQ test. Several videos with symptoms of acute cholecystitis are offered. The student has to watch each video, choose the correct name of this symptom in the box on the right. After that, the student has to complete the attempt and confirm the action and complete the test, or return to the questionable answer and review the question again, confirm the completion of the test and send the results.

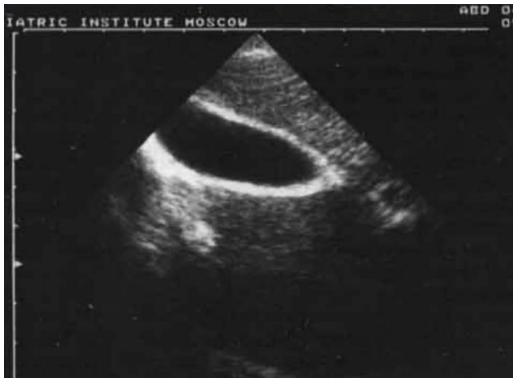
2. Analysis of ultrasonography in case of cholecystitis

Pic.1

Normal (1) gallbladder is defined as free from internal structures, echo negative formation of pear-like, ovoid or cylindrical shape, which has a clear contour. Its length varies from 6 to 9.5 cm, and width does not exceed 3 - 3.5 cm.The wall of the bladder is presented as a fairly homogeneous thin (not more than 3 mm) line of moderately increased echogenicity. The outer and inner contours of the bladder are clear and smooth.

Pic.2

In a case of acute catarrhal cholecystitis (2), the gallbladder may be enlarged, normal or even reduced, and one of the main ultrasound signs is wall thickening (4 mm or more), the appearance of a double contour.



Pic.3

In the case of chronic cholecystitis (3) the most specific features are compaction and thickening of the wall, unevenness, and deformation of the contour of the gallbladder, reduced or no movement during respiration, inhomogeneity of the contents, "bile" sediment.

Pic.4

In the case of destructive forms of acute cholecystitis (4) there are specific stratification of the gallbladder wall or its fuzzy contour and the presence of fluid around the gallbladder in the abdominal cavity.

Pic.5

Gallbladder stone (5) looks like a dense formation, followed by an ultrasonic shadow, most commonly located on the posterior wall of the bladder, which is displaced when the position of the body changes.

Instructions for performing the test

The control of practical skills is built on the principle of the MCQ test with questions in separate screens, three of which contain lists of answers from which the student has to choose the correct one for each question using their knowledge of this topic. One of the screens contains ultrasound images where the correct answer has to be chosen by selecting from the identical lists provided for each. After that, the student has to complete the attempt by pressing the appropriate button and then confirm the action or return to the questionable answer and review the question, and reaffirm the completion of the test and send the results.

Features of examination of patients with acute *inflammatory abdominal syndrome*:

1. **In interview of the patient, it is necessary to define:**
   Complaints of:
   A) Pain:

1. localization of pain (right half of the abdomen, right hypochondrium, left half of the abdomen, left hypochondrium, right iliac region, epigastrium, other areas throughout the abdomen)
2. intensity of the pain (weak, moderate, strong)
3. irradiation of pain (in the right thigh, in the lumbar region, in the external genitalia, right shoulder, etc.)
4. nature of pain (constant, cramping, shingles - a symptom of Blyce), connection with the act of defecation, movement, cough
5. whether there have been similar attacks of pain before

B) Consistently identified other complaints:

1. features of excretion of feces and gases, the nature of the stool - normal, diarrhea, delay
2. nausea, vomiting (single, repeated), or relief after vomiting
3. bloating
4. changes in body temperature (within which limits is increased)
5 changes from other organs and systems

History and disease:

A) Date and time of onset of the disease:

What is associated with the onset of the disease (on the background of good health or after eating and its nature - meat, vegetable, dietary error, alcohol abuse; physical overload, body position), the onset of acute or sudden

B) When and where he sought medical help:

1. who received treatment before admission to the clinic, its effectiveness
2. when delivered to the hospital (date, time)

C) There may be other causes of the disease

D) Living and working conditions that could cause the disease

E) In women - obstetric and gynecological history:

1. number of pregnancies
2. number of births
3.date of the last menstrual period
4. Whether the last menstrual period was on time

2. **Physical examination:**

Examination:

A) General overview:

1. degree of severity of the patient's condition
2. behavior of the patient: calm or restless
3. body temperature, pulse rate
4. the condition of the tongue (dry, wet)
5. the condition of the pharynx and tonsils
6. the condition of the lower extremities

B) Visual examination:

Thorax

Abdomen:

1. Drawn, swollen
2. Symmetric, asymmetric
3. The degree of participation of the anterior abdominal wall in the act of breathing (lag of some section of the abdomen in breathing, asymmetry of the umbilical cord, symptom of Karavanov)
4. Discoloration of skin, sclera, and visible such as jaundice.

Palpation:

a) localization of pain and tension of abdominal wall muscles, presence of infiltrate, localization, mobility, its dimensions in centimeters (outline its contours), hyperesthesia of abdominal skin;
b) the presence of pathognomonic symptoms of acute cholecystitis (Georgievsky-Mussi, Grekov-Ortner's, Kehr's, Murphy, Boas);

c) the presence of peritoneal symptoms and their localization (protective muscle tension, symptoms of Schetkin-Blumberg, Mendel);
e) Symptoms of diseases with similar clinical manifestations are checked (a symptom of tapping in the lumbar area of Pasternatsky (Murphy's punch sign), Zakharyin, diaphragmatic nerve, symptoms of bowel obstruction, etc.);
e) in the vaginal and rectal examination - overhanging of the vault and pelvic reeds, soreness (Douglas "cry"), overhanging of the rectal anterior wall.
Percussion:
A) Thorax
B) Abdomen:
The presence of symptoms of Razdolsky, Lépine's sign, changes in the percutaneous limits of the liver, gallbladder, the presence of hepatic dullness, dull sound on the flanks of the belly on the right and left, below the belly.
Auscultation:
A) Thorax
B) Abdomen:
Presence or absence of peristaltic sounds.
Based on the data obtained after interviewing the patient (complaints, anamnesis of disease and life) and his physical examination (visual examination, palpation, percussion, auscultation) the justification of the preliminary diagnosis is carried out.

3**. Diagnostic program with analysis of workup data:**
Laboratory examination at acute cholecystitis:
a) ***CBC*** (leukocytosis with left shift)
b***) blood chemistry tests*** (bilirubin and its fractions, ALT, ASAT, blood serum electrolytes, coagulogram)
c) ***urinalysis*** (presence of protein, red blood cells, casts, bile pigments)
Additional imaging and instrumental methods:
a) ***sonography*** (to assess the condition of the gallbladder, extrahepatic bile ducts, pancreas and liver)
b) ***plain radiography*** of abdominal organs according to indications (if necessary differentiate from intestinal obstruction, perforated ulcer)
c) ***computed tomography*** (by indications in complicated diagnostic cases)
d) ***retrograde cholangiopancreatography*** is according to indications to clarify pathological changes in extrahepatic ducts
e) ***diagnostic laparoscopy*** is carried in complicated diagnostic cases, which can be used to clarify the diagnosis, and if technical capabilities are available - turns into a therapeutic procedure with cholecystectomy.
4. Differential diagnosis:
- acute cholecystitis
from acute surgical diseases of abdominal organs:
- acute appendicitis
- gastric ulcer and duodenum complicated by perforation
- acute pancreatitis
- acute bowel obstruction
from emergency urological diseases:
- right-sided renal colic
with therapeutic diseases:
- right-sided lower lobe pneumonia
- intercostal neuralgia on the right
with chronic abdominal diseases:
- peptic duodenal ulcer complicated by penetration
- tumor of colon hepatic flexure

5. Clinical diagnosis:
The nosological unit and the form of the disease course are indicated, the existing complications are indicated on the basis of clinical and statistical classification (see "Unified clinical and statistical classifications of digestive diseases." Departmental instruction. Dziak G. V., Bereznitsky Y.S., Filipov Yu.A., Dnipro-VAL, 2004).

6. Organizational and therapeutic tactics:
The necessity of hospitalization for an urgent or planned surgical intervention is determined (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and directions of their action.
In acute cholecystitis delayed surgery is provided, nowadays - laparoscopy is carried out, using endovideotechnics.

Test questions for self-assessment of preparation for the lesson:

1. Describe the importance of studying the course of diseases related to the acute inflammatory abdominal syndrome, in particular, acute cholecystitis.
2. What is defined during a patient's interview with a suspect of the acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
3. Why is it important to identify all the complaints that a patient has with the acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
4. Why is it important to know the date and time of onset of the disease in a patient with the acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
5. Why is it important to know what previous treatment was given to a patient with the acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
6. How can living and working conditions affect the occurrence and course of the acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
7. Why is the following sequence important in the survey of a patient, in particular, with acute cholecystitis: a collection of complaints, medical history, and life?
8. What is found during the examination of the patient, in particular, acute cholecystitis, and his abdomen?
9. Why is it possible to change the color of the skin, sclera, and mucous membranes in acute inflammatory abdominal syndrome, in particular, in acute cholecystitis?
10. What changes can be detected on palpation of the abdominal wall in acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
11. What changes can be detected by finger examination of the neck and back in acute inflammatory abdominal syndrome, in particular, in acute cholecystitis?
12. Features of physical examination of a patient with suspected acute cholecystitis?
13. Features of physical examination of the skin and mucous membranes of a patient with suspected acute cholecystitis?
14. Features of physical examination of a patient with suspected development of destructive forms of diseases that belong to the acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
15. What is the basis for the preliminary diagnosis of diseases in acute inflammatory abdominal syndrome, in particular, acute cholecystitis?
16. On what principles is the list of diseases for carrying out the differential diagnosis, in particular, at an acute cholecystitis formed?
17. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease but also its course and complications, in particular, in acute cholecystitis?
18. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis, in particular, acute cholecystitis?
19. What is it important to determine in the formation of treatment tactics in patients with acute cholecystitis and in destructive forms of this disease and the development of complications?

20. What modern methods of surgical treatment of this disease do you know?

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Topic # 6
"Acute inflammatory abdominal syndrome.
Acute inflammatory diseases of the abdominal organs: acute pancreatitis"

Module 1. Emergency abdominal surgery and proctology.
Contents module 2. Emergency abdominal surgery**.**
Topic # 6. Acute inflammatory diseases of the abdominal organs: acute pancreatitis
Definition: Acute inflammatory abdominal syndrome occurs as a result of obstruction of the cavity of one of the abdominal organs of various etiologies with the progressive development of inflammation and destruction in it, subsequently with the transition to the peritoneum, manifesting pain, a clinic of growing intoxication and inflammatory changes in the indicators of additional studies.
If the acute inflammatory abdominal syndrome is suspected, the patient needs an urgent consultation of the surgeon, and if confirmed, urgent hospitalization in the surgical department for further examination, treatment, and emergency surgery.
The most common causes of the acute inflammatory abdominal syndrome are **acute appendicitis, acute cholecystitis, and acute pancreatitis.**

Acute inflammatory diseases of the abdominal organs: acute pancreatitis.

1. Acute pancreatitis is an acute degenerative-inflammatory pancreatic disease, which is based on the autolysis of gland tissues by its own activated enzymes, followed by the addition of aseptic and microbial inflammation.

Final goals of practical training:
1. Pre-diagnosis formation
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. Treatment program:
A) Urgency of hospitalization
B) Urgency of surgery
C) Preoperative preparation
D) Postoperative treatment

The purpose of the practical lesson is to establish the level of assimilation of theoretical knowledge and practical skills by students within the framework of professionally oriented cases of a general practitioner on the topic that is acute inflammatory diseases of the abdominal organs: acute pancreatitis, which refers to the acute inflammatory abdominal syndrome.

Forms of control of knowledge and skills in a practical lesson:
1. Test knowledge control (computer knowledge control for 30 test cases)
2. A theoretical survey of each student with an assessment on:
- justification of preliminary diagnosis
- definition of diagnostic program and analysis of the obtained data
- differential diagnostics
- formation of clinical diagnosis
- definition of treatment program
3. Completion of practical skills by each student:
- Identification of pathognomonic symptoms of acute pancreatitis (Körte's, Mayo-Robson, Chukhrienko)
- Analysis of urine biochemical indices in acute inflammatory diseases of abdominal organs.

The informational part of methodical development

The minimum basic level of knowledge required to master the topic:
1. **Anatomy, topographic anatomy, and operative surgery** are topographic and anatomical characteristics of the gallbladder and extrahepatic excretory ducts, pancreas and omental sac, peritoneum.
2. **Physiology** is the function of the pancreas.
3. **Pathological physiology** is the dysfunction of organs and systems in inflammation, including inflammation in the abdomen and peritoneum.
4. **Pathological anatomy** is morphological changes in the pancreas and peritoneum in various forms of inflammation.
5. **Microbiology, virology, and immunology** are the place of microbial and immune factors in the occurrence of inflammatory processes in the pancreas and peritoneum.
6. **Radiology** is retrograde cholecysto pancreatography, ultrasound of abdominal organs
7. **General surgery, propaedeutics of internal diseases** are survey methods and physical examination of the patient.

The specific purpose of independent preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine the clinical course and possible complications of acute pancreatitis, (survey of the patient and physical examination, including the determination of pathognomonic symptoms)
2. Substantiation and formation of the preliminary diagnosis of the disease
3. Drawing up a diagnostic program and analysis of the results of additional workup
4. Formation of the list of diseases for differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of the clinical and statistical classification of diseases
6. Formation of a treatment program for acute pancreatitis.

Program for self-training:
1. Relevance of the problem of diseases that pertain to an acute inflammatory abdominal syndrome, in particular acute pancreatitis.
2. Identification of diseases that pertain to the acute inflammatory abdominal syndrome.

3. Causes and mechanisms for the development of diseases that relate to an acute inflammatory abdominal syndrome, in particular acute pancreatitis.
4. Clinical manifestations (complaints, history, data from the physical examination of the patient) of acute pancreatitis.
5. Diagnosis principles and amount of data required for preliminary generation
diagnosis in diseases relating to an acute inflammatory abdominal syndrome, in particular, acute pancreatitis.
6. The principle is to draw up a diagnostic program to clarify the preliminary diagnosis and further treatment.
7. A list of diseases for differential diagnosis, a compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of acute pancreatitis and principles of clinical diagnosis formation.
9. Justification of the organizational and medical program.

Practical skills that are assigned to the practice:

1. Additional examination methods of a patient with acute pancreatitis.

2. Determination of pathognomonic symptoms of acute pancreatitis

1. Definition of pathognomonic symptoms:

- **Urine chemistry** - elevation of the α-amylase (old. name ***diastase***) and the presence of glucose - possible in case of acute pancreatitis and cholecystitis, a sharp α-amylase decrease from high numbers to zero will indicate the pancreas destruction - pancreatic necrosis.
- **Blood chemistry** is hyperglycemia, hypocalcemia, increased α-amylase, and lipase.
- **A complete blood count is a** leukocytosis with a shift of the leukocyte formula to the left, lymphopenia, eosinopenia.
- **Sonography is** heterogeneous echostructure and increased gland size
- **Plain x-rays are** isolated distension of the transverse colon if there are no Kloiber's cups (Gobier's symptom)

Instructions for performing the test

Control of practical skills by additional methods of examination in acute pancreatitis is based on the principle of the MCQ test. In brackets, there are the indicators that change, and the button when clicked on which the values of the indicator fall out, from which the student has to select the correct answer by clicking on it. If it is about the method of research, then when the student clicks on the button, the data obtained during the study is in the form of individual sentences from which the student has to choose the correct one. After that, the student has to complete the attempt by pressing the appropriate button and then confirm the action or return to the questionable answer and review the question, reaffirm the completion of the test and send the results.

2. **- Körte's sign** is found during palpation of the abdomen, there is a painful resistance of the abdominal wall in the form of a strip 5-7 cm above the navel (depending on the location of the pathological process in the pancreas - head, body, tail - resistance may shift to the left or right);

- Mayo-Robson's is found when pressing with the doctor's fingers in the area of the left costal-vertebral angle of the patient soreness is determined;

- Chukhrienko's is found during push-up movements with the edge of the doctor's hand, which is located on the patient's abdomen below the navel, are performed to the depth and up (pain in the epigastric region of the patient indicates acute pancreatitis, depending on the location of the pathological process - head, body, tail - pain can be determined on the right-left or in the epigastrium).

Instructions for performing the test

Control of practical skills on pathognomonic symptoms and laboratory methods of examination in acute pancreatitis is based on the principle of the MCQ test. After selecting one answer to a question with some data, the next question automatically appears. Please note, it is impossible to return to the question to which the answer was given. After the last answer, the test closes automatically and the result is shown.

Features of examination of patients with *acute inflammatory abdominal syndrome*:

1. Interview of the patient it is necessary to define:

Complaints of:

A) Pain:

1. localization of pain (right half of the abdomen, right hypochondrium, left half of the abdomen, left hypochondrium, right iliac region, epigastrium, other areas throughout the abdomen)
2. intensity of pain (weak, moderate, strong)
3. irradiation of pain (in the right thigh, in the lumbar region, in the external genitalia, right shoulder, etc.)
4. nature of pain (constant, cramping, shingles - a symptom of Blyce), connection with the act of defecation, movement, cough
5. whether there have been similar attacks of pain before

B) Consistently identified other complaints:

1. features of excretion of feces and gases, the nature of the stool - normal, diarrhea, delay
2. nausea, vomiting (single, repeated), or relief after vomiting
3. bloating
4. changes in body temperature (within which limits is increased)

5 changes from other organs and systems

History and disease:

A) Date and time of onset of the disease:

What is associated with the onset of the disease (on the background of good health or after eating and its nature - meat, vegetable, dietary error, alcohol abuse; physical overload, body position), the onset of acute or sudden

B) When and where he sought medical help:

1. who received treatment before admission to the clinic, its effectiveness
2. when delivered to hospital (date, time)

C) There may be other causes of the disease

D) Living and working conditions that could cause the disease

E) In women - obstetric and gynecological history:

1. number of pregnancies
2. number of births
3. date of the last menstrual period
4. Whether the last menstrual period was on time

2. **Physical examination:**

Review:

A) General overview:

1. degree of severity of the patient's condition
2. behavior of the patient: calm or restless
3. body temperature, pulse rate
4. the condition of the tongue (dry, wet)

5. the condition of the pharynx and tonsils
6. the condition of the lower extremities
B) Visual assessment:
Thorax
Abdomen:
1. Drawn, swollen
2. symmetric, asymmetric
3. The degree of participation of the anterior abdominal wall in the act of breathing (lag of some part of the abdomen in breathing, asymmetry of the umbilical cord, a symptom of Karavanov)
4. Discoloration of skin, sclera, and visible mucous (symptoms of Grunwald, Cullen, Lagerlof, Mondor, Turner, Halsted, jaundice, kallikrein color).
Palpation:
a) localization of pain and tension of abdominal wall muscles, presence of infiltrate, localization, mobility, its dimensions in centimeters (outline its contours), hyperesthesia of abdominal skin;
b) the presence of pathognomonic symptoms of acute pancreatitis (Körte's, Mayo-Robson, Chukhrienko's, soreness at Mayo-Robson point);
c) presence of peritoneal symptoms and their localization (protective muscle tension, symptoms of Schetkin-Blumberg, Mendel);
d) disease symptoms with oriental clinical picture (symptom generation in the lumbar area of Pasternatsky, Zakharyin, diaphragmatic nerve, symptoms of bowel obstruction, etc.);
e) in a vaginal and rectal examination, there is overhanging of the vault and pelvic reeds, soreness (Douglas' cry), overhanging of the anterior wall of the rectum.
Percussion:
A) Thorax
B) Abdomen:
The presence of symptoms of Razdolsky, Lépine's sign, changes in the percutaneous limits of the liver, gallbladder, the presence of hepatic dullness, dull sound on the flanks of the belly on the right and left, below the belly.
Auscultation:
A) Thorax
B) Abdomen:
Presence or absence of peristaltic sounds.
Based on the data obtained after interviewing the patient (complaints, anamnesis of disease and life) and his physical examination (visual examination, palpation, percussion, auscultation) the justification of the preliminary diagnosis is carried out.

3. **Diagnostic program with analysis of workup data:**
Laboratory examination in acute pancreatitis:
a) ***CBC*** (leukocytosis with leukocyte formula shift to the left, lymphopenia, eosinopenia)
b) ***blood chemistry*** (bilirubin increase, activation of hepatic enzymes ALT, ACT, LF, calcium reduction), blood glucose (increase), serum amylase (increase)
c) ***urinalysis*** (presence of protein, red blood cells, casts), increased urine α-amylase
Adverse prognostic signs of a rapid decline of α-amylase and amylase levels down to zero, leukocytosis with left shift, lymphopenia, a decline of eosinophils, calcium, increased blood glucose.

Additional hardware and instrumental research methods:
a) ***sonography*** (to assess the state of the pancreas and parapancreatic fiber, the presence of fluid in the abdomen, the state of the gallbladder, and extrahepatic bile ducts)
b) ***computed tomography*** (to clarify the presence and prevalence of necrotic changes in the gland)
c) ***review radiography*** of abdominal organs to detect indirect signs of acute pancreatitis (bloating of the transverse colon) and effusion in

the pleural cavity on the left
d) ***diagnostic laparoscopy*** (which can be used to clarify the diagnosis, and if there is an effusion in the abdominal cavity, it turns into a therapeutic procedure, ending with drainage of the abdominal cavity)

4**. Differential diagnosis**:
Differential diagnosis of acute pancreatitis (carried out depending on the period of the pathological process - the period of shock, multiple organ failure, and purulent complications):
A) Period of hemodynamic disorders and pancreatogenic shock:
with acute surgical diseases of abdominal organs:
- acute cholecystitis
- ulcer duodenum complicated by perforation
- thrombosis of bridge vessels
- acute appendicitis
B) Multi-organ insufficiency period:
- peritonitis
C) Period of purulent complications:
- abdominal abscess
- sepsis

5. Clinical diagnosis:
The nosological unit and the form of the disease course are indicated, the existing complications are indicated on the basis of clinical and statistical classification (see "Unified clinical and statistical classifications of digestive diseases." Departmental instruction. Dziak G. V., Bereznitsky Y.S., Filipov Yu.A. Kyiv, Dnipro-VAL, 2004).

6. Organizational and therapeutic tactics:
It determines the need for hospitalization for an urgent or planned surgical intervention (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions of action.
In acute pancreatitis medical treatment is provided in the intensive care unit and acute surgery for the development of pancreonecrosis or other complications.

Test questions for self-assessment of preparation for the lesson:
1. Describe the importance of studying the course of diseases related to the acute inflammatory abdominal syndrome, in particular, acute pancreatitis.
2. What is defined during a patient's interview with a suspect of the acute inflammatory abdominal syndrome, in particular, acute pancreatitis?
3. Why is it important to identify all the complaints that a patient has with the acute inflammatory abdominal syndrome, in particular, acute pancreatitis?
4. Why is it important to know the date and time of onset of the disease in a patient with an acute inflammatory abdominal syndrome, in particular, acute pancreatitis?
5. Why is it important to know what previous treatment was given to a patient with an acute inflammatory abdominal syndrome, in particular, acute pancreatitis?
6. How can living and working conditions affect the occurrence and course of an acute inflammatory abdominal syndrome, in particular, acute pancreatitis?
7. Why is the following sequence important in the survey of a patient, in particular, with acute pancreatitis: a collection of complaints, medical history, and life?
8. What is found during the examination of the patient, in particular, acute pancreatitis, and his abdomen?
9. Why is it possible to have changes in the color of the skin, sclera, and mucous membranes in acute inflammatory abdominal syndrome, in particular, in acute pancreatitis?

10. What changes can be detected on palpation of the abdominal wall in acute inflammatory abdominal syndrome, in particular, acute pancreatitis?
11. What changes can be detected by finger examination of the neck and back in acute inflammatory abdominal syndrome, in particular, in acute pancreatitis?
12. Describe features of physical examination of a patient with suspected acute pancreatitis.
13. Describe features of physical examination of the skin of a patient with suspected acute pancreatitis.
14. Describe features of physical examination of a patient with suspected development of destructive forms of diseases related to the acute inflammatory abdominal syndrome, in particular, acute pancreatitis.
15. What is the basis for the preliminary diagnosis of diseases in acute inflammatory abdominal syndrome, in particular, acute pancreatitis?
16. On what principles the list of diseases for carrying out the differential diagnosis, in particular, at acute pancreatitis is formed?
17. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease but also its course and complications, in particular, in acute pancreatitis?
18. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis, in particular, acute pancreatitis?
19. What is important to determine in the formation of treatment tactics in patients with acute pancreatitis and in destructive forms of this disease and the development of complications?
20. What modern methods of surgical treatment of this disease do you know?

GUIDANCE PAPER

of

intermediate control of knowledge of

Acute inflammatory abdominal syndrome

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:
1. Independently, in terms of extracurricular training (at home, dormitory), to solve in writing the situational clinical problem of one of the diseases that are part of the syndrome studied.
2. When solving a situational clinical problem, based on the conditions, formulate in writing:
- preliminary diagnosis
- diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- differential diagnosis of two diseases, the most probable in this case
- clinical diagnosis
- treatment program
3. In the next practical lesson, the written work is submitted for verification to the teacher, who assesses the level of mastery of a professionally-oriented case.

Cases for "Acute abdominal inflammatory syndrome" (individual clinical cases):

Case №1

Patient V., 26 years old, went to the doctor with complaints of constant pain in the right iliac area, nausea, weakness. From anamnesis: pain appeared a day ago in the epigastric area for no apparent reason, after 4 hours it moved to the right iliac area, there was single vomiting. The stool is regular, the feces are formed.

On the examination: the general condition is satisfactory, body temperature is 37.6 ° C, the pulse is 94 bpm, the tongue is wet, the abdomen is somewhat distended, the anterior abdominal wall lags behind in breathing in the right half, palpation determines the muscle guarding of the anterior abdominal wall and expressive local soreness in the right iliac area. There are positive Rovsing's, Bartomye-Michelson's, Shchetkin-Blumberg's symptoms.

Case №2

Patient R, 43 years old, complains of severe acute pain in the right half of the abdomen, more in the right hypochondrium that irradiates in the area of the right supraclavicular region. He has also increased body temperature, dryness, and feels bitterness in the mouth. From anamnesis: he felt ill 10 hours ago, the appearance of pain was associated with the consumption of fatty and fried food.

On the examination: the general state is fair, the patient lies on his right side, pale, body temperature is 38.2 ° C, a pulse is 104 bpm The tongue is dry. The abdomen is moderately swollen, the upper half does not take part in breathing. Palpation determines the painfulness and guarding of the abdominal wall muscles in the right hypochondrium. There are positive Ortner', Kehr's, Mussey-Georgievsky's; Razdolsky's, and Shchetkin-Blumberg's symptoms in the right hypochondrium.

Case № 3

Patient P., 42 years old, complains of sharp belt-like pain in the epigastric area. In the background of constant pain, attacks of its intensification occur, which are accompanied by heartburn and vomiting, which does not bring relief. From anamnesis: she felt ill 5 hours ago, the appearance of the disease was associated with alcohol consumption, a significant amount of fatty and spicy meals.

On the examination: the general condition of a patient is fair. Pulse is 94 bpm, arterial blood pressure is 150/90 mm Hg. The tongue is wet, coated. The abdomen is swollen in the upper half, palpation determines moderate muscle tension and expressive soreness in the epigastric and left hypochondrium. Pulsation of the abdominal aorta is not determined, peritoneal symptoms are negative. There are positive Körte's, Chukhrienko's, and Mayo-Robson's symptoms. During abdominal auscultation, peristaltic sounds are attenuated.

Case № 4

Patient A., 57 years old, came to the hospital on the second day from the beginning of the disease with complaints of sharp, very strong belt-like pain in the upper half of the abdomen. Also, he feels an increase in abdominal volume, breathlessness, nausea, vomiting, constipation, and flatulence.

From anamnesis: the disease was associated with the consumption of spicy and fatty food, a significant amount of alcohol.

On the examination: the general condition of the patient is serious. The position in bed is passive. The pulse rate is 140 bpm, respiratory rate is 27 per 1 minute. Arterial blood pressure is 100/70 mm Hg. The abdomen is swollen in the upper half, the anterior abdominal wall above the navel does not take part in the act of breathing. During palpation, there is noticed moderate tension and expressive soreness in the epigastric area and left hypochondrium. There are positive symptoms Körte's, Chukhrienko's, Voskresensky's symptoms. Peritoneal irritation signs are negative. During abdominal auscultation, peristaltic sounds are attenuated.

Case № 5

Patient D., 36 years old, went to the doctor with complaints of constant pain in the right iliac area, nausea, weakness, and frequent painful urination. From anamnesis: pain appeared in the epigastric area 12 hours ago, in 2 hours it moved to the right iliac area, there was single vomiting. The stool is normal.
On the examination: the general condition of the patient is relatively good, body temperature is 37.6 ° C, the pulse is 104 bpm . The tongue is wet, the abdomen is somewhat swollen, the right half of the abdominal wall lags behind in the act of breathing. Palpation determines moderate muscle guarding in the anterior abdominal wall and expressive local soreness in the right iliac area. There are positive the Rovsing's, Bart's-Michelson's, Yaure-Rozanov's symptoms. Peritoneal symptoms are not defined. During auscultation, peristaltic sounds are attenuated.

Case № 6

The patient, B., 26 years old, went to the doctor with complaints of constant pain in the right iliac and suprapubic area, nausea, weakness. From anamnesis: pain appeared in the upper half of the abdomen a day ago, after 3-4 hours it moved to the right iliac region, gradually intensified, there was single vomiting. The stool was the day before, the feces were formed.
On the examination: the general condition of the patient is good, the body temperature is 37.3 ° C, the pulse is 94 bpm . The tongue is wet, coated. The abdomen is somewhat swollen in the lower half, the right half of the anterior abdominal wall lags behind in the act of breathing. During palpation, there is identified moderate muscle guarding of the anterior abdominal wall in the right iliac and suprapubic area with expressive local soreness. There are positive Rovsing's, Bart's-Michelson's, Razdolskys's symptoms. Peritoneal symptoms are not defined.

Case № 7

The patient, C.,56 years old, went to the doctor with complaints of constant pain in the right iliac area, nausea, and weakness. From anamnesis: pain appeared in the upper half of the abdomen 5 days ago, against the background of complete health, after 4 hours it moved to the right abdominal area, there was single vomiting. The patient did not seek medical help, used herbal medications. In 4 days, the patient's condition worsened: the body temperature increased up to 37.5 ° C, nausea and general weakness appeared, which caused the patient to see a doctor.
On the examination: the general state is fair, body temperature is 37.6 ° C, the pulse is 94 bpm The tongue is wet, coated. The abdomen is somewhat swollen in the lower half, the right half of the anterior abdominal wall lags behind in the act of breathing. During palpation, the abdomen is soft, painless throughout, except for the right iliac area, where moderately painful indistinct tumor-like formation, measuring 6x8 cm is located. There are positive Rovsing's, Obraztsov's symptoms. Peritoneal symptoms are not defined.

Case № 8

Patient S., 48, complains of severe pain in the right half of the abdomen, more in the right hypochondrium, with irradiation to the right supraclavicular region and under the right scapula; he feels increased body temperature, dryness, and bitterness in the mouth. From anamnesis: he felt ill two days ago, the appearance of pain was associated with the consumption of fatty and fried food. In the past, there was occasional pain in the right hypochondrium after dietary deviations.
On the examination: the general state is fair, the patient lies in the supine position, body temperature is 37.9 ° C, a pulse is 94 bpm. The tongue is wet, coated at the edges with a yellowish film. The abdomen is somewhat swollen, the upper half of the abdominal wall lags behind in the act of breathing. In palpation, moderate muscle tension and expressive soreness in the right hypochondrium are determined. There are positive Ortner's, Kehr's, Mussey-Georgievsky's symptoms. Peritoneal signs are negative.

Case № 9

Patient F., 68 years old, complains of constant pain in the right hypochondrium with radiation to the right supraclavicular region, dryness and bitterness in the mouth, and jaundice color of the skin. From anamnesis: he felt ill two days ago, the appearance of pain was associated with the consumption of fatty and fried food. The pain appeared acutely in the epigastric area, there was vomiting twice, then the pain decreased somewhat and localized in the right hypochondrium, at the end of the first day of the disease he noticthe ed yellowish color of skin color and sclera. In the past, there were periodic pains in the hypochondrium after dietary deviations.

On the examination: the general condition of a patient is fair, he lies on the back, body temperature is 38.2 ° C, the pulse is 94 bpm Skin and sclera are of yellowish color. The tongue is wet, coated with a greyish film. The abdomen is moderately swollen, the upper half lags behind in the act of breathing. In palpation, there is expressive soreness and moderate muscle guarding in the right hypochondrium. There are positive Ortner's, Kehr's, Mussey-Georgievsky's symptoms. Peritoneal signs are negative.

Case №10

Patient D., 72, complains of constant pain in the right half of the abdomen, dryness, and bitterness in the mouth, nausea, vomiting. From anamnesis: he felt ill acutely two days ago, the appearance of pain was associated with the consumption of fatty and fried food. pain appeared in the right hypochondrium, with irradiation in the right scapula, vomiting twice. He did not seek medical help, took antispasmodics on his own, but the condition worsened, the pain spread along the right abdomen, and body temperature increased. In the past, intermittent attacks of pain occurred in the right hypochondrium after dietary deviations.

On the examination: the general condition of the patient is serious, he lies on the right side, body temperature is 39.2 ° C, pulse 114 bpm Skin is pale. The tongue is dry, coated with grayish plaque. The abdomen is swollen, the anterior abdominal wall does not take part in the act of breathing. During palpation, there is sharp soreness and expressive muscle guarding of the right half of the abdomen. There are positive Ortner's, Mussey-Georgievsky's symptoms. Peritoneal symptoms (Shchetkin-Blumberg’s, Razdolsky’s) are positive in the right half of the abdomen.

Case №11

Patient Y, 47 years old, was taken to the hospital on the second day from the beginning of the disease with complaints of sharp belt-like pain in the upper half of the abdomen, swollen abdomen, breathlessness, nausea, vomiting, delay of stool and flatulence. From anamnesis: the disease was associated with the consumption of spicy and fatty foods, a significant amount of alcohol.

On the examination: the general condition of the patient is serious. Pulse rate is 140 bpm, breathing is 27 per minute. Arterial blood pressure is 90/50 mm Hg. The face is pale, cyanotic. The abdomen is swollen, the anterior abdominal wall does not take part in the act of breathing. During palpation there is tension and expressive soreness throughout the abdomen, in the epigastric area, and left hypochondrium, the infiltrate palpates without clear contours. There are positive Voskresensky's, Chukhrienko's, and peritoneal signs. Percussion: dullness in the sloping abdomen areas. During abdominal auscultation, peristaltic sounds are sharply attenuated.

Case №12

Patient S., 64, went to the doctor with complaints of constant pain in the right half of the abdomen, nausea, weakness. From anamnesis: pain appeared in the epigastric area 6 days ago, after 3-4 hours it

moved to the right iliac area, there was a single vomiting. She did not seek medical help, independently applied antispasmodics. After 4 days, the patient's state worsened somewhat: the body temperature increased to 37.8 ° C, nausea, weakness appeared, but the patient continued self-treatment. On the sixth day, the patient's condition deteriorated significantly: pain worsened and spreaded to the entire right half of the abdomen, body temperature rose to 38.5 ° C, there was a delay in stool and gases.
On the examination: the general condition of the patient is severe, body temperature is 38.3 ° C, the pulse is 120 bpm Arterial blood pressure is 100/60 mm Hg. The tongue is dry, the abdomen is moderately swollen in the lower half, the right half of the anterior abdominal wall lags behind in the act of breathing. During palpating, the abdomen is tense, painful throughout, but most of all - in the right iliac area, where an infiltrate measuring 10x8 cm is indistinctly palpated, sharply painful, immobile. Peritoneal symptoms (Shchetkin-Blumberg's, Razdolsky's) are positive, more in the right half of the abdomen.

GUIDANCE PAPER

of a practical lesson

Topic № 7.
A syndrom of acute and chronic bleeding into the cavity of the gastrointestinal tract.

Acute and chronic bleeding into the cavity of the upper floor of the gastrointestinal tract: varicose veins of the esophagus and gaster; Mallory-Weiss syndrome; gastroesophageal reflux disease complicated by erosive bleeding; peptic ulcer of the stomach and duodenum; erosive (hemorrhagic) gastritis; neoplasms of the esophagus, gaster, duodenum»

Module 1. Emergency abdominal surgery and proctology.
Content module 2. Urgent abdominal surgery.
Topic № 7. Acute and chronic into the cavity of the upper floor of the gastrointestinal tract.

Definition: **Acute and chronic bleeding into the gastrointestinal tract** occurs due to damage to various parts of the gastrointestinal tract by a pathological process complicated by bleeding, manifested by the presence of altered or unchanged blood in the stool, clinical anemia, and hypovolemic shock.

If acute into the gastrointestinal tract is suspected, the patient should be provided with primary care and urgently hospitalized in a specialized center for the treatment of gastrointestinal or in a surgical hospital or a multidisciplinary hospital.

If you suspect the presence of chronic into the cavity of the gastrointestinal tract, a consultation with a surgeon is indicated, and if it is confirmed - hospitalization in a surgical department or other specialized departments (proctology, oncology).

The causes of acute and chronic bleeding gastrointestinal can be more than 100 different diseases. The most common causes of acute and chronic bleeding into the upper cavity of the gastrointestinal tract are **varicose veins of the esophagus and gaster; Mallory-Weiss syndrome; gastroesophageal reflux disease complicated by erosive bleeding; peptic ulcer of the stomach and duodenum; hemorrhagic gastritis; neoplasms of the esophagus, gaster, duodenum**

Acute and chronic bleeding into the cavity of the upper gastrointestinal tract.

The rate of ulcerative hemorrhage is about 50%, in tumors of different localization is about 15%, in hemorrhagic gastritis about 10%, in varicose veins of the esophagus about 5%, in other diseases up to 20%.

1. **in the case of varicose veins of the esophagus and gaster** is a complication of the disease, which develops with rupture of varicose veins of the esophagus, due to the difference between intravascular and intraocular pressure in patients with portal hypertension and the development of portosystemic collaterals.
2. **Mallory-Weiss syndrome** is longitudinal cracks or ruptures of the mucous membrane of the esophagus and stomach which occurs due to repeated vomiting on the background of increased intra-abdominal pressure.
3. in the peptic ulcer of the stomach and duodenum is a complication of peptic ulcer disease caused by ulcerative defects of blood vessels located in the stomach wall or duodenum.
4. **in the case of erosive (hemorrhagic) gastritis** occurs due to circulatory disorders in the gastric mucosa with the development of erosions or diapedesis bleeding, as well as after taking ulcerogenic drugs (nonsteroidal anti-inflammatory drugs, glucocorticosteroids, anticoagulants, etc.).
5. **in gastroesophageal reflux disease** is one of the complications of erosions or ulcers of the esophagus, resulting from the repeated prolonged effect of gastric juice, bile, and pancreatic juice to the mucous membrane of the esophagus with reflux of gastric contents into the esophagus.
6. **in the case of neoplasms of the esophagus, gaster, duodenum** is a complication that occurs because of damage to the vessels of the stomach by a malignant tumor process and the disintegration of the tumor with a defect in the vessels located in the stomach wall.

The final goals of practical training:

1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAM:

A) Mastering the rules of first aid at the pre-hospital stage

B) Urgency of hospitalization
C) Urgency of the operation
D) Preoperative preparation
E) Postoperative treatment

The purpose of the practical lesson: To achieve the required level of theoretical knowledge and practical skills within the professionally-oriented cases of a general practitioner on the topic of Acute and chronic bleeding into the cavity of the upper floor of the gastrointestinal tract: varicose veins of the esophagus and gaster; Mallory-Weiss syndrome; gastroesophageal reflux disease complicated by bleeding; peptic ulcer of the stomach and duodenum; erosive (hemorrhagic) gastritis; neoplasms of the esophagus, gaster, duodenum which refers to the syndrome of acute and chronic into the gastrointestinal tract.

Forms of control of knowledge and skills in practical classes:
1. Test control of knowledge (computer control of knowledge on 30 test cases)
2. Theoretical survey of each student after curation of the thematic patient with an assessment on questions:
- substantiation of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program
3. Evaluation of each student's performance of practical skills:
- Interpretation of endoscopic signs of activity by Forest
- Determining the degree of severity of blood loss.

The informational part of methodical development

The minimum basic level of knowledge required to master the topic:
1. Anatomy, topographic anatomy, and operative surgery are topographic and anatomical characteristics of the esophagus, stomach, duodenum, small and large intestines.
2. Physiology is the physiological functions of blood cells and hematopoietic organs.
3. Pathological physiology is a change in the body with blood loss.
4. Pathological anatomy is a change in organs and systems during blood loss.
5. Microbiology, virology, and immunology are the immunological basis of transfusiology.
6. General surgery, propaedeutics of internal diseases are methods of questioning and physical examination of the patient, transfusiology: determination of blood group, compatibility tests, first aid.
7. Anesthesiology and intensive care are compensation for BCC losses.

The specific purpose of independent preparation for practical training:

Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine the clinical course of the disease (patient survey and physical examination)
2. Substantiation and formation of a preliminary diagnosis of the disease
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the list of diseases with which it is necessary to make the differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of the clinical and statistical classification of diseases
6. Formation of the treatment program.

The program of independent preparation for a practical lesson:

1. The urgency of the problem of acute and chronic into the cavity of the upper floor of the gastrointestinal tract
2. Identification of diseases that can lead to acute and chronic bleeding into the upper cavity of the gastrointestinal tract
3. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of acute or chronic into the cavity of the upper floor of the gastrointestinal tract
4. Principles of diagnosis and the amount of data required for the formation of a preliminary diagnosis
5. Principles of drawing up a diagnostic program to clarify the previous diagnosis and further treatment
6. The list of diseases for differential diagnosis, a compilation of differential diagnostic tables with comparative analysis
7. Clinical and statistical classifications of diseases included in the syndrome of acute and chronic bleeding into the cavity of the upper floor of the gastrointestinal tract and the formation of clinical diagnosis
8. Substantiation of the organizational and medical program.

Practical skills that are assigned to the practical lesson:

1. Interpretation of endoscopic signs of activity by Forest
2. Determining the degree of severity of blood loss

1. Forest activity (endoscopic view):

Forest 1a (Active spurter)
Forest 1b (Active oozing)
Forest 2a (Non-bleeding visible thrombosed vessel)
Forest 2b (Adherent blood clot)
Forest 2c (Flat pigmented haematin on ulcer base (small thrombosed vessels)
Forest 3 (Clean-based ulcer)

Instructions for performing the test
The presented figures need to determine the activity of acute gastrointestinal according to the Forrest classification.

2. The degrees severity of blood loss:
Mild
(blood loss 10-20%, pulse up to 90 beats / min., blood pressure> 120 mm Hg, shock index PS/AT ***- 0.54-0.78; Ep. - 5-3.5 x 10 12/ l; Hb - 150-120 g / l; Ht -44-38%; diuresis - 50-60 ml / h)***

Moderate
(blood loss 21-30%, pulse 90 beats / min., blood pressure - 120 -80 mm Hg,
shock index PS/AT ***- 0.78-1.38; Ep. - 3.5-3.0 x 1012 / l;***
Hb - 120-100 g / l; Ht -38-32%; diuresis - 40-50 ml / hour)

Severe
(blood loss 31-40%, pulse-110-120 beats / min., blood pressure - 80-70 mm Hg,
shock index PS/AT ***- 1.38-1.5; Ep. - 2.5-2 x 10 12 / l; Hb - 100-80 g / l; Ht -32-22%; diuresis - 30 - 40 ml / hour)***

Most severe
(blood loss 41-70%, pulse> 120 beats / min., blood pressure <70 mm Hg,
shock index PS/AT ***-> 1.5; Ep. - <2 x 10 12 / l; Hb <80g / l; Ht <22%; diuresis <30 ml / hour)***

Instructions for performing the test

4 cases with clinical and laboratory data are given, it is necessary to determine the appropriate severity of blood loss.

Features of examination of patients with *acute and chronic into the cavity of the upper floor of the gastrointestinal tract:*

1. Interview:

Complaint: general weakness, dizziness, palpitations, nausea, vomiting, "melena".

Consistently other complaints are identified:

1. nausea, vomiting (the nature of the vomit and their color - blood pink, dark, blood clots)
2. features of fecal discharge (consistency, color, discharge of pink or dark blood, ground)

History of disease and life:

Date and time of onset (in hours) of the disease

The sequence of other symptoms:

a) nausea, vomiting (single, repeated, with traces of blood), or relief after vomiting;
b) the nature of the stool (normal, diarrhea, melena, stool retention, the presence of blood);
c) disappearance of pain in case of (peptic ulcer disease).

In how many hours and where he/she went for medical help when he/she was taken to hospital (specify hours).

Treatment before admission to the clinic

Possible causes of the disease that can be related to seasonal exacerbation of peptic ulcer disease

The presence of ulcer anamnesis, chronic liver and blood diseases.

2. Objective research

General data:

a) the severity of the patient's condition,
b) body temperature, acceleration of pulse rate, decrease in blood pressure, state of emergency, BH
c) the condition of the tongue (dry, wet),
d) the condition of the pharynx and tonsils
e) skin color (pale, the presence of a venous network on the anterior abdominal wall)

Examination of the abdominal cavity:

abdominal examination:

a. retracted, swollen, enlarged in ascites.
b. degree of participation in the act of breathing (lag of the right or left half of the abdomen, asymmetry of the abdomen),

palpation of the abdomen:

a) the localization of pain and tension of the abdominal wall muscles, the presence of neoplasms, localization, mobility, its size in centimeters (outline its contours), hyperesthesia of the abdominal skin are determined
b) the presence of ulcerative symptoms
c) the presence of peritoneal symptoms and their localization, protective muscle tension, symptoms of Schotkin-Blumberg, Mendel)
d) the symptoms of diseases with an eastern clinical picture are checked

abdominal percussion:

and blunting on the flanks,
b. increase in hepatic dullness,
in. pronounced tympanitis

abdominal auscultation: - the presence and intensification of peristaltic sounds is defined.

rectal examination:

- it is determined by blood, mucus on the glove,

Based on the data obtained after interviewing the patient (complaints, medical history, and life) and his/her physical examination (examination, palpation, percussion, auscultation) is the justification of the previous diagnosis.

3. Diagnostic program with data analysis of additional studies

1. Laboratory blood tests (by ambulance - counting the number of erythrocytes and hemoglobin in the blood, hematocrit, CBV (circulating blood volume) deficiency), analysis of feces for occult blood
2. Electrocardiography
3. Esophagogastroduodenoscopy to determine the source of bleeding, activity, endoscopic hemostasis (physical, chemical, mechanical, or combined endo hemostasis)
4. Determination of volume and degree of blood loss: Proper BCC: women are of 60 ml/kg, men are of 70 ml/kg Volume of blood loss is BCC proper x (Ht proper - Ht actual) / Ht proper, Ht proper for men 45%, for women 42%.
5. Selective arteriography
6. Ultrasound of the abdominal cavity.

4. Differential diagnosis

in peptic ulcer of the stomach and duodenum, in neoplasms of the esophagus, gaster, duodenum, in varicose veins of the esophagus, in erosive (hemorrhagic) gastritis, in Mallory-Weiss syndrome, in gastroesophageal reflux disease with lower reflux disease floor of the gastrointestinal tract in bowel cancer and hemorrhoids complicated by bleeding, as well as with pulmonary hemorrhage and into the pleural and abdominal cavities.

5. Clinical diagnosis

The nosological unit and the form of the disease course are indicated, there are complications on the basis of clinical and statistical classification (see "Unified clinical and statistical classification of diseases of the digestive system". Departmental instruction. Dzyak GV, Bereznitsky, J.S. Filipov Y.O/ co-authored with. - Kyiv, Dnipro - VAL, 2004.)

6. Organizational and medical tactics

Urgent hospitalization for conservative (minimally invasive) treatment or urgent surgery is defined (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action).

The possibility of using a special diet, local hypothermia, antisecretory therapy (proton pump inhibitors, H2-bloc Kehr's), hemostatic therapy (tranexamic acid, terlipressin, ethamsylate), infusion-hemotransfusion therapy is defined.

Test questions for self-assessment of preparation for the lesson:

1. The importance of studying the course of diseases leading to the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract
2. What is defined during a patient's interview with a suspect of the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
3. Why is it important to identify all the complaints that a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
4. Why is it important to know the time and date of onset of the disease in a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
5. Why is it important to know what previous treatment was given to a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
6. How can living and working conditions affect the occurrence and course of the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?

7. Why is the following sequence important in the patient's survey: collecting complaints, medical history, and life?
8. What changes can be detected during the examination of a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
9. What changes can be detected during a physical examination of a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
10. What changes can be detected by digital examination of the rectum in a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
11. What is the basis for the preliminary diagnosis based on?
12. What diagnostic program should be prescribed to a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
13. On what principles is the list of diseases for carrying out formed?
14. Features of differential diagnosis of acute and chronic from the upper and the lower parts of the digestive tract?
15. Why in the clinical diagnosis it is important to reflect not only the nosological form disease but also its course and complications?
16. Why is it important to form a clinical diagnosis to use clinical statistical classification of diseases?
17. What are the indications for transfusion of blood and its components?
18. What are the indications for the choice of surgical treatment in a patient with acute and chronic into the cavity of the upper floor of the gastrointestinal tract?
19. What are the principles of providing prehospital care in a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?
20. Basic principles of conservative treatment of a patient with the syndrome of acute and chronic bleeding into the cavity of the upper cavity of the gastrointestinal tract?

GUIDANCE PAPER

of
practical training

Topic № 8.
«Syndrome of into the cavity of the gastrointestinal tract.
Acute and chronic into the cavity of the lower floor of the gastrointestinal tract: neoplasms of the small and large bowel complicated by bleeding; diverticular disease complicated by hemorrhoids complicated by bleeding»

Module 1. Emergency abdominal surgery and proctology.
Content module 2. Urgent abdominal surgery.
Topic № 8. Acute and chronic bleeding into the cavity of the lower floor of the gastrointestinal tract.
Definition: **Acute and chronic bleeding into the gastrointestinal tract** occurs due to damage to various parts of the gastrointestinal tract by a pathological process complicated by bleeding, manifested by the presence of altered or unchanged blood in the stool, clinical anemia and hypovolemic shock.

If an acute bleeding into the gastrointestinal tract is suspected, the patient should be provided with primary care and urgently hospitalized in a specialized center for the treatment of gastrointestinal or in a surgical hospital of a multidisciplinary hospital.

If you suspect the presence of chronic bleeding into the cavity of the gastrointestinal tract, a consultation with a surgeon is indicated, and if it is confirmed - hospitalization in a surgical department or other specialized department (proctology, oncology).

The causes of acute and chronic gastrointestinal can be more than 100 different diseases. The most common causes of acute and chronic bleeding into the lower gastrointestinal cavity are neoplasms of the small and large bowel, diverticular disease complicated by bleeding; hemorrhoids complicated by bleeding.

Neoplasms of the small and large bowel, diverticular disease complicated by bleeding; hemorrhoids complicated by bleeding.

1. **in neoplasms of the small and large bowel** is a manifestation of the disease and occurs as a result of tumor lesions of large vessels or trauma or disintegration of the tumor.
2. **in hemorrhoids** is one of the main manifestations of the disease, and occurs due to trauma to the corpora cavernosa of the colorectum.
3. Diverticular disease - a chronic disease of the gastrointestinal tract, which is inflammatory and destructive, characterized by the appearance of diverticula (predominant localization of the left half of the colon) and can be complicated by bleeding.

The final goals of training in a practical lesson:

1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAM:

A) Mastering the rules of first aid at the prehospital stage
B) Urgency of hospitalization
C) Urgency of the operation
D) Preoperative preparation
E) Postoperative treatment

The purpose of the practical lesson: To achieve the required level of mastering theoretical knowledge and practical skills within the professionally oriented cases of a general practitioner on the topic of neoplasms of the small and large bowel complicated by bleeding; hemorrhoids complicated by bleeding, which refers to the syndrome of acute and chronic into the cavity of the gastrointestinal tract.

Forms of control of knowledge and skills in practical classes:

1. Test control of knowledge (computer control of knowledge on 30 test cases)
2. Curation of a thematic patient with a theoretical survey of each student with an assessment on the following issues:

- substantiation of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program

3. Evaluation of each student's performance of practical skills:

- determination of blood group
- determination of group and individual blood compatibility

Information part of methodical development

The minimum basic level of knowledge required to master the topic:
1. **Anatomy, topographic anatomy and operative surgery** are topographic and anatomical characteristics of the colon.
2. **Physiology** is physiological functions of blood cells and hematopoietic organs.
3. **Pathological physiology** is changes in the body with blood loss.
4. **Pathological anatomy** is changes in organs and systems during blood loss
5. **Microbiology, virology and immunology** are immunological bases of transfusiology
6. **General surgery, propaedeutics of internal diseases** are methods of questioning and physical examination of the patient, determination of blood group, compatibility tests, first aid.
7. **Anesthesiology and intensive care** is compensation for CBV (circulating blood volume) losses.

The specific purpose of independent preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine the clinical course of the disease (patient survey and physical examination)
2. Substantiation and formation of the preliminary diagnosis of the disease
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the list of diseases with which it is necessary to carry out the differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of the medical program.

The program of independent preparation for a practical lesson:
1. The urgency of the problem of acute and chronic into the cavity of the lower floor of the gastrointestinal tract
2. Determination of diseases that can lead to into the cavity of the lower floor of the gastrointestinal tract
3. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of acute or chronic into the cavity of the lower floor of the gastrointestinal tract
4. Principles of diagnosis and the amount of data required for the formation of a preliminary diagnosis
5. Principles of drawing up the diagnostic program for specification of the previous diagnosis and the subsequent treatment
6. List of diseases for differential diagnosis, compilation
differential diagnostic tables with comparative analysis
7. Clinical and statistical classifications of diseases included in the syndrome of acute and chronic into the cavity of the lower floor of the gastrointestinal tract
8. Substantiation of the organizational and medical program.

Practical skills that are attached to the learning element

1. Determination of blood group

2. Determination of group and individual blood compatibility

Determination of blood group by the AB0 system using monoclonal antibodies:

Method

Determination of blood group (erythrocytes) by the AB0 system with monoclonal antibodies, or coliclons, anti-A and anti-B is carried out using conventional iso serological methods for detecting

erythrocyte antigens on tablets or on a white porcelain plate with a wetted surface in a room with good lighting at a temperature of 15-25ºC;

1. At each determination of blood group use two series of reagents

anti-A and anti-B. Monoclonal antibodies anti-A and anti-B are applied to the tablet or plate in one large drop (0.1 ml) under the appropriate labels: "anti-A" or "anti-B". Along with the drops of antibodies apply the test blood in one small drop (0.01 ml). Then mixe it with a glass rod, which is washed and wiped dry after mixing each drop.

2. After mixing the reagents and blood, observe the agglutination reaction for 2.5 minutes

3. Evaluation of the results of the agglutination reaction with monoclonal antibodies anti-A and anti-B:

Determination of blood groups

Anti-A	Anti-B	Blood group
-	-	**O(I)**
+	-	**A(II)**
-	+	**B(III)**
+	+	**AB(IV)**

Note: + agglutination; - absence agglutination

Instructions for performing the test

The control of practical skill is built on the principle of a step-by-step MCQ test. One of the test contains pictures of AB0 system test it is necessary to define the corresponding blood group of the patient from the proposed variants.

2. Compatibility tests

Test for individual compatibility of blood group (erythrocytes) according to the AB0 system (group compatibility test at room (ambient) temperature)

Method

1. All tests are performed with the patient's serum, which is obtained by centrifugation or sludge. The serum is suitable for testing if it is stored in the refrigerator for 2 days.

2. On a white plate or Petri dish apply 2 - 3 drops of serum of the patient, to which add 5 times less drop of erythrocyte concentrate (blood) of the donor.

3. The blood is mixed with the patient's serum, then the plate is periodically jiggle for 5 minutes. and simultaneously observe the result of the reaction.

4. The absence of agglutination of erythrocytes of the donor indicates the compatibility of the blood group of the donor and the recipient according to the AB0 system. The presence of agglutination indicates their incompatibility and the impossibility of transfusion of erythrocyte concentrate (blood).

Test for compatibility of blood (erythrocytes) by Rh factor Rh0 (D)

(thermal test for rhesus compatibility)

Method

1. Compatibility test using 10.0% gelatin solution is performed in test tubes at a temperature of from 46º C to 48º C for 10 minutes.

2. At the bottom of the correspondingly marked test tube make 1 drop of erythrocytes of the donor, then add 2 drops of heated (before dilution) 10.0% gelatin solution and 2 - 3 drops of serum of the patient.

3. The contents of the test tube are mixed by shaking and placed on a water bath (or thermostat) at a temperature of 46º C to 48º C for 10 min. Then the tube is removed from the water bath, add to it 5.0 - 8.0 ml of isotonic sodium chloride solution, mix the contents by 1 - 2 inversion of the tube and examine in the light with the naked eye or through a magnifying glass.

4. Evaluation of results: the presence of agglutination in the form of a suspension of small, rarely large, glomeruli on the background of clarified or completely transparent fluid means that the erythrocytes (blood) of the donor are incompatible with the patient's blood and can not be transfused to the patient. If the contents of the tube remain uniformly stained, slightly opalescent, and no agglutination is observed, the donor's erythrocytes (blood) are compatible with the patient's Rh0 (D) Rh factor blood.

Clinical and biological test for compatibility

Method

1. The first 45 ml of blood is infused in three doses of 10-15 ml at intervals of 3 minutes (during the interval the system is blocked)

2. If after transfusion of 45 ml of blood there are no signs of incompatibility (anxiety, difficulty breathing, low back pain, redness or pallor, rapid heartbeat, decreased blood pressure), the blood transfusion is performed.

3. In case of transfusion of erythrocyte concentrate (blood) under anesthesia, an unmotivated acceleration of the pulse and decrease in blood pressure may indicate the occurrence of a reaction or complication. In this case, further transfusion should be stopped immediately.

Instructions for performing the test
The control of practical skill is built on the principle of test, where one needs to fulfil the missed places in the text with the variants from the dropping menu.

Features of examination of patients with *acute and chronic into the cavity of the lower floor of the gastrointestinal tract:*

Interview:
Complaints of: general weakness, dizziness, palpitations, changes in the type of stool and feces, weight loss, bloating..
1. features of fecal discharge (consistency, color, discharge of pink or dark blood, ground)
3. bloating of stomach
4. changes from other organs and systems
5. changes in body temperature

History of disease and life:
Date and time of onset (in hours) of the disease
The sequence of other symptoms:
a) the nature of the stool (normal, diarrhea, stool retention, the presence of blood);
b) body temperature (normal, elevated, within what limits).
In how many hours and where did he/she go for medical help when he/she was taken to hospital (specify hours).
Treatment before admission to the clinic
Possible causes of the disease are related to eating and eating
character (meat, vegetable, dietary error), medicines.

2. **Objective research**
General data:
a) the severity of the patient's condition,

b) body temperature, acceleration of pulse rate, decrease in blood pressure, state of emergency, rate of breathing
c) the condition of the tongue (dry, wet),
d) the condition of the pharynx and tonsils
e) skin color (pale, the presence of a venous network on the anterior abdominal wall)

Examination of the abdominal cavity:
abdominal examination:
1. retracted, swollen, enlarged in ascites.
2. the degree of participation in the act of breathing (lag of the right or left half of the abdomen, asymmetry of the abdomen),
palpation of the abdomen:
a) the localization of pain and tension of the abdominal wall muscles, the presence of neoplasms, localization, mobility, its size in centimeters (outline it contours), hyperesthesia of the abdominal skin,
b) the presence of ulcerative symptoms,
c) the presence of peritoneal symptoms and their localization, protective muscle tension, symptoms of Shchotkin-Blumberg, Mendel).
d) the symptoms of diseases with an eastern clinical picture are checked

abdominal percussion:
and blunting on the flanks,
b. increase in hepatic dullness,
in. pronounced tympanitis
abdominal auscultation: - it is determined by the presence and intensification of peristaltic sounds.
rectal examination:
- it is determined by the overhang of the vaginal vault, the presence of infiltrates, tumors, blood, mucus on the glove, the presence of hemorrhoid nodes.
Based on the data obtained after interviewing the patient (complaints, medical history and life) and his physical examination (examination, palpation, percussion, auscultation) is the justification of the previous diagnosis.
3. Diagnostic program with data analysis of additional studies
1. Laboratory blood tests (by ambulance - counting the number of erythrocytes and hemoglobin in the blood, hematocrit, CBV (circulating blood volume) deficiency), analysis of feces for occult blood (as screening for early stages of tumors of the small and large bowel and referral for endoscopic examination).
2. Rectoromanoscopy
3. Fibrocolonoscopy
4. Ultrasound of the abdominal cavity.

4. Differential diagnosis
in neoplasms of the small and large bowel and in hemorrhoids require differential diagnosis, as well as in anal polyp, diverticular disease, anal fissure and from the upper gastrointestinal tract (in peptic ulcer disease, gastric ulcer and gastric ulcer, gastric cancer, with varicose veins of the esophagus, with Mallory-Weiss syndrome, erosive (hemorrhagic) gastritis, with gastroesophageal reflux disease), with into the abdominal cavity.

5. Clinical diagnosis
The nosological unit and the form of the disease course are indicated, there are complications on the basis of clinical and statistical classification (see "Unified clinical and statistical classifications of digestive diseases". Departmental instructions. Dzyak GV, Bereznytsky Ya.S., Filipov Y.O. co-authored with - Kyiv, Dnipro - VAL, 2004.)
6. Organizational and medical tactics
Carrying out urgent hospitalization or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions is determined.
The possibility of using a special diet, local hypothermia, antisecretory therapy (proton pump inhibitors, H2-blocKehr s), hemostatic therapy (tranexamic acid, terlipressin, ethamsylate), infusion-hemotransfusion therapy, prescription of drugs (ointment Bezornil, Posterisan-forte, Aurobin, capsules Detralex, Cyclo 3 fort, Phlebodia, Venolan).

Test questions for self-assessment of preparation for the lesson:
1. The importance of studying the course of diseases that lead to the syndrome of acute and chronic into the cavity of the lower floor of the gastrointestinal tract?
2. What is defined during a patient's interview with a suspect of acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?
3. Why is it important to identify all the complaints that a patient with acute and chronic syndrome has in the cavity of the lower floor of the gastrointestinal tract?
4. Why is it important to know the time and date of onset of the disease in a patient with acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?

5. Why is it important to know what previous treatment was given to a patient with acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?
6. How can living and working conditions affect the occurrence and course of acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?
7. Why is the following sequence important in the patient's survey: collecting complaints, medical history and history of life?
8. What changes can be detected when examining a patient with acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?
9. What changes can be detected during a physical examination of a patient with acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?
10. What changes can be detected by digital examination of the rectum in a patient with acute and chronic into the cavity of the lower floor of the gastrointestinal tract?
11. What is the basis for the preliminary diagnosis based on?
12. What diagnostic program should be prescribed to a patient with acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?
13. On what principles the list of diseases for carrying out the differential diagnosis is formed?
14. Features of differential diagnosis of acute and chronic from the upper and lower parts of the digestive tract?
15. Why is it important in the clinical diagnosis to reflect not only the nosological form of the disease, but also its course and complications?
16. Why it is important for the formation of a clinical diagnosis
to use clinical and statistical classification of diseases?
17. What are the indications for transfusion of blood and its components?
18. What are the indications for the choice of surgical treatment in a patient with acute and chronic syndrome in the cavity of the lower floor of the gastrointestinal tract?
19. What are the principles of providing prehospital care in a patient with acute into the lower cavity of the gastrointestinal tract?
20. Basic principles of conservative treatment of a patient with the syndrome of acute and chronic into the cavity of the lower floor of the gastrointestinal tract?

GUIDANCE PAPER

of

intermediate control of knowledge of

Syndrome of acute and chronic into the cavity of the gastrointestinal tract

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:
1. Independently, in terms of extracurricular training (at home, dormitory), to solve in writing the situational clinical problem of one of the diseases that are part of the syndrome studied.
2. When solving a situational clinical problem, based on the conditions, formulate in writing:
- preliminary diagnosis
- diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- differential diagnosis of two diseases, the most probable in this case
- clinical diagnosis
- treatment program
3. In the next practical lesson, the written work is submitted for verification to the teacher, who assesses the level of mastery of a professionally oriented case.

Cases for topic of Syndrome of acute and chronic bleeding into the cavity of the gastrointestinal tract (individual clinical cases):

CASE 1

Patient A., 36 years old, went to the doctor with complaints of general weakness, dizziness, and repeated vomiting with dark contents. She got ill 3 hours ago, when there was a general weakness, palpitations, vomiting with "coffee grounds". During the last 6 months, the patient noted intermittent pain in the epigastric region, heartburn. About 5 hours ago the pain disappeared.
On the examination: general condition is fair, dry tongue. Pulse is 100 bpm , blood pressure is 100/70 mm Hg. The abdomen is somewhat bloated. At a palpation in an epigastric area moderate pain is noted. At a deep palpation pain in an epigastric area to the right of the midline is defined. At percussion it is tympanitis. During auscultation there are noted active sounds of peristalsis. At digital rectal examination it is liquid feces of black color on a glove.

CASE 2

Patient B., 66 years old, went to the doctor with complaints of general weakness, dizziness, and repeated vomiting with dark contents. He got ill 3 hours ago, when there was a general weakness, palpitations, vomiting "coffee grounds". During the last year, the patient noted moderate pain in the epigastric region, noted a decrease in body weight by 20 kg for 2 months, intolerance to meat dishes, intermittent vomiting with food eaten.
On the examination: general condition is fair, dry tongue. Pulse is 100 bpm, blood pressure is 100/70 mm Hg. The abdomen is somewhat bloated. On palpation in the epigastric region there is moderate pain, Indistinctly defined tumor-like formation without clear contours, moderately painful, slightly movable. At percussion it is tympanitis in the lower parts, in the epigastric region it is dullness. Auscultatory-active noises of peristalsis. At digital rectal examination there are formed the feces of black color on a glove.

CASE 3

Patient V., 26 years old, complains of general weakness, dizziness, repeated vomiting with red blood clots. She got ill 3 hours ago, when there was repeated vomiting with gastric contents, and then there was vomiting with red blood clots, increased weakness, and palpitations. He called an ambulance. The patient is 12 weeks pregnant, toxicosis of the 1st half of pregnancy.
On the examination: general condition is fair, dry tongue. Pulse is 108 bpm, Blood pressure is 100/70 mm Hg. The abdomen is symmetrical, the anterior abdominal wall is involved in the act of breathing. During palpation, the abdomen is painless, on percussion - tympanitis. During auscultation there are

active sounds of peristalsis. At digital rectal examination there is the feces of usual color is formed on a glove.

CASE 4

Patient G., 56 years old, complains of general weakness, dizziness, repeated vomiting with "coffee grounds" and blood clots. He fell ill 6 hours ago when she developed general weakness, palpitations, and vomiting with red blood clots. He suffers from chronic hepatitis for a long time. During the last month, the patient noted pain in the right hypochondrium.
On the examination: general condition is fair, dry tongue. Pulse is 110 per minute, blood pressure is 100/70 mm Hg. The abdomen is slightly enlarged, there is an increase in venous pattern on the anterior abdominal wall. On palpation there is an increase in the size of the liver and spleen, Percussion in the sloping parts of the abdomen there is dull sound. During auscultation there are active sounds of peristalsis. At digital rectal examination on a glove there are liquid feces of black color.

CASE 5

Patient D., 36 years old, complains of general weakness, dizziness, and repeated vomiting with "coffee grounds". From the anamnesis: for 10 years he has been suffering from peptic ulcer disease, it is not treated regularly, during the last month there was an exacerbation of the disease, and 3 hours ago the pain disappeared, there was general weakness, palpitations, vomiting with coffee grounds.
On the examination: general condition is fair, dry tongue. Pulse is 112 bpm, blood pressure is 90/70 mm Hg. The abdomen is slightly swollen, on palpation in the epigastric region there is moderate pain, which is exacerbated by deep palpation over the navel to the right of the midline. At percussion there is tympanitis. During auscultation there are active sounds of peristalsis. At digital rectal examination there are liquid feces of black color on a glove.

CASE 6

Patient J., 46 years old, went to the doctor with complaints of general weakness, vomiting with "coffee grounds". From the anamnesis: for several years he has been experiencing periodic pain in the epigastrium and sternum, heartburn, acid regurgitation. 3 hours ago there was a general weakness, palpitations, vomiting with the content of "coffee grounds".
On the examination: general condition is fair, dry tongue. Pulse is 98 bpm , Blood pressure is 100/60 mm Hg. The abdomen is symmetrical, the anterior abdominal wall is involved in respiration. During palpation, there is moderate pain in the epigastric region, most noticed under the xiphoid process. At percussion, it is tympanitis. During auscultation there are active sounds of peristalsis. At digital rectal examination there are feces of usual color on a glove.

CASE 7

Patient K., 36 years old, complains of general weakness, dizziness, repeated vomiting with red blood clots. From the anamnesis: the day before he drank alcohol, overeat, after which there was repeated vomiting with gastric contents, and then vomiting with red blood with clots, there was a general weakness, palpitations.
At objective examination: general condition is fair, dry tongue. Pulse is 98 bpm . Blood pressure is 90/60 mm Hg. Art. The abdomen is somewhat swollen, on palpation painless. At percussion it is tympanitis. During auscultation there are active sounds of peristalsis. At digital rectal examination there are feces of black color on a glove.

CASE 8

Patient P., 56 years old, went to the doctor with complaints of general weakness, dizziness, and repeated vomiting with dark contents. From the anamnesis: suffers from chronic alcoholism, during the last month the patient noted pain in the right hypochondrium. 3 hours ago there was a general weakness, palpitations, vomiting with red blood clots.
At objective examination: general condition is fair, dry tongue. Pulse is 100 bpm. Blood pressure is 100/70 mm Hg. At examination: strengthening of venous pattern on an anterior abdominal wall is noted. The abdomen is somewhat swollen. On palpation there is an increase in the size of the liver and spleen, during percussion, in the sloping parts of the abdomen dull sound. During auscultation there are active sounds of peristalsis. At digital rectal examination there are liquid feces of black color on a glove.

CASE 9

Patient R., 28 years old, went to the doctor with complaints of general weakness, discharge of crimson blood during defecation. From the anamnesis: suffers from chronic hemorrhoids after the first pregnancy and childbirth for 5 years; 10 days ago, the second pregnancy ended with the birth of a child weighing 4300 grams, after which each act of defecation ended with discharge of crimson blood in drops, and 6 hours ago there was a discharge of pink blood during defecation, general weakness, palpitations.
At objective examination: general condition is fair, dry tongue. Pulse is 96 bpm. Blood pressure is 100/70 mm Hg. The abdomen is not bloated, painless on palpation, tympanitic on percussion. On examination of the anal area there are enlarged and swollen external hemorrhoids, in some places with maceration. At digital rectal examination there is liquid crimson blood on a glove.

CASE 10

Patient F., 76 years old, went to the doctor with complaints of general weakness, repeated acts of defecation with dark liquid contents mixed with blood and mucus. From the anamnesis: during the last year the patient noted pain in the left iliac region during defecation, weight loss of 20 kg for 6 months, constipation, alternating with diarrhea; four days ago there was a general weakness, repeated acts of defecation with dark liquid contents mixed with blood and mucus.
At objective examination: general condition is fair, wet tongue. Pulse 86 bpm, Blood pressure is 120/70 mm Hg. The abdomen is somewhat bloated. On palpation: in the left iliac region there is moderate pain and palpable tumor-like formation, 5x6 cm, moderately painful. At percussion it is tympanitis. During auscultation there are active sounds of peristalsis. At digital rectal examination there are liquid feces of dark color with mixture of fresh blood and mucus on a glove.

CASE 11

Patient D., 42 years old, complains of general weakness, dizziness, repeated vomiting with "coffee grounds". From the anamnesis: for 10 years he has a peptic ulcer of the duodenum, it is not treated regularly, during the last month there was an exacerbation of the disease, and 5 hours ago the pain disappeared, there was general weakness, palpitations, short-term loss of consciousness, vomiting with "coffee grounds".
At objective examination: the general condition is severe, the tongue is dry. Pulse 122 bpm Blood pressure is 70/40 mm Hg. The abdomen is slightly swollen, on palpation in the epigastric region there is moderate pain, which is exacerbated by deep palpation over the navel to the right of the midline. At percussion there is tympanitis. During auscultation there are active sounds of peristalsis. At digital rectal examination there are liquid feces of black color on a glove.

CASE 12

Patient S., 48 years old, went to the doctor with complaints of general weakness, dizziness, and repeated vomiting with dark contents. From the anamnesis: suffers from chronic alcoholism, during the last

month the patient noted pain in the right hypochondrium, and 3 hours ago there was a general weakness, palpitations, vomiting with red blood with clots.
On the examination: the general condition is severe, the tongue is dry. Pulse is 118 bpm Blood pressure is 80/50 mm Hg. At examination: strengthening of venous pattern on an anterior abdominal wall is noted. The abdomen is somewhat bloated. At a palpation increase in the sizes of a liver and a spleen is noted; with percussion in the sloping parts of the abdomen there is dull sound. During auscultation there are active sounds of peristalsis. At digital rectal examination there are liquid feces of black coloron a glove.

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Topic № 9.
Syndrome of acute violation of the passage of intestinal contents:
General issues of development, diagnosis and treatment of acute mechanical intestinal obstruction

Module 1. Emergency abdominal surgery and proctology.
Content module 2. Urgent abdominal surgery.
Topic № 11. Acute mechanical bowel obstruction

Definition: The syndrome of acute passage disorder of intestinal contents is a syndrome that occurs in cases of various diseases of the gastrointestinal tract and is determined by impaired peristalsis and evacuation function with morphological changes in the affected part of the intestine and the general condition of the whole organism**.**

In case of acute passage disorder of intestinal contents syndrome the patient is given indication for urgent surgeon consultation for the decision of patinet's urgent hospitalization questions in surgical department for performing urgent operation. The reasons for the acute passage disorder of intestinal contents syndrome can be caused by complicated hernias, acute inflammatory diseases of the abdominal cavity, tumors, which can lead to the development of acute dynamic and mechanical intestinal obstruction.

General issues of development, diagnosis and treatment of acute mechanical intestinal obstruction.
According to the etiopathogenesis of acute intestinal obstruction is divided into:
1. Dynamic (functional) obstruction, which is divided into spastic and paralytic.
2. Mechanical obstruction. There are its forms:
- obturation (intraorgan, intramural, extra organ);
- strangulation (knot formation, torsion, hernia compression);
- mixed (intussusception, adhesive obstruction);

By origin, there are congenital and acquired obstructions.
By level of impassibility: high and low.
According to the clinical course: acute, chronic, complete and partial.

Determination of acute mechanical obstructive intestinal obstruction: Violation of the promotion of food masses and intestinal contents due to obstruction of the intestinal lumen or its compression from the outside without involvement in the pathological process of the mesenteric vessels.

Determination of acute mechanical strangulation intestinal obstruction: Disruption of the promotion of food masses and intestinal contents due to compression of the intestinal lumen and vascular-nervous bundle of the mesentery.

The greatest attention is drawn to high, acute, complete intestinal obstruction, because this type of obstruction can in a short time put the patient's life in mortal danger, especially if such obstruction is mechanical.

The pathogenesis of acute mechanical intestinal obstruction is based on the phenomena of shock. The first and most obvious consequence of mechanical obstruction is the fasting and accumulation of large amounts of fluid and electrolytes in the intestinal lumen above the level of obstruction with a simultaneous sharp suppression of reabsorption in this part of the intestine. This leads to overstretching of the intestinal wall and to increased secretion of fluid with a simultaneous deterioration of the blood supply to the mucous membrane. The intestinal tract above the level of obstruction loses the ability to absorb electrolytes and water. Because the intestinal lumen is not the body's internal environment, fluid cannot be used to maintain homeostasis and is lost. Stasis of intestinal contents promotes the development of microorganisms and accumulation of gases in the intestine. Swelling and distension of the stomach and intestines leads to irritation of the vomiting center, there are antiperistalsis and vomiting, during which the patient loses a lot of fluid containing large amounts of electrolytes and protein. The higher the obstruction, the greater the loss of fluid, and the fluid that accumulates in the lumen of the intestine has the same electrolyte composition as plasma. Therefore, in the initial period of the disease, dehydration occurs mainly due to losses from the extracellular space without significant changes in blood electrolytes. There is a decrease in CBV (circulating blood volume) and blood clotting. Gradually, general dehydration develops, first extracellular and then intracellular.

The volume of circulating blood decreases. Clinical manifestations of this are arterial hypotension and decreased CVP (central venous pressure). Due to the loss of the liquid part of the blood, the hematocrit increases, the rheological properties of the blood change, its viscosity increases, which leads to significant disorders of hemo microcirculation. The permeability of the vascular wall increases. Along with the liquid part of the blood, a large amount of sodium ions is lost - the main electrolyte of extracellular fluid, which stimulates the release of aldosterone, which retains sodium and chlorine in the body. However, potassium ions continue to be excreted in the urine. The result is a condition known in the literature as "Dorrow syndrome". Three potassium ions are released from the cell, replaced by two sodium ions and one hydrogen ion, and, as a result, acidosis develops in the intracellular space and alkalosis in the extracellular spaces.

Loss of water, protein and electrolytes leads to reduced glomerular filtration and reduced diuresis. Consecutively there are two forms of azotemia: productive and retention. That is, initially the level of residual nitrogen increases as a result of hyperproduction of nitrogenous compounds due to increased protein breakdown, and then - due to a decrease in diuresis.

If the obstruction lasts more than a day, the described disorders increase: the supply of glycogen in the liver and muscles is depleted, the breakdown of proteins and fats of the body's own tissues begins, accompanied by the accumulation of acidic products, resulting in extracellular alkalosis. The result of cell death and disintegration is the release of intracellular potassium, but because oliguria occurs, it is not excreted from the body. Thus, hypokalemia is replaced by hyperkalemia. The concentration of nitrogen and urea increases.

Prolonged increase in pressure in the lumen of the intestine causes severe disruption of blood supply and leads to hemo microcirculatory changes. There is edema, necrosis of the mucous membrane, perforation of the intestine with subsequent consequences.

In addition to increasing intra-intestinal pressure, the accumulation of fluid and gases in the intestine contributes to increased intra-abdominal pressure, which leads to high standing of the diaphragm and deterioration of respiratory function. High intra-abdominal pressure impairs blood circulation in the inferior vena cava, leading to a decrease in cardiac output.

These changes are joined by a significant toxic factor. Along with bacterial intoxication, the toxic effect of the products of autolysis of the intestinal mucosa plays an important role, aggressive vasoactive polypeptides and lysosomal enzymes are formed and enter the bloodstream.

The final goals of learning the educational unit:
1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. Treatment program:
A) Urgency of hospitalization
B) Urgency of the operation
C) Preoperative preparation
D) Anesthesia
E) Postoperative treatment
E) Rehabilitation of patients.

The purpose of the practical lesson: To establish the level of acquisition of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner on the topic - General doctrine of acute mechanical intestinal obstruction, which refers to the syndrome of acute intestinal passage.

Forms of control of knowledge and skills in practical classes:
1. Test control of knowledge (computer control of knowledge on 30 test cases)
2. Theoretical survey of each student with an assessment on the following issues:
- substantiation of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program
3. Evaluation of each student's performance of practical skills:
- analysis of review radiographs of the abdominal cavity in acute mechanical intestinal obstruction
- determination of pathognomonic symptoms of intestinal obstruction

Information part of methodical development

The minimum basic level of knowledge required to master the topic:
1**. Anatomy, topographic anatomy and operative surgery** are topographic and anatomical characteristics of the stomach, small and large intestine, their innervation and blood supply.
2. **Physiology** is secretory and motor function of the gastrointestinal tract
3. **Pathological physiology** is dysfunction of organs and systems, as well as the intestine in acute mechanical intestinal obstruction
4. **Pathological anatomy** is morphological changes in the organs of the gastrointestinal tract and other organs of the human body in acute mechanical intestinal obstruction
5. **Microbiology, virology and immunology** are the place of microbial and immune factors in the occurrence of inflammatory processes in the intestine and peritoneum in acute mechanical intestinal obstruction
6. **General surgery, propaedeutics of internal diseases** are methods of questioning and physical examination of the patient.
7. **Radiology** is description and analysis of radiological signs in acute mechanical intestinal obstruction
8. **Anesthesiology and intensive care** are the principles of management of a patient with acute mechanical intestinal obstruction and his preparation for surgery, methods of analgesia and restoration of body balance.

The specific purpose of independent preparation for practical training:

Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine the clinical course of obstruction (examination of the patient and physical examination, including the determination of pathognomonic symptoms)
2. Substantiation and formation of the preliminary diagnosis of the diseases which have led to development of impassibility
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the list of diseases for differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for acute mechanical intestinal obstruction.

The program of independent preparation for a practical lesson:
1. The urgency of the problem of acute mechanical intestinal obstruction
2. Determination of types of acute mechanical intestinal obstruction
3. Causes and mechanism of development of acute mechanical intestinal obstruction
4. Clinical manifestations (complaints, anamnesis, physical examination data) of a patient with acute mechanical intestinal obstruction
5. Principles of diagnosis and the amount of data required for the formation of the previous his/ her diagnosis
6. Principles of drawing up the diagnostic program for specification of the previous diagnosis and the subsequent treatment
7. List of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis
8. Establishment of the clinical diagnosis on the basis of clinical and statistical classification of pathology of organs of a gastrointestinal tract
9. Substantiation of the organizational and medical program at acute mechanical intestinal impassability.

Practical skills that are assigned to the education element:
1. Analysis of plain x-rays in case of acute mechanical intestinal obstruction
2. Determination of pathognomonic symptoms: Wahl's, Schlange's, Sklyarov's, Spasokukotsky's, Kywul's, Hochenegg's, Tilijak's, Rush's Cruveilhier's

1. **Analysis of plain x-rays in case of acute mechanical intestinal obstruction.**

Each student has to able to view the plain x-rays of the abdominal cavity and be able to determine there

- Kloiber's cups (horizontal liquid levels with the presence of gas above them) and distinguish them in the small and large intestine both by location and by the ratio of height and width (wide and low small bowel bowls are located in the middle of the abdominal cavity in contrast to the high and relatively narrow bowels of the colon, located in the lateral flanks of the abdominal cavity)

- to detect Kehr ckring's folds in the form of a lumbar stripe overstretched by the contents of the small intestine (the presence of "springs").

In addition, when performing a half-glass Schwartz test with dynamic monitoring of the movement of barium mixture in the intestine, the student must be able to determine the delay of the passage of the contrast agent in the place of obstruction.

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several review radiographs are proposed, on which the correct answer of the signs and symptoms shown on the screen should be

marked in the windows, i.e. the student has to arrange the characteristics corresponding to each radiograph. Then it is necessary to confirm the completion of the test and send the results.

2. Determination of pathognomonic symptoms: Wahl's, Schlange's, Sklyarov's, Spasokukotsky's, Kywul's, Hochenegg's, Tilijak's, Rush's Cruveilhier's

Wahl's Symptom is an abdomen asymmetry during the examination, palpation may reveal a tumor-like formation (swollen loop) and tympanitis during percussion over it.

Schlange's symptom can be observed during examination of the abdomen visible peristalsis of intestines

Sklyarov's symptom is a sound of splashing in the small or large bowel during the moving of the anterior abdominal wall by a doctor's hand.

Kywul's symptom is metallic sound over the inflated bowel loop during percussion with a pleximeter or finger.

Spasokukotsky's symptom is defining the noise of the "falling drop" on the background of weakened peristalsis during auscultation

Hochenegg's symptom is detected during finger examination of a rectum at low intestinal impassability balloon-like expansion of a rectum ampoule and a gaping of an anus opening owing to weakening of a tone of a rectum sphincter (a positive symptom).

Tilijak's symptom is a periodic appearance of cramping pain in the abdomen during intussusception.

Rush's symptom is the presence of an elastic painless tumor in the abdomen and tenesmus during palpation (intussusception).

Cruveilhier's symptom is a bloody discharge from the rectum during intussusception of the colon.

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several descriptions of symptoms of obstruction are proposed, which should be placed according to the name of symptoms in the windows on the screen, i.e. the student has to correctly arrange the characteristics corresponding to each symptom. Then it is necessary to confirm the completion of the test and send the results.

Features of examination of patients with acute intestinal obstruction:

1. Interview of the patient it is necessary to define:

A) Complaints of:

• Presence and nature of pain: The first and most common subjective symptom of intestinal obstruction is abdominal pain, which in the initial stages has a convulsive nature and at the beginning of the disease is determined in the part of the abdomen where the barrier has formed. In the future, the pain becomes constant, spreads throughout the abdomen, somewhat blunted. In the terminal stage of obstruction, the intensity of pain decreases significantly.

• Nausea and vomiting that are observed in 60% of cases. The higher the obstruction, the more pronounced the vomiting. The first vomit masses consist of the contents of the stomach with bile discharge, then they are joined by intestinal contents. In the late stage, the vomit acquires a fecal odor.

• Delayed defecation and flatulence - frequent and important symptoms of intestinal obstruction.

• Bloating is especially characteristic of the obstructive form of intestinal obstruction.

• Uniform bloating is most often observed in the small intestine obstruction, and if bloating occurs in one of the areas of the abdominal cavity, then such symptoms are more characteristic of colonic obstruction.

B) Medical history:

It is necessary to find out when the first disease manifestations appeared, what the patient associates with the onset of the disease (in presence of good health or after eating and considering its type, alcohol abuse), whether there have been similar attacks in the past. Considering the urgent pathology, it is necessary to determine hourly the dynamics of changes in the patient's condition, the applied treatment measures or self-medication options, as well as when and where the patient sought medical attention when he was taken to the hospital.

C) Life history:

It is necessary to find out the presence of similar diseases at close relatives' medical histories (father, mother, siblings), pay attention to possible congenital pathology (intestinal atresia or other abnormalities of the abdominal and thoracic cavities, hernias, etc.), features of development and surgery at different ages and their features. It is also necessary to pay attention to the living and working conditions of the patient (hard work, the presence of occupational hazards such as pesticides, staying in rooms with poisoned air, periods of abstinence from food, etc.).

2. Physical examination:

At the objective examination, attention is paid to the general condition of the patient, which initially remains satisfactory (with obstructive obstruction), but may worsen significantly in the first hours of the disease (with strangulation obstruction). Acceleration of the pulse and lower blood pressure directly depends on the signs of dehydration and the degree of decrease in CBV (circulating blood volume). The tongue is wet at first, then becomes dry.

Examination of the abdomen makes it possible to detect in patients a moderate degree of bloating and asymmetry. The shape and asymmetry of the abdomen depends on the location of the obstacle. Uniform bloating is characteristic of low forms of small bowel obstruction. At high impassibility an increase in the stomach in the upper parts is observed; at torsions in many cases the mark localization, at intussusception asymmetry most often happens in the right iliac area.

Palpation reveals tumors (with obstructive obstruction), intussusception. Assess the nature and location of pain, the severity of symptoms of peritoneal irritation. In the intestine, "splash noise" is detected (Sklyarov's symptom). With colonic obstruction there is significant flatulence in the right iliac region, edema of the cecum (Anschutz's symptom).

Percussion tympanitis is defined, sometimes with a high metallic shade.

During auscultation, you can hear high-pitched sounds that occur due to the movement of liquid and gas (in the first stage of obstruction). In severe cases, intestinal murmurs are not detected when listening to the abdomen. There is no noise in the abdomen. This phenomenon is called "grave silence."

The pathognomonic symptoms of intestinal obstruction include:

- Valya's symptom is visible asymmetry in the lower half of the abdomen, visible intestinal motility, palpation of a resistant tumor, tympanitis with percussion of this tumor;
- Schlange symptom is visible intestinal motility;
- Sklyarov's symptom is noise of "intestinal splash";
- Kivul's symptom is a metallic sound over an inflated loop at percussion;
- Spasokukotsky's symptom is the noise of a drop falling;
- Grekov's symptom (″ Obukhov hospital ″) is empty, stretched ampoule of the rectum, sphincter gaping;
- symptom of Cage - Manteufel is when it is impossible to enter more than 0,5-1l of liquid into a rectum;

For intussusception of the intestine is characterized by a triad of symptoms:

- symptom of Tiliax is periodic appearance of cramping pain in the abdomen;

- Rush's symptom is the presence of an elastic painless tumor in the abdomen and tenesmus on palpation;
- Cruvelier's symptom is bloody discharge from the rectum.

Taking into account the time factor in the clinical course of acute intestinal obstruction
There are three stages (phases): **″ileus phase″ (primary, reflex), intoxication (acute dysfunction of intramural intestinal hemodynamics), and peritonitis (terminal)**.

The ileus phase lasts 12 - 16 hours, and can be characterized with acute cramp-like pain, which can periodically repeat. Sometimes pain is so strong that it leads to a state of shock. In addition to pain, the patient suffers from nausea, vomiting, delayed bowel movements and gas. Wahl's symptom is almost always positive.

Intoxication phase lasts 12 - 36 hours. During this period, the pain loses its cramp-like character and becomes permanent, abdomen bloating and its asymmetry are present, vomiting is frequent, peristalsis disappears. Accelerated pulse, blood pressure stays normal or slightly reduced, complete delay of bowel movements and gases.The symptoms of Wahl, Sklyarov's,Kivul`s, Shchetkin- Blumberg are positive. During this period, there appear clear radiological signs of intestinal obstruction.

The terminal phase (peritonitis) develops 36 hours after the onset of the disease. This period is characterized by a evident dysfunction of the general condition and functions of a number of organs and systems. The abdomen is sharply swollen, peristalsis is absent. Free fluid is clearly detected in the free abdominal cavity, the tongue is dry, vomiting with fecal odor periodically occurs. Blood pressure is low, heart rate is frequent, weak. All symptoms of intestinal obstruction and Schotkin-Blumberg's symptoms are positive. Patients in a state of euphoria. Due to deep metabolic disorders (multiorgan failure), the rapid development of infection in the abdominal cavity and severe intoxication, this period of obstruction is called terminal.

Based on the data obtained after interviewing the patient (complaints, history of disease and life) and his physical examination (examination, palpation, percussion, auscultation) is the justification of the previous diagnosis.

3. Diagnostic program with data analysis of additional studies:

For ambulance treatment it is counting the number of leukocytes in the blood, then a general clinical analysis of blood to detect changes in the leukocyte formula - its shift to the left, the acceleration of ESR. Amylase, blood glucose. Biochemical analysis of blood. General clinical analysis of urine. Urine amylase. Execution of the review roentgenogram of an abdominal cavity. Ultrasound of the abdominal cavity. Half-glass oral barium test of Schwarz. Laparoscopy.

4. Differential diagnosis:

When diagnosing acute intestinal obstruction, it is important to clarify its type (mechanical, dynamic), because the methods of treatment of these types of obstruction are different.

Differential diagnosis of acute intestinal obstruction is performed with perforated ulcer, acute cholecystitis, acute appendicitis, acute pancreatitis, renal colic, ectopic pregnancy, mesenteric thromboembolism.

5. Clinical diagnosis:

The nosological unit and the form of the disease course are indicated, the existing complications are based on the clinical-statistical classification (see "Unified clinical-statistical classifications of digestive diseases". Departmental instructions. co– authored with.- Kyiv, Dnipro-VAL, 2004).

6. Organizational and therapeutic tactics:

The need for hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions is determined.

Before starting treatment, you need to clearly understand what kind of obstruction you have to deal with. Strangulation obstruction requires emergency surgery, as delayed surgery can lead to intestinal necrosis and diffuse peritonitis. At obstructive impassibility it is possible to carry out conservative treatment for elimination of obstruction with the subsequent (possibly operative) elimination of the reason which caused it. Conservative treatment in the absence of a pronounced effect should be carried out no more than 2 hours.

Principles of surgical treatment of acute mechanical intestinal obstruction:

- Surgical intervention by midsection, under general anesthesia
- Removal of a mechanical obstruction or the formation of a bypass for intestinal contents.
- Assessment of intestinal viability (in case of non-viability - resection of the intestine).
- Unloading of the dilated part of the intestine helps to restore the microcirculation of the intestinal wall, the tone of the intestinal wall and peristalsis.

- Rehabilitation and drainage of the abdominal cavity.

Test questions for self-assessment of preparation for the lesson:

1. The importance of studying the course of acute intestinal obstruction

2. What is defined during a patient's interview with a suspect of having acute intestinal obstruction?
2. Why is it important to identify all the complaints that the patient with acute intestinal obstruction has?
3. Why is it important to know the exact date and time of acute intestinal obstruction onset?

4. Why is it important to identify all the complaints that a patient with acute intestinal obstruction has?
5. How can the patient's living and working conditions affect the occurrence and course of acute intestinal obstruction?
7. Why is the following sequence during the patient's survey important: collecting complaints, clinical charts and life history?

8. What is found during the examination of the patient and his abdomen?

9. What changes can be detected while palpating the abdominal wall when the acute intestinal obstruction is suspected?

10. What changes can be detected by Digital rectal examination of a patient with acute intestinal obstruction?

11. Features of physical examination of a patient with suspected development of functional intestinal obstruction?

12. Features of physical examination of a patient with suspected development of obturation intestinal obstruction?

13. Features of physical examination of a patient with suspected development of strangulated intestinal obstruction?

14. Features of physical examination of a patient with suspected development of embolic obstruction?

15. Features of physical examination of a patient with suspected development of destructive forms of acute mixed type mechanical obstruction?

16. What is the basis for the preliminary diagnosis of diseases when intestinal obstruction?

17. What are the principles of forming a list of diseases for differential diagnosis?

18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?

19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?

20. What is important to determine in the formation of treatment tactics for patients with acute intestinal obstruction?

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Topic № 10.
Syndrome of acute violation of the passage of intestinal contents:
General issues of development, diagnosis, and treatment of acute dynamic intestinal obstruction

Module 1. Emergency abdominal surgery and proctology.
Content module 2. Urgent abdominal surgery.
Topic № 10. Acute dynamic intestinal obstruction.

Definition: **The syndrome of acute intestinal passage is a syndrome that occurs in various diseases** of the gastrointestinal tract and is determined by impaired peristalsis and evacuation function with morphological changes in the affected part of the intestine and the general condition of the whole organism.

At a syndrome of acute obstruction of the passage of intestinal contents to the patient urgent consultation of the surgeon for the decision of questions of urgent hospitalization of the patient in the surgical department for performance of the urgent operation is shown. The causes of the syndrome of acute violation of the passage of intestinal contents can be complications of hernias, acute inflammatory diseases of the abdominal cavity, tumors, which can lead to the development of **acute dynamic and mechanical intestinal obstruction.**

General issues of development, diagnosis and treatment of acute dynamic intestinal obstruction.

According to the etiopathogenesis there are:
1. Dynamic (functional) obstruction, which is divided into spastic and paralytic.
2. Mechanical obstruction. There are its forms:
- obturation (intraorgan, intramural, extra organ);
- strangulation (knot formation, torsion, hernia compression);
- mixed (intussusception, adhesive obstruction);

By origin, there are congenital and acquired obstructions.
By level of impassibility: high and low.
According to the clinical course: acute, chronic, complete and partial.

Definition: Dynamic intestinal obstruction is caused by a violation of the tone of their muscular system (spastic) or is reflex due to irritation of the neuromuscular apparatus of the intestine (paralytic).

Types of dynamic intestinal obstruction:
- paralytic intestinal obstruction;
- spastic intestinal obstruction.

Reasons for the development of dynamic intestinal obstruction:

A) Paralytic intestinal obstruction (paresis of the small and large intestine):
- after operations on the abdominal organs;
- due to inflammatory and destructive processes in the abdominal cavity;
- due to injuries of the abdomen, chest and spine.

B) Spastic intestinal obstruction (spasm of the intestinal wall):
- due to a foreign object;
- due to increased general nervous excitability (hysteria);
- due to chronic or acute poisoning;
- reflex effect in hepatic and renal colic.

General pathophysiological disorders in acute intestinal obstruction are caused by the loss of significant amounts of water, electrolytes, protein, enzymes and disorders of acid-base status, intoxication and bacterial factors.

Clinical manifestations of dynamic intestinal obstruction:

A) Spastic intestinal obstruction:
- paroxysmal pain;
- vomiting;
- delayed gas excretion and defecation;
- from the anamnesis it is necessary to determine the possible contact with the poisonous substance;
- on objective examination there is spasmed areas of the intestine;

- radiologically hyper pneumatosis of the intestines.
B) Paralytic intestinal obstruction:
- the patient's condition is serious ;
- severe intoxication due to the underlying disease (peritonitis) with the phenomena of paralytic intestinal obstruction.
At dynamic paralytic impassibility abdominal pain has, as a rule, constant character, symptoms of the basic disease which caused a dynamic ileus are observed. With paralytic obstruction, the abdomen is evenly swollen, soft, and peristalsis is weakened or absent from the very beginning.
With spastic obstruction, the pain is spasmodic in nature, the abdomen is not bloated, and sometimes retracted.
Diagnosis of dynamic intestinal obstruction:
• clinical examination:
- complaints;
- history of the disease;
- objective data;
• laboratory diagnostics;
• instrumental diagnostics:
- review radiography of the abdominal cavity;
- contrast radiological examination of the small and large intestines.
Therapeutic tactics for dynamic intestinal obstruction:
- preference is given to medicine therapy;
- treatment of the underlying disease, which led to the emergence of dynamic intestinal obstruction.

The final goals of learning the educational element:
1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. Treatment program:
A) Urgency of hospitalization
B) Urgency of the operation
C) Preoperative preparation
D) Anesthesia
E) Postoperative treatment
E) Rehabilitation of patients.

The purpose of the practical lesson: To establish the level of acquisition of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner on the topic of General doctrine of acute dynamic intestinal obstruction, which refers to the syndrome of acute intestinal passage.
Forms of control of knowledge and skills in practical classes:
1. Test control of knowledge (computer control of knowledge on 30 test cases)
2. Theoretical survey of each student with an assessment on the following issues:
- substantiation of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program
3. Evaluation of each student's performance of practical skills:
- **performing Napalkov-Schwartz test**
- decompression of the small and large intestine with an intubation probe

Information part of methodical development

The minimum basic level of knowledge required to master the topic:

1. Anatomy, topographic anatomy and operative surgery is topographic and anatomical characteristics of the stomach, small and large intestine, their innervation and blood supply.
2. Physiology is secretory and motor function of the gastrointestinal tract
3. Pathological physiology is dysfunction of organs and systems, as well as the intestine in acute intestinal obstruction
4. Pathological anatomy is morphological changes in the organs of the gastrointestinal tract and in other organs of the human body in acute intestinal obstruction
5. Microbiology, virology and immunology are the place of microbial and immune factors in the occurrence of inflammatory processes in the intestine and peritoneum in acute intestinal obstruction
6. General surgery, propaedeutics of internal diseases are survey methods and fiis physical examination of the patient.
7. Radiology is description and analysis of radiological signs in acute intestinal obstruction
8. Anesthesiology and intensive care is the principles of management of a patient with acute intestinal obstruction and his preparation for surgery, methods of analgesia and restoration of body balance.

The specific purpose of independent preparation for practical training:

Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine the clinical course of obstruction (examination of the patient and physical examination, including the determination of pathognomonic symptoms)
2. Substantiation and formation of the preliminary diagnosis of the diseases which have led to development of impassibility
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the list of diseases for differential diagnosis and its carrying out
5. Formation of a clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for acute intestinal obstruction.

The program of independent preparation for a practical lesson:

1. The urgency of the problem of acute intestinal obstruction
2. Determination of types of acute intestinal obstruction
3. Causes and mechanism of development of acute intestinal obstruction
4. Clinical manifestations (complaints, anamnesis, physical examination data) of a patient with acute intestinal obstruction
5. Principles of diagnosis and the amount of data required for the formation of the previous his/her diagnosis
6. Principles of drawing up the diagnostic program for specification of the previous diagnosis and the subsequent treatment
7. List of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis
8. Establishment of the clinical diagnosis on the basis of clinical and statistical classification of pathology of organs of a gastrointestinal tract
9. Substantiation of the organizational and medical program at acute intestinal impassibility.

Practical skills that are assigned to the education element:

1. Performing Napalkov-Schwartz test.
2. Decompression of the small and large intestine with an intubation probe.

1. **Performing Napalkov-Schwartz test** (dynamic X-ray contrast study of the gastrointestinal tract with barium sulfate)

Procedure. The patient is given 100 ml of liquid barium suspension per os. Examination of the abdominal cavity is performed after 2, 4 and 6 hours. After 20 minutes, determination of the pathology of the esophagus is performed. In a healthy person in 2 hours the pathology of the stomach and small intestine is determined. Contrast agent reaches the colon in approximately 6 hours after ingestion. The delay of the contrast mass in the small intestine for more than 4-6 hours indicates the presence of intestinal obstruction.

Instructions for performing the test

The control of practical skill is built on the principle of a step-by-step test case and consists of 4 questions.

1. In the presented radiographs, it is necessary to determine which of them corresponds to the Schwartz sample.

2. It is necessary to choose the correct Schwartz sample definition.

3. It is necessary to determine the radiological signs of intestinal obstruction during the Schwartz test.

4. In the Schwartz test method, it is necessary to determine the correct answers.

2. Decompression of the small and large intestine with an intubation probe.

Intubation of the small intestine can be performed by nasogastric route or by micro gastrostomy, cecostomy. Intubation of the colon is performed transanally (retrograde), or by colostomy (cecostomy, transversostomy, sigmostomy) as well as during endoscopic minimally invasive studies.

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Each student should be able to recognize the probe for nasogastric decompressive intubation of the intestine, as well as be able to inflate the syringe-shaped cuffs on the intestinal probe with a syringe and then withdraw the intestinal probe from the gastric Then, holding the intestinal probe, remove the guiding gastric probe from it and pass the end of the intestinal probe from the oral cavity through the nasal passage to the outside (on the manikin).

In addition, each student should clearly present and explain how an intestinal decompression tube can be inserted through the cecostomy into the small intestine retrogradely, as well as how to pass a large gastric tube through the anus and conduct it retrogradely throughout the large intestine.

Instructions for performing the test

The control of practical skill is built on the principle of a test with 5 questions.

1. From the proposed options (types of intubation and decompression of the gastrointestinal tract) the answers must be chosen correctly.
2. Review the images and determine the probe for intubation / decompression of the stomach, small and large intestine.
3. From the listed diseases, it is necessary to define what are indications for intubation / decompression of a stomach.
4. Determine the correct sequence of nasogastric intubation.
5. From the listed data, it is necessary to choose complications at intubation / decompression of a stomach.

Features of examination of patients with *acute intestinal obstruction*:

1. Interview of the patient it is necessary to define:

A) Complaints of:

• Presence and nature of pain: The first and most common subjective symptom of intestinal obstruction is abdominal pain, which in the initial stages has a convulsive nature and at the beginning of the disease is determined in the part of the abdomen where the barrier has formed. In the future, the pain becomes constant, spreads throughout the abdomen, somewhat blunted. In the terminal stage of obstruction, the intensity of pain decreases significantly.
• nausea and vomiting that are observed in 60% of cases. The higher the obstruction, the more pronounced the vomiting. The first vomit masses consist of the contents of the stomach with bile discharge, then they are joined by intestinal contents. In the late stage, the vomit acquires a fecal odor.
• Delayed defecation and flatulence - frequent and important symptoms of intestinal obstruction.
• bloating is especially characteristic of the obstructive form of intestinal obstruction.
• uniform bloating is most often observed in the small intestine
obstruction, and if bloating occurs in one of the areas of the abdominal cavity,
then such symptoms are more characteristic of colonic obstruction.

B) History of disease and life:

It is necessary to find out when the first manifestations of the disease appeared, what the patient associates the beginning of the disease (against the background of complete health or after eating and with its nature, alcohol abuse).
When and where he/she sought medical help when he/she was taken to the hospital.
Living and working conditions, etc.

2. Physical examination:

At the objective examination, attention is paid to the general condition of the patient, which initially remains satisfactory (with obstructive obstruction), but may worsen significantly in the first hours of the disease (with strangulation obstruction). Acceleration of the pulse and lower blood pressure directly depends on the signs of dehydration and the degree of decrease in CBV (circulating blood volume). The tongue is wet at first, then becomes dry.

Examination of the abdomen makes it possible to detect in patients a moderate degree of bloating and asymmetry. The shape and asymmetry of the abdomen depends on the location of the obstacle. Uniform bloating is characteristic of low forms of small bowel obstruction. At high impassability increase in a stomach in the upper parts is observed; at torsions in many cases the mark localization, at intussusception asymmetry most often happens in the right iliac area.
Palpation reveals tumors (with obstructive obstruction), intussusception. Assess the nature and location of pain, the severity of symptoms of peritoneal irritation. In the intestine, "splash noise" is detected (Sklyarov's symptom). With colonic obstruction there is significant flatulence in the right iliac region, edema of the cecum (Anschutz's symptom).
Percussion tympanitis is defined, sometimes with a high metallic shade.
During auscultation, you can hear high-pitched sounds that occur due to the movement of liquid and gas (in the first stage of obstruction). In severe cases, intestinal murmurs are not detected when listening to the abdomen. There is no noise in the abdomen. This phenomenon is called "grave silence."
The pathognomonic symptoms of intestinal obstruction include:
- Valya's symptom is visible asymmetry in the lower half of the abdomen, visible intestinal motility, palpation of a resistant tumor, tympanitis with percussion of this tumor;
- Schlange symptom is visible intestinal motility;
- Sklyarov's symptom is noise of "intestinal splash";
- Kivul's symptom is a metallic sound over an inflated loop at percussion;
- Spasokukotsky's symptom is the noise of a drop falling;
- Grekov's symptom (″ Obukhov hospital ″) is empty, stretched ampoule of the rectum, sphincter gaping;
- symptom of Cege - Manteifel is when it is impossible to enter more than 0,5-1l of liquid into a rectum;
For intussusception of the intestine is characterized by a triad of symptoms:
- symptom of Tiliax is periodic appearance of cramping pain in the abdomen;
- Rush's symptom is the presence of an elastic painless tumor in the abdomen and tenesmus on palpation;

- Cruvelier's symptom is bloody discharge from the rectum.

Taking into account the time factor in the clinical course of acute intestinal obstruction
There are three phases: ileal crying, intoxication, and peritonitis.
The phase of "ileal crying" lasts 12 to 16 hours, is characterized by acute cramping pain, which recurs periodically and is sometimes so strong that it leads to a state of shock. In addition to pain, patients suffer from nausea, vomiting, delayed bowel movements and gas. Valya's symptoms are almost always positive.
The intoxication phase lasts 12 - 36 hours. During this period, the pain loses its convulsive nature and becomes permanent, there is bloating and asymmetry of the abdomen, vomiting is frequent, peristalsis disappears. Pulse is accelerated, blood pressure is normal or slightly reduced, complete delay of bowel movements and gases. The symptoms of Valya, Sklyarov's,Kivul`s, Shchetkin - Blumberg are positive. During this period, clear radiological signs of intestinal obstruction appear.
The terminal phase (peritonitis) develops 36 hours after the onset of the disease. This period is characterized by a pronounced violation of the general condition and functions of a number of organs and systems. The abdomen is sharply swollen, there is no peristalsis. Free fluid is clearly detected in the free abdominal cavity, the tongue is dry, vomiting with fecal odor periodically occurs. Blood pressure is low, heart rate is frequent, small. All symptoms of intestinal obstruction and Shotkin-Blumberg symptoms are positive. Patients are in a state of euphoria. Due to profound metabolic disorders (multiorgan failure), the rapid development of infection in the abdominal cavity and severe intoxication, this period of obstruction is called terminal.

Based on the data obtained after interviewing the patient (complaints, history of disease and life) and his physical examination (examination, palpation, percussion, auscultation) is the justification of the previous diagnosis.
3. Diagnostic program with data analysis of additional studies:
For ambulance treatment it is counting the number of leukocytes in the blood, then a general clinical analysis of blood to detect changes in the leukocyte formula - its shift to the left, the acceleration of ESR. Amylase, blood glucose. Biochemical analysis of blood. General clinical analysis of urine. Urine amylase. Execution of the review roentgenogram of an abdominal cavity. Ultrasound of the abdominal cavity. Half-glass oral barium test of Schwart. Laparoscopy.

4. Differential diagnosis:
When diagnosing acute intestinal obstruction, it is important to clarify its type (mechanical, dynamic), because the methods of treatment of these types of obstruction are different.
Differential diagnosis of acute intestinal obstruction is performed with perforated ulcer, acute cholecystitis, acute appendicitis, acute pancreatitis, renal colic, ectopic pregnancy, mesenteric thromboembolism.

5. Clinical diagnosis:
The nosological unit and the form of the disease course are indicated, the existing complications are based on the clinical-statistical classification (see “Unified clinical-statistical classifications of digestive diseases”. Departmental instructions. co– authored with.- Kyiv, Dnipro-VAL, 2004).

6. Organizational and therapeutic tactics:
The need for hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions is determined.
Treatment is conservative and primarily aimed at treating the underlying disease. At paralytic impassibility for the purpose of restoration of motor function of intestines and fight against paresis carry

out actions for restoration of active peristalsis. At spastic impassability to patients appoint antispasmodics, physiotherapeutic procedures, heat on a stomach.

Test questions for self-assessment of preparation for the lesson:

1. The importance of studying the course of acute intestinal obstruction?
2. What is defined during a patient's interview with a suspect of having acute intestinal obstruction?
3. Why is it important to identify all the complaints that a patient with acute intestinal obstruction has?
4. Why is it important to know the date and time of onset of the disease in a patient with acute intestinal obstruction?
5. Why is it important to know what previous treatment was given to a patient with acute intestinal obstruction?
6. How can living and working conditions affect the occurrence and course of acute intestinal obstruction?
7. Why is the following sequence important in the patient's survey: collecting complaints, medical history and life?
8. What is found during the examination of the patient and his abdomen?
9. What changes can be detected on palpation of the abdominal wall when acute intestinal obstruction is suspected?
10. What changes can be detected by digital examination of the rectum in acute intestinal obstruction?
11. Features of physical examination of a patient with suspected acute dynamic intestinal obstruction?
12. Features of physical examination of a patient with suspected acute obstructive intestinal obstruction?
13. Features of physical examination of a patient with suspected acute strangulation intestinal obstruction?
14. Features of physical examination of a patient with suspected acute intussusception?
15. Features of physical examination of a patient with suspected acute mixed mechanical intestinal obstruction?
16. What is the basis for the preliminary diagnosis of acute intestinal obstruction?
17. On what principles the list of diseases for carrying out the differential diagnosis is formed?
18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics in patients with acute intestinal obstruction?

GUIDANCE PAPER

of

intermediate control of knowledge of

Syndrome of acute and chronic into the cavity of the gastrointestinal tract

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:

1. Independently, in terms of extracurricular training (at home, dormitory), to solve in writing the situational clinical problem of one of the diseases that are part of the syndrome studied.
2. When solving a situational clinical problem, based on the conditions, formulate in writing:
- preliminary diagnosis
- diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- differential diagnosis of two diseases, the most probable in this case
- clinical diagnosis
- treatment program
3. In the next practical lesson, the written work is submitted for verification to the teacher, who assesses the level of mastery of a professionally oriented case.

CASE № 1

Patient N., 32 years old, was admitted to the hospital with complaints of sharp cramping abdominal pain, retention of feces and gases, frequent vomiting, which does not bring relief. From the anamnesis: he was ill for 6 hours, when after eating complaints appeared and got worse gradually.
At examination: the general condition of the patient is fair, the patient is restless, moans, pulse of 86 bpm , BP -140/75 mm Hg. The tongue is dry, the abdomen is moderately swollen, the anterior abdominal wall is involved in breathing to a limited extent. In the right iliac region - an old atrophic postoperative scar. On palpation, the abdomen is soft, moderately painful, positive symptoms Sklyarov's, Kivul's. Intestinal peristalsis increased.

CASE № 2

Patient R., 52 years old, complains of sharp cramping abdominal pain, retention of feces and gases, frequent vomiting. From the anamnesis: during the last three months there is moderate pain in the right iliac region, bloating, severe rumbling of the intestines, weakness, decreased appetite, subfebrile fever. Recently, constipation has appeared, which has been replaced by diarrhea with blood mixture. Three days later, abdominal pain increased significantly and became spastic, the flatulence appeared.
At examination: the general condition of the patient is fair, pulse 94 bpm, blood pressure is 150/90 mm Hg. The tongue is dry, coated with white plaque. The abdomen is swollen, asymmetrical due to the protrusion in the right half. On palpation - soft, painful in the right iliac region, where an indistinct tumor is palpated . There are positive Sklyarov's, Kivul`s symptoms, symptoms of peritoneal irritation are not defined. Intestinal peristalsis resonant. Digital rectal examination revealed that it was empty, swollen.

CASE № 3

Patient V., 46 years old, complains of sharp cramping abdominal pain, retention of feces and gases, frequent vomiting. From the anamnesis: 5 hours before admission to the clinic there was a sudden cramp-like sharp pain in the abdomen, retention of feces and gases developed, there was repeated vomiting, which did not bring relief.
At examination: the general condition of the patient is serious, the patient is restless, often changes position in bed, moans. The skin is pale, acrocyanosis. Pulse 110 bpm, blood pressure is 90/60 mm Hg. The tongue is dry, coated with white plaque. The abdomen is moderately swollen in the upper parts, the anterior abdominal wall is limited to participate in respiration. On palpation - oval shape dense-elastic formation is determined in the umbilical region, percussion above it gives tympanic sound. Intestinal motility is increased. Symptoms of peritoneal irritation are vague. There is a positive Sklyarov's symptom. Digital rectal examination revealed an empty distended rectal ampoule.

CASE № 4

Patient F., 70 years old, complains of cramping pain in the lower abdomen, delayed feces, and gas. From the anamnesis: he suffered from constipation for a long time, a day before admission to the hospital there was moderate cramping pain in the lower abdomen, gas and feces retention.
At examination: the general condition is fair, pulse 96 bpm, blood pressure is 150/90 mm Hg The tongue is coated with a white plaque, dry. The abdomen is asymmetric (the right half of the abdomen is swollen), on palpation - soft, painful in the left half, where a dense elastic formation of 10 x 8 cm is palpated, above which dullness is determined. There is a positive Sklyarov's symptom. There are no symptoms of peritoneal irritation, peristalsis is resonant. A rectal examination: the tone of the sphincter of the rectum is weakened, the ampoule is empty, distended.

CASE № 5

Patient P., 62 years old, complains of moderate cramping pain in the abdomen, delayed feces and gas. From the anamnesis: during the last 6 months there are difficulties with defecation, periodically

there is mucus and traces of dark blood in the stool. The day before admission to the hospital there was a cramping pain in the abdomen, flatulence, there was no stool.
At examination: the general condition of the patient is fair, the pulse of 86 bpm, blood pressure is 140/80 mm Hg. The tongue is dry, coated with white plaque. The abdomen is bloated, peristalsis is visible through the anterior wall of the abdomen. On palpation - the abdomen is soft, moderately painful below the navel level. Increased peristaltic sounds. There are no symptoms of peritoneal irritation. At digital rectal examination, pathology is not revealed.

CASE № 6

Patient R., 48 years old, admitted a hospital with complaints of cramping abdominal pain, nausea, vomiting, delayed feces, and gas. From the anamnesis: previously the patient underwent three surgeries on the abdominal cavity with subsequent drainage of the abdominal cavity, followed by frequent attacks of abdominal pain, bloating, vomiting, nausea, periodic retention of feces and gas. Five hours before admission to the hospital, after eating a significant amount of food, I had a similar abdominal pain, nausea, repetitive vomiting, delayed stool and gas.
At examination: the general condition of the patient is severe, pulse 122 bpm, Blood pressure is 90/60 mm Hg, pale skin. The tongue is dry, covered with white plaque. The abdomen is swollen, asymmetrical: on the right at the level of the navel wide, flat protrusion, of dense - elastic consistency is defined. The "splashing noise" is determined by percussion in its projection, percussion over them - tympanitis, the left half of the abdomen is sunken, soft. Symptoms of peritoneal irritation are not defined. At digital rectal examination, it is revealed that its ampoule is empty, distended.

CASE № 7

Patient J., 36 years old, is being treated in the surgical department, where 3 days ago he was operated on for a perforated gastric ulcer, suturing the perforation was performed. On the 3rd day after surgery it continues to bother with constant abdominal pain, nausea, and periodical vomiting .
At examination: the general condition of the patient is fair, pulse of 100 blows bpm, BP is 100/70 mm Hg. The tongue is dry, covered with white plaque. The abdomen is swollen, the anterior abdominal wall is weakly involved in respiration. On palpation - the abdomen is soft in all parts, moderately painful, the symptoms of peritoneal irritation are not expressed. At auscultation - peristalsis of intestines is sharply weakened. When the tube was inserted into the stomach, up to 1.5 congested contents were evacuated.

CASE № 8

Patient G., 26 years old, admitted to the emergency department of the hospital with complaints of severe cramping abdominal pain, delayed feces and gas, frequent vomiting, and bloating. From the anamnesis: five years ago the patient had appendectomy; the complaints appeared shortly before admission to the hospital after eating a significant amount of food and began to increase gradually.
At examination: the general condition of the patient is fair, restless, the patient moans from pain, pulse of 90 bpm, blood pressure is 110/70 mm Hg. The tongue is dry. The abdomen is moderately swollen, the anterior abdominal wall is weakly involved in respiration. In the right iliac region - an old atrophic postoperative scar. On palpation, the abdomen is soft and moderately painful at the level to the right of the navel. Intestinal peristalsis resonant.

CASE № 9

Patient D., 58 years old, admitted to the emergency department of the hospital with complaints of cramp-like pain in the lower abdomen, no discharge of feces and gases, and bloating. From the anamnesis: during the last three months the patient periodically had moderate pain in the right iliac region, bloating, severe rumbling of the intestines, increasing weakness, decreased appetite, subfebrile fever. Subsequently, constipation appeared, which was replaced by diarrhea with mucus and dark blood.

Three days ago, abdominal pain increased significantly, and became cramping, and flatulence appeared.
At examination: the general condition of the patient is fair, pulse 96 bpm, blood pressure is 140/80 mm Hg. The tongue is dry, covered with white plaque. The abdomen is swollen, symmetrical, the anterior abdominal wall is weakly involved in respiration. On palpation - the abdomen is soft, moderately painful in the right iliac region, where located a vaguely palpable tumor. Symptoms of peritoneal irritation are not defined. In the mesogastric area a "noise of the splash" is determined. Intestinal peristalsis resonant. Digital rectal examination revealed empty and distended ampoule.

CASE № 10

Patient J., 42 years old, admitted to the hospital with complaints of cramp-like abdominal pain, vomiting, bloating, delay of feces and gases, dry mouth. From the anamnesis it is known that the patient 5 hours before his admission to the hospital suddenly had a sharp cramping pain in the abdomen, repeated vomiting and stopped passing feces and gases.
At examination: the general condition of the patient is serious, he is restless, often changes position in bed, moans, pale skin and acrocyanosis is defined. Pulse 110 bpm, AT is 90/60 mm Hg. The tongue is dry, covered with white plaque. The abdomen is moderately bloated. In the mesogastric area to the right of the navel oval shape dense- elastic, painful formation is palpated,percutory sound is tympanic. Intestinal motility is resonant, with a metallic sound. Symptoms of peritoneal irritation are questionable. Digital rectal examination revealed empty, distended ampoule.

CASE № 11

Patient R., 67 years old, complains of moderate cramping pain in the abdomen, delayed stool and gas. From the anamnesis: he has been suffering from constipation for several years, 2 days before admission to the hospital there was a moderate cramping pain in the lower abdomen, gases and feces delayed
At examination: the general condition of the patient is fair. Pulse 98 bpm, blood pressure is 145/80 mm Hg .The tongue is covered with a white plaque, dry. The abdomen is asymmetrical, the right half of the abdomen is swollen, the left is sunken. On palpation - the abdomen is soft, somewhat painful in the right half, where the formation of dense-elastic consistency of , measuring 8x9 cm is palpated. The sound of splashing during palpation. There are no symptoms of peritoneal irritation. At auscultation - peristalsis is weakened. At digital rectal examination - the tone of a sphincter is weakened, the ampoule is empty, distended.

CASE № 12

Patient Z., 64 years old, was admitted to the hospital with complaints of cramp-like abdominal pain, delay of fecal and gas discharge, bloating, and nausea. From the anamnesis it is known that the patient notes difficulties at the act of defecation during the last 9 months, mucus and traces of dark blood periodically appeared in the stool. The day before admission to the hospital there was a cramp-like pain in the abdomen, gas and feces delayed.
At examination: the general condition of the patient is fair. Pulse 86 bpm, blood pressure is 135/70 mm Hg. The tongue is dry, covered with white plaque. The abdomen is moderately bloated, symmetrical. On palpation - the abdomen is soft, moderately painful below the level of the navel to the left, no symptoms of peritoneal irritation. At auscultation, the strengthened intestinal noises. Digital rectal examination not revealed any pathology.

METHODOLOGICAL DEVELOPMENT
of a practical lesson

Topic № 11.
« Peritoneal syndrome:
General concepts about the causes of peritoneal syndrome: Acute peritonitis due to acute inflammatory diseases of the abdominal cavity, which belongs to the peritoneal syndrome.»

Module 1. Urgent abdominal surgery and proctology.
Content module 2. Urgent proctology.

Topic № 11. Peritoneal syndrome due to the progression of acute inflammatory diseases of the abdominal cavity.
Definition: **Peritoneal syndrome** occurs as a complication, or rather a natural consequence, or stage of negative development of various acute surgical diseases and injuries of the abdominal cavity. At suspicion of occurrence of a peritoneal syndrome - urgent consultation of the surgeon, and at its confirmation - urgent hospitalization in the surgical department for performance of urgent operation.
The most common causes of peritoneal syndrome are perforation of the stomach and duodenum, perforation of the small and large intestines, **destructive forms of acute appendicitis, acute cholecystitis, acute pancreatitis (pancreatic necrosis), acute intestinal obstruction.**

General concepts and causes of peritoneal syndrome:
Acute peritonitis can be primary, in which the microflora enters the peritoneum by hematogenous or lymphogenic, and secondary, which is a complication of various surgical diseases and injuries of the abdominal cavity. The causes of secondary peritonitis are divided into traumatic, postoperative, perforated, inflammatory. There are reactive, toxic and terminal stages. By the nature of the exudate: raw, fibrinous, purulent, putrefactive, hemorrhagic and mixed. By the nature of the microflora: aerobic (staphylococcus, streptococcus, Escherichia coli, etc.); anaerobic (bacteroids, peptococcus, etc.); mixed (associations of different microorganisms). By course: acute, chronic, slow. By prevalence: demarcated, unlimited, divided into local, diffuse, diffuse and general. Degrees of severity of peritonitis: I degree - mild, II degree - moderate, III-A degree - severe, III-B degree - extremely severe and IV degree - terminal.

The ultimate goals of learning the studying element:
1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis

5. TREATMENT PROGRAMM
(a) Urgency of hospitalization
(b) Urgency of the operation
(c) Preoperative preparation
(d) Anesthesia
(e) Postoperative treatment

(f) Rehabilitation of patients

The purpose of the practical lesson:
To establish the level of assimilation of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner on the topic – General concepts about the causes of peritoneal syndrome: Acute peritonitis due to acute inflammatory diseases of the abdominal cavity, which belongs to the peritoneal syndrome.

Forms of knowledge control and skills in practical classes:
1. Test control of knowledge (computer knowledge control; 30 test cases)

2. Theoretical survey of each student with an assessment of the following questions:
- justification of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program

3. Assessment of each student's performance of practical skills:
1. Determination of the dehydration level when peritonitis (Shelestyuk test)
2. Determination of the symptom of acute peritonitis.

Informational part of the methodical development

The minimum basic level of knowledge required to master the topic:
1. Anatomy, topographic anatomy and operative surgery are topographic and anatomical characteristics of the colon and rectum, abdominal cavity.
2. Physiology is the functions of the colon and rectum.
3. Pathological physiology is the pathogenesis of the inflammatory syndrome.
4. Pathological anatomy is morphological changes in the colon and rectum, in the abdominal cavity, depending on the duration of the disease and the reasons that led to the development of inflammatory syndrome.
5. Microbiology, virology and immunology are the place of microbial factor and fracture of the body's immune system in the occurrence of inflammatory processes in the colon and direct intestines.
6. General surgery, propaedeutics of internal diseases are methods of questioning and physical examination of the patient

7. Radiology is description and analysis of radiological signs of peritonitis

8. Anesthesiology and intensive care are the principles of management of a patient with peritonitis and its preparation for surgery, methods of analgesia and restoration of body balance.

The specific purpose of self-preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:

1. Examination of the patient to determine the clinical course of peritonitis with perforation of the hollow organ(patient survey and physical examination)
2. Substantiation and formation of a preliminary diagnosis of diseases
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the diseases list for differential diagnosis and its carrying out
5. Formation of clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for peritonitis.

Self-preparation program for a practical lesson:

1. The actuality of the peritoneal syndrome problem.
2. Identification of diseases that are complicated by the development of acute peritonitis.
3. Causes and mechanism of development of peritoneal syndrome
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of acute peritonitis, perforation of the stomach and duodenum, perforation of the small and large intestines.
5. Principles of diagnosis and the amount of data required for the formation of the previous one diagnosis of diseases that lead to the development of peritonitis.
6. Principles of drawing up a diagnostic program to clarify the previous diagnosis and further treatment.
7. Lists of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of diseases that lead to the development of peritoneal syndrome.
9. Substantiation of the organizational and medical program.

Practical skills that are attached to the learning element::

1. Determination of the dehydration level when peritonitis (Shelestyuk test)
2. Determination of the symptom of acute peritonitis.

1. Determination of the dehydration level when peritonitis (Shelestyuk test)

Depending on the severity of clinical manifestations, dehydration may be 1, 2 or 3 degrees. To determine the degree of dehydration and the amount of fluid for infusion therapy using a test for tissue hydrophilicity according to P.I. Shelestyuk: after treating the skin with an antiseptic, 0.25 ml of 0.9% sodium chloride solution is injected intradermally into the anterior surface of the forearm and the time until complete formation of the formed "lemon peel", which corresponds to a certain degree of dehydration, is noted.

Nomogram by Shelestyuk

Degree of dehydration	Resorption time (min.)	The amount of fluid (ml / kg / day)	Daily amount of fluid for a patient weighing 70 kg *
1	40-30	50-80	3500-5600
2	30-15	80-120	5600-8400
3	15-5	120-160	8400-11200

* - the volume of dehydration correction fluid consists of equal parts of 5% glucose, Ringer-Locke and 0.9% sodium chloride.

Instructions for performing the test

The control of practical skills is based on the principle of choosing the correct answer regarding the technique of execution (one of the answers marked in the window) and preliminary calculation and selection from the window of the characteristics and volumes of required solutions (choose from the ones falling out in the window).

2. Determination of the symptom of acute peritonitis.

When the patient is lying on their back, the doctor checks the following symptoms:
Winter, Krasnobayev, Rozanov, Mendel, Shchotkin-Blumberg, Kulenkampf, Douglas' Scream.

1. Winter's symptom is determined at examination of a stomach when the front wall of a stomach does not take part in breath,
2. Krasnobayev's symptom is a protective tension of the rectus abdominis muscles on palpation of the abdomen
3. Symptom of Rozanov - "Ivan-kivan" is determined when the patient can not lie on their back and constantly sits down in the presence of blood in the abdomen (rupture of the spleen)
4. Symptoms of Shchotkin-Blumberg is an increasing of pain when removing the raising of the palpable arm from the anterior abdominal wall
5. Mendel's symptom is determined when a light tap on the abdominal wall causes pain.
6. Douglas' Scream is an overhang of the vault and pelvic peritoneum, pain during vaginal examination
7. Kulenkampf's symptom is swelling and soreness of the anterior wall of the rectum during rectal examination

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several descriptions of symptoms of peritonitis are proposed, which should be placed according to the name of symptoms in the windows on the screen, i.e. the student has to correctly arrange the characteristics corresponding to each symptom. Then, it is necessary to confirm the completion of the test and send the results.

1. At the examination of the patient it is necessary to define:

Complaints of:

A) Pain:

1. Pain localization (right half of the abdomen, right hypochondrium, left half of the abdomen, left hypochondrium, right iliac region, epigastrium, other areas throughout the abdomeny)
2. Pain intensity (not intense, moderate, intense)
3. Pain irradiation (in the right thigh, in the lumbar region, in the external genitalia, right shoulder, etc.)
4. Character of pain (constant, convulsive, shrouding - a symptom of Blyce), connection with the act of defecation, movement, cough
5. If there have been similar attacks of pain before

B) Other complaints are consistently detected :

1. features of excretion of feces and gases, the character of the stool - normal, diarrhea, delay
2. nausea, vomiting (single, repeated), if there is a relief after vomiting
3. bloating
4. changes in body temperature (by how much it is increased)
5. changes from other organs and systems

History:

A) Date and time of onset of the disease:

With what connects the beginning of a disease (against full health or after food intake and its character - meat, vegetable, an error in a diet, alcohol abuse; physical overload, body position), preliminary localization of pain, the beginning acute or sudden .

B) When and where he sought medical help.

1. who received treatment before admission to the clinic, its effectiveness, or engaged in self-medication.
2. when delivered to hospital (date, time)
3. зossible causes of the disease.

Life history:

Living and working conditions that could cause the disease.
Previously suffered diseases and injuries, operations.
Women have obstetric and gynecological history:

1. the number of pregnancies
2. the number of births
3. the date of the last menstrual period
4. whether the last menstrual period was on time

2. Physical examination:
Examination:

A) General examination
1. the severity of the patient's condition
2. the patient's behavior: calm (lies on the back, right, left side) or restless (changes body position, fuss, moan)
3. body temperature, pulse rate
4. skin color
5. the condition of the tongue (dry, wet, the type of tongue plaque)
6. the condition of the pharynx and tonsils
7. the condition of the lower extremities

B) The next following examination:
Thorax examination
Abdomen examination:
1. drawn in, bloated
2. symmetrical, asymmetrical
3. the degree of involvement of the anterior abdominal wall in the breathing act (lag of any part of the abdomen in the breathing act, asymmetry of the navel)

Palpation:
a) finding out the localization of pain and tension of the abdominal wall muscles, the presence of infiltrate, its localization, mobility, its size in centimeters (outline its contours), hyperesthesia of the abdominal skin;
b) the presence of peritoneal symptoms and their localization (Winter symptom - the anterior abdominal wall does is not involved in the breathing act, Krasnobayev's symptom - protective tension of the rectus abdominis muscles, Rozanov's symptom - "Ivan's nod", symptoms of Shchetkin-Blumberg, Mendel symptom - with a light tap on the abdominal wall there occurs pain);
c) the symptoms of diseases with similar clinical performance are checked (Pasternatsky symptom, symptom of tingling in the lumbar region, diaphragmatic nerve, symptoms of intestinal obstruction, etc.
d) at vaginal and rectal research - an overhang of an arch and a pelvic peritoneum, soreness, explosion and soreness of the anterior wall of the rectum - Kulenkampff symptom
Percussion
A) Thorax
B) Abdomen
The presence of Razdolsky's symptoms, changes in the percussion limits of the liver, gallbladder, the presence of hepatic dullness, dulling of the sound on the flanks of the abdomen on the right and left, lower abdomen.

- **Spyzharniy's symptom** - disappearance of hepatic dullness during percussion;
- **De Kehr wen's symptom-** dulling of percussion sound in the flank areas of the abdomen;

Auscultation:
A) Thorax
B) Abdomen

Presence or absence of peristaltic sounds.

On the basis of the received information after interrogation of the patient (complaints, the anamnesis of disease and life) and his physical examination (examination, palpation, percussion, auscultation) the substantiation of the previous diagnosis is carried out.

3. Diagnostic program with data analysis of additional researches:

The diagnostic program for patients with peritonitis is formed on the basis of a preliminary diagnosis:

A) Laboratory examination:

a) CBC (leukocytosis with shift of leukocyte formula to the left to early forms, toxic granularity of leukocytes)

b) urine analysis (presence of protein, erythrocytes, cylinders), urine α-amylase

c) blood glucose

B) Additional hardware and instrumental research methods:

a) abdominal radiography to detect signs of free gas in the abdomen, mechanical or dynamic obstruction of the intestine and to detect effusion in the pleural cavity, mainly on the left

b) sonography (to assess the condition of the pancreas and parapancreatic tissue, the presence of fluid in the abdomen, the condition of the gallbladder and extrahepatic bile ducts)

c) diagnostic laparoscopy (which can be used to clarify the diagnosis and cause of peritonitis)

4.Differential diagnosis:

Differential diagnosis (performed depending on the stage of the pathological process - reactive stage, toxic stage and terminal stage of peritonitis):

A) Differential diagnosis in **the reactive stage:**

- is carried out with a group of diseases that have similar pathogenetic syndromes: pain, inflammation, dyspeptic.

a) *acute inflammatory surgical diseases of the abdominal cavity*

- acute destructive appendicitis
- acute destructive cholecystitis
- acute necrotic pancreatitis
- acute intestinal obstruction
- perforation of an empty organ

b) *acute urological pathology*

- acute pyelonephritis
- urolithiasis

c) *acute gynecological pathology*

- torsion and perforation of the ovarian cyst
- purulent salpingitis
- ectopic pregnancy

d) *acute therapeutic pathology*

- sepsis
- myocardial infarction
- nonspecific ulcerative colitis, toxic-septic variant

B) Differential diagnosis in the toxic stage:

- differential diagnosis is made with mesenteric thrombosis

C) Differential diagnosis in **the terminal stage** (with comatose states of another genesis):

- hypoglycemic coma
- hyperglycemic coma
- uremic coma

5. Clinical diagnosis:

The nosological unit and the form of the disease course are indicated, there are complications - on the basis of clinical and statistical classification.

(look "Уніфіковані клініко-статистичні класифікації хвороб органів травлення". Departmental instruction. Дзяк Г.В., Березницький Я.С., Філіпов Ю.О. з співав.- Київ, Дніпро-VAL, 2004).

6. Organizational and therapeutic tactics:

Defining the need of hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions.

If acute inflammatory diseases of the abdominal cavity - usually an urgent operation, which ends with rehabilitation and drainage of the abdominal cavity through separate contraperture(2-6).

Test questions for self-assessment of preparation for the lesson:

1.The importance of learning the course of diseases that refer to peritoneal syndrome?
2. What is defined during a patient's interview with a suspect of having peritoneal syndrome?
3. Why is it important to identify all complaints that the patient with peritoneal syndrome has?
4. Why is it important to know the exact date and time of peritoneal syndrome diseas's onset?
5. Why is it important to know what previous treatment the patient with peritoneal syndrome received?
6. How can the patient's living and working conditions affect the occurrence and course of peritoneal syndrome?
7. Why is the following sequence during the patient's survey important: collecting complaints, clinical charts and life history?
8. What is found during the examination of the patient and his abdomen?
9. Why are changes in the color of the skin, sclera and mucous membranes with peritoneal syndrome possible?
10. What changes can be detected on palpation of the abdominal wall with peritoneal syndrome?
11.What changes can be detected by digital examination of the vagina and rectum with peritoneal syndrome?
12.Features of physical examination of a patient with suspected acute peritonitis?
13. Features of physical examination of a patient with suspected perforation of the stomach and duodenum ?
14. Features of physical examination of a patient with suspected intestinal perforation?
15. Features of physical examination of a patient with suspected development of destructive forms of diseases related to peritoneal syndrome?
16. What is the basis for the preliminary diagnosis of diseases when peritoneal syndrome?
17. What are the principles of forming a list of diseases for differential diagnosis?
18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics for patients with peritoneal syndrome in the case of destructive forms of diseases that cause it and the development of complications?

METHODOLOGICAL DEVELOPMENT
of a practical lesson

Topic № 12.
«Peritoneal syndrome:
General concepts about the causes of peritoneal syndrome: perforation of the stomach and duodenum, perforation of the small and large intestines»

Module 1. Urgent abdominal surgery and proctology.
Content module 2. Urgent proctology.

Topic № 12. A peritoneal syndrome due to perforation of the stomach and duodenum, perforation of the small and large intestines.
Definition: **Peritoneal syndrome** occurs as a complication, or rather a natural consequence, or stage of negative development of various acute surgical diseases and injuries of the abdominal cavity. At suspicion of occurrence of a peritoneal syndrome - urgent consultation of the surgeon, and at its confirmation - urgent hospitalization in the surgical department for performance of an urgent operation.
The most common causes of the peritoneal syndrome are **perforation of the stomach and duodenum, perforation of the small and large intestines**, destructive forms of acute appendicitis, acute cholecystitis, acute pancreatitis (pancreatic necrosis), acute intestinal obstruction.

1. **Perforation of the stomach and duodenum –** At breakthrough of the stomach or duodenum affected by a peptic ulcer, a malignant tumor of a stomach or traumatic damage of body, the gastroduodenal contents which act on a peritoneum as chemical, physical, and then and bacterial irritant with the subsequent development of a peritoneum enter a free abdominal cavity.

2. **Perforation of the small and large intestines** occurs as a complication of Crohn's disease, nonspecific ulcerative colitis, diverticulitis or malignant tumor of the colon (with decay and obstruction), typhoid fever with subsequent development of peritonitis. The cause of perforation can be damaged by foreign objects (during the enema, violence, etc.).

Clinical manifestations of the gastric and duodenal ulcers:
A) The main symptoms of gastric and duodenal ulcers (triad of Mondor):
- sudden sharp ("dagger") pain in the upper abdomen;
- ulcer history or characteristic "gastric" complaints;
- plank muscle guarding of the anterior abdominal wall

B) Minor symptoms of perforated ulcer:
- general somatic disorders (labored respiration, bradycardia with transition to tachycardia, blood pressure decline);
- functional disorders (single vomiting, thirst, dry mouth, general weakness, delayed defecation);
- objective manifestations (forced position in bed - lying on the back with hips pulled up to abdomen, pale skin, cold sticky sweat, positive pathognomonic symptoms).

C) Clinical chart:
- ulcer in anamnesis in 80-90% cases
- asymptomatic ulcer in 10-15% cases

- the presence of prodromal symptoms (pain, nausea, vomiting).

D) Life history; the development of perforation of the stomach or duodenum is influenced by the peculiarities and timeliness of nutrition, the nature of food, the use of drugs for food (prednisolone, nonsteroidal anti-inflammatory drugs, etc.), smoking, alcohol. Bad habits are accompanied by a change in the pH of the stomach, which leads to disruption of the entire gastrointestinal tract and the development of complications.

E) Clinical manifestations of gastric and duodenal ulcers depend on the stage of the disease:

- shock stage (up to 6 hours from the beginning of perforation);
- stage of imaginary well-being (6-12 hours from the beginning of perforation);
- peritonitis stage (more than 12 hours from the beginning of perforation).

Factors affecting the clinic of perforated ulcer:

- stage of the clinical process (shock, imaginary well-being, peritonitis);
- features of the course or localization of perforation (covered perforation, atypical perforation);
- the state of the body's defenses;
- combination of perforation with other complications of peptic ulcer disease (bleeding, penetration, stenosis).

Clinical manifestations of perforation of the small and large intestines differ from the perforation of the upper gastrointestinal tract as follows:

A) The main symptoms of perforation:
- sudden sharp pain in any part of the abdominal cavity;
- in contrast to gastric ulcer peritonitis from the first hours of occurrence of fecal bacterial, while in gastric perforation it is initially chemical,
- history of the disease is different depending on the cause of perforation: in diverticular disease and tumors, the disease is long-term, mostly in the elderly, accompanied by changes in general condition and laboratory data,
- plank muscle guarding of the anterior abdominal wall is not always pronounced (with ulcerative colitis, the clinical picture is unclear).

B) Minor symptoms of perforation of the small and large intestine are similar:
- somatic disorders (difficulty breathing, bradycardia with transition to tachycardia, lowering blood pressure);
- functional disorders (single vomiting, thirst, dry mouth, general weakness, delayed defecation);
- objective manifestations (forced position in bed - lying on your back with your hips pulled up to your abdomen, pale skin, cold sticky sweat, positive pathognomonic symptoms).

C) History of the disease:
- the presence of symptoms of diseases of the small or large intestine in the anamnesis - polyps, polyps, inflammatory diseases of the small or large intestine,
- the presence of prodromal symptoms (pain, weight loss, nausea, vomiting, changes in the form of stool and the presence of discharge - blood, mucus, pus).

D) Life history; the occurrence of intestinal diseases is influenced by the peculiarities and nature of nutrition, bad habits, which leads to disruption of the entire gastrointestinal tract and the development of complications. The cause of perforation can be hard work in a sick person, abdominal trauma, the development of intestinal obstruction with increased pressure in the lumen of the intestine.

<u>The ultimate goals of learning the studying element:</u>

1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAMM

(g) Urgency of hospitalization
(h) Urgency of the operation
(i) Preoperative preparation
(j) Anesthesia
(k) Postoperative treatment

(l) Rehabilitation of patients

The purpose of the practical lesson:
To establish the level of assimilation of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner on the topic – General concepts about the causes of peritoneal syndrome: Perforation of the stomach and duodenum, perforation of the small and large intestines, which belongs to the peritoneal syndrome.

Forms of knowledge control and skills in practical classes:
1. Test control of knowledge (computer knowledge control; 30 test cases)

2. Theoretical survey of each student with an assessment of the following questions:
- justification of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program

3. Assessment of each student's performance of practical skills:
- analysis of review radiographs for peritonitis and perforation of the cavity
- Neymark test.

Informational part of the methodical development

The minimum basic level of knowledge required to master the topic:
1. Anatomy, topographic anatomy and operative surgery are topographic and anatomical characteristics of the colon and rectum, abdominal cavity.
2. Physiology is the functions of the colon and rectum.
3. Pathological physiology is the pathogenesis of the inflammatory syndrome.
4. Pathological anatomy is morphological changes in the colon and rectum, in the abdominal cavity, depending on the duration of the disease and the reasons that led to the development of inflammatory syndrome.
5. Microbiology, virology and immunology are the place of microbial factor and fracture of the body's immune system in the occurrence of inflammatory processes in the colon and direct intestines.
6. General surgery, propaedeutics of internal diseases are methods of questioning and physical examination of the patient

7. Radiology is the description and analysis of radiological signs of peritonitis

8. Anesthesiology and intensive care are the principles of management of a patient with peritonitis and its preparation for surgery, methods of analgesia and restoration of body balance.

The specific purpose of self-preparation for practical training:

Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:

1. Examination of the patient to determine the clinical course of peritonitis with perforation of the hollow organ(patient survey and physical examination)
2. Substantiation and formation of a preliminary diagnosis of diseases
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the diseases list for differential diagnosis and its carrying out
5. Formation of clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for peritonitis.

Self-preparation program for a practical lesson:

1. The actuality of the peritoneal syndrome problem.
2. Identification of diseases that are complicated by the development of acute peritonitis.
3. Causes and mechanism of development of peritoneal syndrome
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of acute peritonitis, perforation of the stomach and duodenum, perforation of the small and large intestines.
5. Principles of diagnosis and the amount of data required for the formation of the previous one diagnosis of diseases that lead to the development of peritonitis.
6. Principles of drawing up a diagnostic program to clarify the previous diagnosis and further treatment.
7. Lists of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of diseases that lead to the development of peritoneal syndrome.
9. Substantiation of the organizational and medical program.

Practical skills that are attached to the learning element::

1.Analysis of review radiographs for peritonitis and perforation of the cavity
2. Neymark test

1. Analysis of review radiographs for peritonitis and perforation of the cavity

Contrast-free X-ray examination should be performed with minimal suspicion of acute surgical disease and trauma to the abdominal organs. Performed in the position of the patient standing. On the abdominal radiograph, attention is paid to total shading, which later forms a horizontal level of fluid with a gas bubble, or multiple balls of gas at the site of peritonitis, and then go to the subphrenic space, where merging to form a large air bubble with a horizontal level.

Perforation or rupture of the abdominal cavity forms a free gas in the abdominal cavity under the domes of the diaphragm in the form of a crescent-shaped strip while the patient is in vertical position (plantigrade position).

Instructions for performing the test

The control of practical skill is based on the principle of a step-by-step test case and consists of several questions, including the choice of radiograph of a patient with peritonitis, the choice of examination method and symptoms of peritonitis, the choice of additional examination methods and the choice of changes. The student consistently answers questions and records the result. The final test result will be displayed on the last screen.

2. Performance of Neymark test

If the clinical data of a perforated ulcer is present and the free gas in an abdominal cavity is absent, carry out a pneumo gastrography (Neymark test):
- when the patient is on the left side, a probe is inserted into his stomach;
- through a probe into the stomach is injected with a syringe Jeanne 500 ml of air;
- after the introduction of air to the patient make a re-examination of the abdominal radiograph (if the gas under the dome of the diaphragm is present, confirm the perforation);

Instructions for performing the test

The control of practical skills is based on the principle of choosing the correct answer regarding the technique of execution (one of the answers marked in the window) and choosing from the window the characteristics and volumes of the required volumes of air (choose from the ones falling in the window).

Features of examination of patients with *peritoneal syndrome*:

1. At the examination of the patient it is necessary to define:

Complaints of:

A) Pain:

1.Pain localization (right half of the abdomen, right hypochondrium, left half of the abdomen, left hypochondrium, right iliac region, epigastrium, other areas throughout the abdomeny)
2.Pain intensity (not intense, moderate, intense)
3.Pain irradiation (in the right thigh, in the lumbar region, in the external genitalia, right shoulder, etc.)
4.Character of pain (constant, convulsive, shrouding - a symptom of Blyce), connection with the act of defecation, movement, cough
5.If there have been similar attacks of pain before

B) Other complaints are consistently detected :

1.features of excretion of feces and gases, the character of the stool - normal, diarrhea, delay
2.nausea, vomiting (single, repeated), if there is a relief after vomiting
3.bloating
4.changes in body temperature (by how much it is increased)
5.changes from other organs and systems

The anamnesis of the disease and the anamnesis of life are defined

A) Date and time of the disease onset;

What is associated with the onset of the disease (on the background of good health or after eating and its nature - meat, vegetable, dietary error, alcohol abuse; physical overload, body position), previous pain localization, the onset – acute or sudden

B) When and where patient sought medical attention:

1.what kind of treatment was received before admission to hospital, its efficiency
2.when taken to hospital (date, time)

C) Other possible causes of the disease

D) Living and working conditions that could cause the disease

E) For women - obstetric and gynecological history:

5. the number of pregnancies
6. the number of births
7. the date of the last menstrual period
8. whether the last menstrual period was on time

2. Physical examination:
Examination:

A) General examination
1. the severity of the patient's condition
2. the patient's behavior: calm (lies on the back, right, left side) or restless (changes body position, fuss, moan)
3. body temperature, pulse rate
4. skin color
5. the condition of the tongue (dry, wet, the type of tongue plaque)
6. the condition of the pharynx and tonsils
7. the condition of the lower extremities

B) The next following examination:
Thorax examination
Abdomen examination:
1. drawn in, bloated
2. symmetrical, asymmetrical
3. the degree of involvement of the anterior abdominal wall in the breathing act (lag of any part of the abdomen in the breathing act, asymmetry of the navel)

Palpation:
a) finding out the localization of pain and tension of the abdominal wall muscles, the presence of infiltrate, its localization, mobility, its size in centimeters (outline its contours), hyperesthesia of the abdominal skin;
b) the presence of peritoneal symptoms and their localization (Winter symptom - the anterior abdominal wall does is not involved in the breathing act, Krasnobayev's symptom - protective tension of the rectus abdominis muscles, Rozanov's symptom - "Ivan's nod", symptoms of Shchetkin-Blumberg, Mendel symptom - with a light tap on the abdominal wall there occurs pain);
c) the symptoms of diseases with similar clinical performance are checked (Pasternatsky symptom, symptom of tingling in the lumbar region, diaphragmatic nerve, symptoms of intestinal obstruction, etc.
d) at vaginal and rectal research - an overhang of an arch and a pelvic peritoneum, soreness, explosion and soreness of the anterior wall of the rectum - Kulenkampff symptom
Percussion
A) Thorax
B) Abdomen
The presence of Razdolsky's symptoms, changes in the percussion limits of the liver, gallbladder, the presence of hepatic dullness, dulling of the sound on the flanks of the abdomen on the right and left, lower abdomen.

- **Spyzharniy's symptom** is accompanied by disappearance of hepatic dullness during percussion;
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Presence or absence of peristaltic sounds.

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B) Additional hardware and instrumental research methods:

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b) sonography (to assess the condition of the pancreas and parapancreatic tissue, the presence of fluid in the abdomen, the condition of the gallbladder and extrahepatic bile ducts)

c) diagnostic laparoscopy (which can be used to clarify the diagnosis and cause of peritonitis)

4.Differential diagnosis:

Differential diagnosis (performed depending on the stage of the pathological process - reactive stage, toxic stage and terminal stage of peritonitis):

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- is carried out with a group of diseases that have similar pathogenetic syndromes: pain, inflammation, dyspeptic.

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- perforation of an empty organ

b) *acute urological pathology*

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- urolithiasis

c) *acute gynecological pathology*

- torsion and perforation of the ovarian cyst
- purulent salpingitis
- ectopic pregnancy

d) *acute therapeutic pathology*

- sepsis
- myocardial infarction
- nonspecific ulcerative colitis, toxic-septic variant

B) Differential diagnosis in the toxic stage:

- differential diagnosis is made with mesenteric thrombosis

C) Differential diagnosis in **the terminal stage** (with comatose states of another genesis):

- hypoglycemic coma
- hyperglycemic coma
- uremic coma

5. Clinical diagnosis:

The nosological unit and the form of the disease course are indicated, there are complications - on the basis of clinical and statistical classification.
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Defining the need of hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions.

If acute inflammatory diseases of the abdominal cavity - usually an urgent operation, which ends with rehabilitation and drainage of the abdominal cavity through separate contraperture(2-6).

Test questions for self-assessment of preparation for the lesson:

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10. What changes can be detected on palpation of the abdominal wall with peritoneal syndrome?
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METHODOLOGICAL DEVELOPMENT
Knowledge control on
“ Peritoneal syndrome ”

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:

1. Independently, in the conditions of out-of-classroom preparation (at home, in a dormitory), to solve in writing a situational clinical problem from one of the educational elements which are a part of a syndrome which is being studied.

2. When solving a situational clinical problem, based on the conditions, formulate in written form**:**

- Previous diagnosis
- Diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- Differential diagnosis of the two diseases that are most likely in this case
- Clinical diagnosis
- Treatment program
-

3. In the next practical lesson, the written work is submitted for checking to the teacher, who assesses the level of mastery of a professionally oriented case.

Cases on «Peritoneal syndrome» (individual clinical cases):

CASE № 1

Patient A.(male), 18 years old, complains of constant sharp pain in the abdomen, nausea, general weakness. From the anamnesis: 2 hours ago there was an acute knife-like pain in the epigastric region, which then it spreaded throughout the abdomen. Previously, the patient was disturbed by heartburn, night pain and fasting pain in the epigastrium

At examination: the patient's condition is fair, body temperature is 37.2˚C, pulse is 86 bpm , blood pressure is 140/80 mm Hg. The tongue is covered with whitish plaque, dry. The abdomen is retracted, the anterior abdominal wall does not participate in the act of breathing. At superficial palpation, there is determined a tension of muscles of a frontal abdominal wall ″wooden belly″, considerable pain all over abdomen,positive symptom of Shchotkin - Blumberg is noted. Hepatic dullness is absent.

CASE № 2

Patient N.(male), 35 years old, complains of constant intense pain in the abdomen, which is exacerbated when coughing, nausea, vomiting, delayed stool and gas. From the anamnesis: he suffers from a right inguinal hernia for 5 years; 12 hours ago, after an attack of coughing, the hernia enlarged and stopped reducing, and pain appeared in the protrusion area; after 8 hours there was a constant intense pain in the abdomen, which was exacerbated by coughing; there was a general weakness, nausea, repeated vomiting, which did not bring relief, the body temperature rose to 38.2˚C.

At examination: the patient's condition is serious , body temperature is 38.2˚C, pulse 102 bpm Blood pressure is 110/70 mm Hg. The tongue is covered with a white plaque, dry. The anterior abdominal wall in the lower half lags behind in the act of breathing. During superficial palpation, it is noted that the abdomen is painful throughout, pain to the right and below the navel. Positive symptom of Shchotkin - Blumberg's in the lower half, during percussion, dullness is determined in the sloping areas of the abdominal cavity, hepatic dullness is preserved; during auscultatory, there are no peristaltic sounds.

CASE № 3

Patient D.(male), 58 years old, complains of constant pain in the abdomen, nausea, vomiting, general weakness, fever, delayed stool and gas. From the anamnesis: he has been sick for 4 days, first pain appeared in the epigastric region which then moved to the right iliac region, there was nausea and one-time vomiting. The patient took analgetics on his own and applied heat to the abdomen, after which pain subsided, but two days later reappeared and spread throughout the abdomen, vomiting, general weakness, the headache, body temperature rose to 39.8 ° C.

At examination: the patient's condition is serious , consciousness is partially confused, a pulse is 120 bpm , blood pressure is 60/40 mm Hg. The tongue is dry, cracked. The anterior abdominal wall is partially involved in respiration. The abdomen is flattened, on palpation, it is soft and painful in all areas, but the greatest soreness is observed in the right iliac region. Shchetkin-Blumberg's symptom is weakly expressed throughout the abdomen. During percussion there is tympanitis. During auscultation, it is noted that peristalsis sounds are absent.

CASE 4

Patient B.(female), 28 years old, complains of cramping pain in the abdomen, delayed stool and gas, repeated vomiting, general weakness, fever up to 38.0˚C. From the anamnesis: she felt ill two days after a sharp pain appeared in the abdomen immediately after meal, which took on a paroxysmal character, and repeated vomiting appeared; gradually the patient's condition was deteriorated, gases stopped passing, stool was absent, body temperature rose.

At the examination: the general condition of the patient is serious, restless, moans from pain. Pulse is 90 bpm., blood pressure is 100/70 mm Hg. The tongue is dry, with tongue plaque. The abdomen is moderately bloated. In the right iliac region is a postoperative scar. The anterior abdominal wall does not participate in the breathing act. On palpation, there is determined tension of the abdominal wall, and pain throughout the abdomen. There is no intestinal motility, the "splashing sounds" are determined. Positive Shchetkin - Blumberg's, Razdolsky's symptoms are defined.

CASE 5

Patient G.(male), 38 years old, complains of constant pain in the right half of the abdomen, general weakness, nausea, vomiting, fever. From the anamnesis: the patient has been suffering from gallstone disease for 6 years, two days later a strong pain appeared in the epigastric region and the right hypochondrium with irradiation to the right scapula, nausea, vomiting. Gradually, the patient's condition worsened: the body temperature rose to 38˚C, and pain spread to the entire right half of the abdomen.

At examination: the general condition of the patient is severe, body temperature is 38˚C, pulse 108 per/min., blood pressure is 100/65 mm Hg. The abdomen is moderately swollen, the right half of the abdominal wall does not participate in the breathing act. On palpation, there is a muscle guarding of the abdominal wall in the right hypochondrium and right lateral area, the gallbladder is not palpable. Positive Shchetkin - Blumberg's, Razdolsky's symptoms in the right half of the abdomen are noted. At auscultation, peristaltic sounds are sharply weakened.

CASE 6

Patient D.(male), 46 years old, complains of constant intense pain in the abdomen, general weakness, nausea, vomiting, fever. From the anamnesis: he has been ill for 3 days, the disease began acutely, after overeating and alcohol consumption, there was a belt-like pain in the upper half of the abdomen, repeated vomiting; was admitted to the surgical department, where the patient underwent conservative treatment. On the third day, the patient's condition worsened: pain spread throughout the abdomen, fever, delayed stool and gas.

At examination: the general condition of the patient is severe, body temperature is 38.4˚C, the pulse is 118 bpm , blood pressure is 100/75 mm Hg. The abdomen is moderately swollen, the anterior abdominal wall does not participate in the breathing. During palpation, there is a pronounced muscle guarding of the

abdominal wall around the abdomen, pain in the left half. The positive Shchetkin - Blumberg's, Razdolsky's symptoms are noted. During percussion, there is tympanitis, more pronounced above the navel, in the lateral areas there is dullness. During auscultation, peristaltic sounds are sharply weakened.

CASE 7

Patient S.(female), 38 years old, complains of constant pain in the abdomen, nausea, vomiting, general weakness, fever, delayed stool and gas. From the anamnesis: she has been sick for 3 days, the first attack of pain occurred in the epigastric region, then moved to the right iliac region, there was nausea and one-time vomiting. The patient took antispasmodics, analgin, did not seek medical help, pain decreased for some time, but after two days relapsed and spread throughout the abdomen, there were repetitive vomiting, general weakness, headache, and body temperature rose to 38.8 ° C .

At examination: the patient's condition is serious, consciousness is clear, a pulse is 112 bpm , blood pressure is 90/60 mm Hg. The tongue is dry, covered with tongue plaque. The anterior abdominal wall does not participate in the breathing. The abdomen is swollen, during palpation, there is determined muscle guarding of the abdominal wall and pain. It is also noted a positive Stchotkin - Bloomberg's symptom in the lower half of the abdomen. During percussion, tympanitis is found, during auscultation, there are no peristalsis sounds.

CASE 8

Patient M.(male), 68 years old, complains of constant sharp pain in the right half of the abdomen, nausea, vomiting, fever, gas retention. From the anamnesis: she has been ill for 3 days before there was an attack of sharp pain in the right hypochondrium, which stopped spontaneously a few hours later. After 10 hours, pain in the right hypochondrium reappeared and took on an increasing character, there was repeated vomiting with bile. Body temperature rose to 38.2˚C. Earlier at ultrasound concrements in a gall bladder were found.

At examination: the patient's condition is serious, consciousness is clear, a pulse is 98 bpm. Blood pressure is 110/70 mm Hg. The tongue is dry, covered with yellow plaque. The abdomen is moderately swollen, the anterior abdominal wall on the right lags behind during breathing. Palpation: abdomen is tensed, the patient feels pain in the right hypochondrium, where the bottom of the gallbladder is palpated. Ortner's, Mussy-Georgievsky's symptoms are positive, the Schotkin-Blumberg's symptom is positive in the right hypochondrium and right lateral area.

CASE 9

Patient F.(female), 28 years old, complains of constant sharp pain in the abdomen, nausea, general weakness. From the anamnesis: the patient is followed up by gastroenterologist due to duodenal ulcer. 12 hours ago there was an acute knife-like pain in the epigastric region, which then spread throughout the abdomen; the patient took antispasmodics, analgesics, but the condition did not improve.

At examination: the patient's condition is fair, body temperature is 37.8 C, pulse 96 bpm, blood pressure is 110/80 mm Hg. The tongue is covered with whitish plaque, dry. The abdomen is moderately swollen, the anterior abdominal wall does not participate in the act of breathing. At a superficial palpation the spreaded tension of muscles of abdominal wall - "wooden belly", considerable pain all over abdomen, especially in the right half, a positive Shchotkin - Blumberg's symptom are noted. Hepatic percutory dullness is absent. During auscultation, peristaltic sounds cannot be heard.

CASE 10

Patient R.(female), 48 years old, complains of constant pain in the abdomen, nausea, vomiting, gas retention. From the anamnesis: 16 hours before admission to the clinic, a convulsive pain suddenly appeared in the abdomen, gas and feces stopped passing, there was repeated vomiting. The patient was

engaged in self-medication (heat on the abdomen, antispasmodics), but the condition gradually deteriorated.
At examination: the general condition is severe, the position in bed is forced (on the side with the legs brought to the abdomen), the skin is pale, pulse is 110 bpm , blood pressure is 90/60 mm. Hg. The tongue is dry. The abdomen is swollen in the upper parts, in the area of the navel there is protrusion, round shape, size 6x7 cm, during palpation, the abdomen is densely elastic and very painful. The abdomen in the mesogastric and hypogastric areas is tense, painful, positive Shchotkin-Blumberg's and Razdolsky's symptoms. Intestinal motility is decreased, resonant.

CASE 11

Patient B. (male), 52 years old, complains of constant strong pain in the abdomen, nausea, vomiting, gas retention. From the anamnesis: last year the patient was disturbed by constipation, which was replaced by liquid stools with blood and mucus. During the last three months, there was moderate pain in the left iliac region, bloating, pronounced peristaltic sounds, weakness, decreased appetite, low-grade fever. Two days later, the pain in the abdomen significantly increased, at first it was paroxysmal, and then became constant, feces and flatus stopped passing, vomiting appeared, the temperature rose to 38.0 ° C.
At the examination: the patient's condition is serious , pulse is 102 bpm , blood pressure is 100/60 mm Hg. The tongue is dry, covered with white plaque. The abdomen is swollen, asymmetrical due to protrusion in the left lateral area. During palpation it is noted significant tension and pain in the lower abdomen, positive Wahl's, Shchetkin - Blumberg's symptoms. During percussion tympanitis in the mesogastric area and percutory dullness in the lateral areas is found. Intestinal motility cannot be heard.

CASE 12

Patient L.(male), 36 years old, complains of constant strong pain in the abdomen, nausea, vomiting, gas retention, fever. From the anamnesis: 12 hours later the patient received an abdominal injury (blow with a blunt object), after the injury there was a strong pain in the abdomen, gradually the patient's condition worsened, there was a significant weakness, nausea, vomiting, gas retention.
At the examination: the general condition of the patient is serious, moans from pain, pulse 108 bpm , blood pressure is 100/60 mm Hg. The tongue is dry, the abdomen is swollen, the anterior abdominal wall does not participate in the breathing; during palpation, there is noted significant muscle tension and pain in all parts of the abdomen, also there is determined a positive Shchotkin-Blumberg's symptom of ; at auscultation, peristalsis cannot be heard.

METHODOLOGICAL DEVELOPMENT
of a practical lesson

Topic № 13.
«Acute rectal pain syndrome:
General issues of development and diagnosis of acute pain in the anorectal region: severe hemorrhoids, acute anal fissure, acute paraproctitis, the epithelial coccygeal passages inflammation»

Module 1. Urgent abdominal surgery and proctology.
Content module 3. Urgent proctology.

Topic № 13. Acute pain in the rectum, anal canal and perianal area.
Definition: **Acute pain in the rectum, anal canal and perianal area** occurs due to obstruction or compression of the rectum and anal canal by fecal tumor, inflammatory infiltrate or pathologically enlarged hemorrhoids, and trauma to the defect of the mucous membrane by fecal contents.

In case of acute pain in the rectum, anal canal and perianal area, the patient is recommended to make an urgent appointment with a surgeon and proctologist, and in case of confirmation of complications of proctological diseases - urgent hospitalization in a surgical or proctological department.
The most common causes of acute pain in the rectum, anal canal and perianal area are **acute hemorrhoids, acute anal fissure, acute paraproctitis and inflammation of the epithelial coccygeal passages.**

General issues of development and diagnosis of acute pain in the anorectal region:
1. Acute hemorrhoids is an acute congestive pathological change with the expansion of hemorrhoidal plexuses of the anus and rectum, causing locking of joints, pain, discomfort in the anus.

2. Acute anal fissure is an acute pathological change in the mucous and submucosal layers of the anal canal with sphincter spasm, causing a sharp pain and discomfort in the anus.

3. Acute paraproctitis is an acute inflammatory change in the wall of the rectum and perianal area, leading to the formation of abscesses, causing a sharp pain and discomfort in the anus and perianal area, general weakness, fever.

4. The epithelial coccygeal passages inflammation is an acute inflammatory change in the sciatic region, causing the formation of infiltrates and pus with pain, general weakness and fever.

The ultimate goals of learning the studying element:
1. Formation of a preliminary diagnosis

2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAMM
Urgency of hospitalization
Urgency of the operation
Preoperative preparation
Postoperative treatment

The purpose of the practical lesson: To establish the level of assimilation of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner on the topic – general issues of development and diagnosis of acute pain
syndrome in the anorectal region: acute hemorrhoids, acute anal fissure, acute paraproctitis, inflammation of the epithelial coccygeal passages, which refers to the syndrome of acute pain in the rectum, anal canal and perianal region..

Forms of knowledge control and skills in practical classes:
1. Test control of knowledge (computer knowledge control; 30 test cases)

2. Theoretical survey of each student with an assessment of the following questions:
- justification of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program

3. Assessment of each student's performance of practical skills:
- rectal examination with a rectal speculum
- rectoromanoscopy

Informational part of the methodical development

The minimum basic level of knowledge required to master the topic:
1. Anatomy, topographic anatomy and operative surgery are topographic and anatomical characteristics of the colon and rectum, abdominal cavity.

2. Physiology is the functions of the colon and rectum.
3. Pathological physiology is the pathogenesis of the inflammatory syndrome.
4. Pathological anatomy is a morphological change in the colon and rectum, in the abdominal cavity, depending on the duration of the disease and the reasons that led to the development of inflammatory syndrome.
5. Microbiology, virology and immunology are the place of microbial factor and fracture of
the body's immune system in the occurrence of inflammatory processes in the colon and direct intestines.
6. General surgery, propaedeutics of internal diseases are methods of questioning and physical examination of the patient

The specific purpose of self-preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:

1. Examination of the patient to determine the clinical course of severe hemorrhoids, acute anal fissure, acute paraproctitis, the epithelial coccygeal passages inflammation
2. Substantiation and formation of a preliminary diagnosis of diseases
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the diseases list for differential diagnosis and its carrying out
5. Formation of clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for severe hemorrhoids, acute anal fissure, acute paraproctitis, the epithelial coccygeal passages inflammation

Self-preparation program for a practical lesson:

1. The actuality of the acute pain syndrome in the anorectal region.
2. Identification of diseases related to the acute pain syndrome in the anorectal region.
3. Causes and mechanism of development of diseases related to the acute pain syndrome in the anorectal region.
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of severe hemorrhoids, acute anal fissure, acute paraproctitis, the epithelial coccygeal passages inflammation.
5. Principles of diagnosis and the amount of data required for the formation of the previous one diagnosis of diseases related to acute pain syndrome in the anorectal region.
6. Principles of drawing up a diagnostic program to clarify the previous diagnosis and further treatment.
7. Lists of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of severe hemorrhoids, acute anal fissure, acute paraproctitis, the epithelial coccygeal passages inflammation.
9. Substantiation of the organizational and medical program.

Practical skills that are attached to the learning element:

1. Examination of the perianal region
2. Digital rectal examination

1. Examination of the perianal region

Examination of the perianal area is performed in rubber gloves: a) in the knee-elbow position of the patient, b) in the position of the patient lying on his side with his legs pulled up to his stomach, c) in the position of the patient lying on his back with legs bent at the knees and legs apart, d) when the patient is in semi sitting (squatting) position with his feet on the couch.

Examination: first, spread the buttocks of the patient, examine the anus, skin of the buttocks, perineum, sacrococcygeal and intergluteal areas. This allows you to detect external hemorrhoids, anal fissures, fistulas,pilonidal sinuses, superficial tumors, warts, edema, abscesses, as well as to assess the color and condition of the skin. At straining of the patient it is possible to reveal prolapse of a mucous membrane of a rectum, and internal hemorrhoids low-lying rectal tumors.

Palpation: allows to detect the presence or absence of pain of skin and subcutaneous tissue in the anus, buttocks, buttocks and coccyx, the release of blood and pus from the nodes, fistulas and pilonidal sinuses.

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several options for the examination of the perianal area are proposed. After looking at each option, the student has to select the correct number of this option in the window on the right. The student has to then complete the attempt and confirm the action and complete the test, or return to the questionable answer and review the questions, reaffirm the completion of the test, and submit the results.

2. Digital rectal examination :

The anus of the patient should be lubricated with a solution of local anesthetic. Then, doctor gradually insert lubricated with vaseline or water soluble lubricant (Luan, Nefluan etc.) gloved index finger into the rectum, while appreciate the tone of the rectal sphincter. Normally, it should tightly cover the finger being inserted. After the finger is inserted into the rectum along its entire length, the presence of fecal contents in its lumen can be noted and changes in the surface of the mucous membrane are determined. In addition, pararectal tissue is palpated through the lateral and posterior walls of the intestine, then in male the prostate is palpated in the anterior wall of the intestine; in female the Douglas pouch and uterus can be palpated.

If the tumors in the lumen of the rectum are present, determine their location (front, back or side walls of the intestine) taking into account the accepted among doctors clock position rule: when the patient is in supine position, the anal area is virtually divided by the clock face: 12 o'clock corresponds the perineum, to the right of the doctor is 3 o'clock, the coccyx located on 6 o'clock, to the left of the doctor is 9 o'clock. Next, determine the shape, size, nature of the surface, consistency, displacement, the presence of fluctuations and pain.

It allows to differentiate a tumor (polyp, cancer) from internal hemorrhoids and pus in paraproctitis. To detect rectal prolapse or tumors, and examination of the upper parts of the rectum, digital rectal examination is performed in the semi sitting position of the patient with his feet on the couch.

After palpation, remove the finger from the patient's rectum and examine the glove, paying attention to the fecal contents' color and the presence of pathological discharge (blood, mucus, pus, tumor detritus).

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several options for performing a digital rectal examination are proposed. After looking at each option, the student has to select the correct number of this option in the window on the right. Then the student has to complete the attempt and confirm the action and complete the test, or return to the questionable answer and review the questions, reaffirm the completion of the test, and submit the results.

Features of examination of patients with *acute pain in the anorectal region*:

1. At the examination of the patient it is necessary to define:

Complaints of:

A) Pain:

1. pain localization (in the abdomen along the colon, anus, anal canal, rectum, perianal region)
2. pain intensity (weak, moderate, strong)
3. pain irradiation (in the perineum, in the prostate gland if male, in the vagina if female, in the coccyx, in the buttocks)
4. pain character (constant, cramping), connection with defication act
5. if there have been similar attacks of pain before

B) Other complaints are consistently detected :

1. Stool changes (diarrhea or delay, the presence of pathological discharge: blood, mucus, pus, tumor detritus)
2. body temperature changes (by how much it is increased)
3. changes from other organs and systems

Disease and life anamnesis:

A) Date and time of the disease onset

B) When and where patient sought medical attention:

1) what kind of treatment was received before admission to hospital
2) when taken to hospital (date, time)

C) Possible causes of the disease: degeneration of eating quality, alcohol intake, physical overload, etc.

D) Living and working conditions that could cause the disease

E) For women - obstetric and gynecological history:

5) the number of pregnancies
6) the number of births
7) the date of the last menstrual period
8) whether the last menstrual period was on time

2. Physical examination:

Examination:

A) General examination:

1. the severity of the patient's condition
2. the patient's behavior: calm or restless
3. body temperature, pulse rate

4. the condition of the tongue (dry, wet)
5. the condition of the pharynx and tonsils
6. the condition of the lower extremities

B) The next following examination:

Thorax examination

Abdomen examination:

1. drawn in, bloated
2. symmetrical, asymmetrical

3. the degree of involvement of the anterior abdominal wall in the breathing act

Perianal area: the presence of enlarged external hemorrhoidal tumors at 3-5 "Hours", 7 "hours" and 11 "hours", with a skin color change above them from dark red to black; the presence of overhanging skin wrinkles at 12 or 6 "hours" with a linear defect of the mucous membrane of the anus; the presence of fistula openings near the anus or on the skin of the buttocks, where pyorrhea may occur, swelling of the skin and subcutaneous tissue, change of its color from red to dark red; the presence in the peritoneal area of holes in the form of a "needle tip" or slightly bigger, where pyorrhea may occur , swelling of the skin in this area with a change in its color to dark red.

Palpation (including gynecological and rectal examination):

A) Localization of pain and and tension of muscles of an abdominal wall, existence of an infiltrate

B) Determination of local manifestations of the disease in the digital examination of the rectum: the presence of enlarged and painful external and internal hemorrhoidal tumors at 3-5 "hours", 7 "hours" and 11 "hours", often with enlarged and painful hemorrhoidal tumors Digital rectal examination is impossible; the presence of a painful defect of the mucous membrane of the anus at 12 or 6 "hours" of linear or elliptical shape with dense edges; the presence of painful dense infiltrate or fluctuations under the edema of perianal skin and tissue, and in the rectum - overhang and soreness of its wall; on palpation of the interstitial area - a dense painful infiltrate or fluctuation of pus under the skin.

C) Determination of peritoneal symptoms and their localization

D) Identification of symptoms from other organs and systems

Percussion:

A) Thorax
B) Abdomen

Auscultation:

A) Thorax
B) Abdomen

On the basis of the received information after interrogation of the patient (complaints, the anamnesis of disease and life) and his physical examination (examination, palpation, percussion, auscultation) the substantiation of the previous diagnosis is carried out.

Diagnostic program with data analysis of additional researches:

By ambulance - counting the number of leukocytes in the blood, then the general CBC to detect changes in the leukocyte formula - its shift to the left, decrease in ESR, decrease in the number of erythrocytes, decrease in color and decrease in hemoglobin. If possible, rectal examination of the rectum, rectomanoscopy.

4. Differential diagnosis:

When the acute pain syndrome in anorectal area the following is carried out:

severe hemorrhoids with acute anal fissure, acute paraproctitis, malignant tumor of the rectum, acute intestinal obstruction, foreign body of the rectum;

acute anal fissure with acute hemorrhoids, acute paraproctitis, malignant tumor of the rectum, acute intestinal obstruction, foreign body of the rectum;

acute paraproctitis with acute hemorrhoids, acute anal fissure, malignant tumor of the rectum, acute intestinal obstruction, foreign body of the rectum;

inflammation of the epithelial coccygeal passages with traumatic injury to the coccyx or buttocks, exacerbation of coccygodynia.

5. Clinical diagnosis:

The nosological unit and the form of the disease course are indicated, there are complications - on the basis of clinical and statistical classification.

6. Organizational and therapeutic tactics:

Defining the need of hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions.

The possibility of using a special diet, cold, laser coagulation, electrocoagulation, drugs (ointment Posterisan-forte, Aurobin, capsules Detralex, Cyclo 3 fort, Phlebodia, Venolan), surgery.

Test questions for self-assessment of preparation for the lesson:

1. The importance of learning the course of acute pain syndrome in the anorectal area?
2. What is defined during a patient's interview with a suspect of having acute pain syndrome in the anorectal area?
3. Why is it important to identify all complaints that suspect of having acute pain syndrome in the anorectal area a patient has ?
4. Why is it important to know the exact date and time of acute pain syndrome in the anorectal area onset?
5. Why is it important to know what previous treatment the patient suspected of having pain syndrome in the anorectal area received?

6. How can the patient's living and working conditions affect the occurrence and course of cute pain syndrome in the anorectal area ?
7. Why is the following sequence during the patient's survey important: collecting complaints, clinical charts and life history?
8. What can be uncovered at perianal area examination?
9. Why is swelling of the skin near the anus and buttocks possible?
10. What changes can be detected by palpation of the skin near the anus and buttocks of the patient?
11.What changes can be detected by digital examination of the rectum?
12. Features of physical examination of a patient with suspected severe hemorrhoids?
13. Features of physical examination of a patient with suspected acute anal fissure?
14. Features of physical examination of a patient with suspected acute paraproctitis?
15. Features of physical examination of a patient with the epithelial coccygeal passages inflammation?
16.What is the basis for the preliminary diagnosis of What is the basis for the preliminary diagnosis of nonspecific ulcerative colitis and Crohn's disease?
17. What are the principles of forming a list of diseases for differential diagnosis?
18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics for patients with severe hemorrhoids, acute anal fissure, acute paraproctitis, the epithelial coccygeal passages inflammation?

METHODOLOGICAL DEVELOPMENT
Knowledge control on

«Acute rectal pain syndrome:
General issues of development and diagnosis of acute pain in the anorectal region: severe hemorrhoids, acute anal fissure, acute paraproctitis, the epithelial coccygeal passages inflammation»

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:

1. Independently, in the conditions of out-of-classroom preparation (at home, in a dormitory), to solve in writing a situational clinical problem from one of the educational elements which are a part of a syndrome which is being studied.

2. When solving a situational clinical problem, based on the conditions, formulate in written form**:**

- Previous diagnosis
- Diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- Differential diagnosis of the two diseases that are most likely in this case
- Clinical diagnosis
- Treatment program
-

3. In the next practical lesson, the written work is submitted for checking to the teacher, who assesses the level of mastery of a professionally oriented case.

Cases on «Acute rectal pain syndrome:
General issues of development and diagnosis of acute pain in the anorectal region: severe hemorrhoids, acute anal fissure, acute paraproctitis, the pilonidal sinuses inflammation»
(individual clinical cases)

CASE 1

Patient K.(female), 28 years old, complains of acute pain in the anal canal, which occured after constipation and difficult defecation. Earlier such complaints were not noted. Examination of the anal area

revealed no pathology, but when trying to perform a digital rectal examination, pain significantly increased, fresh blood is noted on the glove.

CASE 2

Patient B.(female) 37 years old, complains of acute pain in the anal canal and perianal area, which occured after constipation, difficult defecation, hypothermia. It is noted an increased body temperature to 38^0C. There were no such complaints before. Examination of the anal area to the right from the anus reveals hyperemia and edema of the skin, palpation reveals an infiltrate, which is acutely painful. During digital rectal examination , overhang of the right wall of a rectum with fluctuation is noted.

CASE 3

Patient T.(male), 38 years old, complains of acute pain in the anal area, which occurred after strenuous physical activity 3 days ago. Previously, such complaints were not noted, but periodically after defecation there was a release of fresh blood. On visual examination of the anal area are identified outside in 3, 7 and 11 o'clock position enlarged hemorrhoids, which are dark purple and painful on palpation. When trying to perform a digital rectal examination pain significantly increased, fresh blood is noted on the glove.

CASE 4

Patient R.(male), 40 years old, complains of acute pain in the area of the anus, which occurred after strenuous physical activity 2 hours ago. Previously, such complaints were not noted, but periodically after defecation there is a release of fresh blood. On examination of the anal area there are identified outside in 3, 7 and 11 o'clock position enlarged hemorrhoids, which are dark purple, painful on palpation. When trying to perform a digital rectal examination pain significantly increased, fresh blood is noted on the glove.

CASE 5

Patient F.(male), 27 years old, complains of acute pain in the sciatic and perianal area, which occurred after hypothermia, fever up to 38^0C. There were no such complaints before. On visual is sharply painful. At digital rectal examination pathological changes are not revealed.

CASE 6

Patient N.(male), 25 years old, complains of acute pain in the anal canal, which occured after constipation and difficult defecation on the background of alcohol abuse. Earlier such complaints were not noted. Examination of the anal area revealed no pathology, but when trying digital rectal examination, pain significantly increased, fresh blood is noted on the glove.

CASE 7

Patient B.(female), 32 years old, complains of acute pain in the anal canal and perianal area, which occured after constipation, difficult defecation, hypothermia. She has been ill for 2 days, also it was noted an increased body temperature to 38.8^0C. There were no such complaints before. Examination of the anal area to the left from the anus revealed redness and skin swelling, also a dense infiltrate is identified, which is acutely painful on palpation. At digital rectal examination , the overhang of a wall with fluctuation and sharp soreness of a rectal wall is noted.

CASE 8

Patient Y. (male), 42 years old, complains of an acute pain in the anal area, which occured after strenuous physical activity 2 days ago on the background of alcohol abuse. Previously, such complaints were not noted, but periodically after defecation there is a release of fresh blood. On examination of the anal area are identified outside in 3, 7 and 11 o'clock position enlarged hemorrhoids which are dark purple, painful on palpation. Digital rectal examination at a depth of 3-4 cm in 3, 7 and 11 o'clock position determined internal hemorrhoids which are dense, painful on palpation.

CASE 9

Patient D.(male), 45 years old, complains of acute pain in the anal area, which occurred after strenuous physical activity 4 hours ago. Previously, such complaints were not noted, but periodically after defecation there is a release of fresh blood. On examination of the anal area are noted outside in 3, 7 and 11 o'clock position enlarged hemorrhoids which are dark purple, dense, painful on palpation. Digital rectal examination is not possible due to sharp pain.

CASE 10

Patient Z.(male), 24 years old, complains of acute pain in the intergluteal and perianal area, which occurred after hypothermia, fever up to 38.8^0C. Previously, there were no such complaints, but the presence of fistulas in the intergluteal area. On examination: in the interstitial area redness and swelling of the skin are determined, dense infiltrate 5x4 cm, which is acutely painful on palpation, skin retraction at the site of fistulas. At digital rectal examination pathological changes are not revealed.

CASE 11

Patient S.(male), 35 years old, complains of acute pain in the anal canal, which occured after constipation and difficult defecation , on the background of alcohol abuse. Pain radiates to the perineum, genitals. Earlier such complaints were not noted. At the examination of the perianal area pathology was not detected. Visual examination of anus during straining of the patient revealed the edge of a linear defect in 6 o'clock position. When trying digital rectal examination pain significantly increased, fresh blood is noted on the glove.

CASE 12

Patient P.(female), 39 years old, complains of acute pain in the rectum, which sharply increased during defecation, fever up to 38.6^0C. She has been ill for 3 days, the onset of the disease was associated with hypothermia. Earlier such complaints were not noted. At the examination of the perianal area, pathology was not detected. When performing a digital rectal examination on the right wall at a depth of 8 cm tissue infiltration with fluctuations in the center is determined, pain increases significantly.

METHODOLOGICAL DEVELOPMENT
of a practical lesson

Topic № 14. «Rectal prolapse syndrome:
"Rectal prolapse and chronic hemorrhoids 3-4 stages"

Module 1. Urgent abdominal surgery and proctology.
Content module 3. Urgent proctology.
Topic № 14. Rectal prolapse and chronic hemorrhoids.
Definition: **Rectal prolapse syndrome** occurs due to pathological weakness of the muscular apparatus of the rectum, perineum and pelvic floor with increasing intraperitoneal and intraintestinal pressure on the background of traumatic injuries, chronic and acute diseases, elderly age, and leads to prolapse of both mucous membranes and all straight intestine layers and hemorrhoidal tumor outward.

The pathological reaction of the pelvic floor vessels to the constant delay of blood in them causes chronic blood congestion in the hemorrhoidal plexuses of the anal canal and anus with discomfort, prolapse of piles, pain and bleeding, which may require may require surgery after urgent consultation with a surgeon and proctologist.
The most common causes of rectal prolapse syndrome are rectal prolapse and chronic hemorrhoids stages 3-4.

1. **Rectal prolapse** - an acute or chronic pathological condition characterized by prolapse of both the mucous membrane and all layers of the rectum outward.

2. Chronic hemorrhoids 3-4 stages - chronic stagnant pathological changes with expansion of hemorrhoidal plexuses of the anus and rectum, which cause prolapse of hemorrhoids, discomfort in the anus.

The ultimate goals of learning the studying element:
1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAMM
Urgency of hospitalization
Urgency of the operation
Preoperative preparation
Postoperative treatment

The purpose of the practical lesson:
To establish the level of assimilation of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner on the topic - rectal prolapse and chronic hemorrhoids 3-4 stages, which is related to rectal prolapse syndrome.

Forms of knowledge control and skills in practical classes:
1. Test control of knowledge (computer knowledge control; 30 test cases)

2. Theoretical survey of each student with an assessment of the following questions:
- justification of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program

3. Assessment of each student's performance of practical skills:
- rectal examination with a rectal speculum
- rectoromanoscopy

Informational part of the methodical development

The minimum basic level of knowledge required to master the topic:
1. Anatomy, topographic anatomy and operative surgery are topographic and anatomical characteristics of the colon and rectum, abdominal cavity.

2. Physiology is the functions of the colon and rectum.

3. Pathological physiology is the pathogenesis of the inflammatory syndrome.
4. Pathological anatomy is the morphological change in the colon and rectum, in the abdominal cavity, depending on the duration of the disease and the reasons that led to the development of inflammatory syndrome.
5. Microbiology, virology and immunology are the place of microbial factor and fracture of the body's immune system in the occurrence of inflammatory processes in the colon and direct intestines.
6. General surgery, propaedeutics of internal diseases are methods of questioning and physical examination of the patient

The specific purpose of self-preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine the clinical course of rectal prolapse and chronic hemorrhoids 3-4 stages (patient survey and physical examination)
2. Substantiation and formation of a preliminary diagnosis of diseases
3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the diseases list for differential diagnosis and its carrying out
5. Formation of clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for prolapse and chronic hemorrhoids 3-4 stages

Self-preparation program for a practical lesson:
1. The actuality of the rectal prolapse syndrome problem.
2. Identification of diseases related to the rectal prolapse syndrome.
3. Causes and mechanism of development of diseases related the rectal prolapse syndrome
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of rectal prolapse and chronic hemorrhoids 3-4 stages.
5. Principles of diagnosis and the amount of data required for the formation of the previous one diagnosis of diseases related to rectal prolapse syndrome
6. Principles of drawing up a diagnostic program to clarify the previous diagnosis and further treatment.
7. Lists of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of rectal prolapse and chronic hemorrhoids 3-4 stages, and the principles of clinical diagnosis.
9. Substantiation of the organizational and medical program.

Practical skills that are attached to the learning element:
1. Examination of the rectum with a rectal speculum
2. Rectosigmoidoscopy.

1. Examination of the rectum with a rectal speculum:
Examination of the rectum with a rectal speculum is performed after examination of the perianal area and digital rectal examination: in the knee-elbow position of the patient and in the position of the patient lying on his back with knees bent and legs apart.

Branches of the rectal speculum (up to 10 cm), lubricated with vaseline oil or gels Nefluan, Luan, EMLA are being gradually put in the rectum throught the anal orifice and in a circle perform the opening of the speculum to stretch the muscles of the anal sphincter (sphincter divulsion).

After the rectal speculum is inserted into the rectum along its entire length, it is noted the presence of fecal content in its lumen and the presence of pathological discharge, changes in the surface of the mucous membrane are determined.

In addition, examine the lateral and posterior, then the anterior walls of the rextun – for men it is possible to see a protrusion of the prostate gland in its pathology, and for women the overhanging of the Douglas pouch and the uterus is possible.

If there is a tumor in the rectal lumen, its location must be determined (front, back or side walls of the intestine) taking into account the accepted among doctors clock position rule: when the patient is in supine position, the anal area is virtually divided by the clock face: 12 o'clock corresponds the perineum, to the right of the doctor is 3 o'clock, the coccyx located on 6 o'clock, to the left of the doctor is 9 o'clock.

Next, the shape, size, nature of the surface, displacement, and the presence of pain should be determined. This allows to differentiate a tumor (polyp, cancer) from internal hemorrhoids and pus in paraproctitis.

At the end of the rectal examination, the rectal speculum is gradually removed from the patient's rectum and its branches are examined, paying attention to the fecal contents' color and the presence of pathological discharge (blood, mucus, pus, tumor detritus).

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several options for examining the rectum with a rectal speculum are proposed. After looking at each option, the student has to select the correct number of this option in the window on the right. Then the student has to complete the attempt and confirm the action and complete the test, or return to the questionable answer and review the questions, reaffirm the completion of the test, and submit the results.

2. Rectosigmoidoscopy:

Rectosigmoidoscopy - an instrumental method of examination of the mucous membrane of the rectum and distal part of the sigmoid colon with a special device - rectosigmoidoscope inserted through the anus into the lumen of the intestine (graduated in cm tube with obturator), the eyepiece to which the source of light and bellows are connected.

The patient takes a knee-elbow position, examination of the perianal area, digital rectal examination and rectal examination with a rectal speculum, then lubricated with vaseline oil or gels Nefluan, Luan, EMLA tube with obturator inside is inserted 3-5 cm into the rectum. Then the obturator is removed, and the eyepiece, the light source and the bellows are connected to the tube. Further investigation is performed under direct vision, usually to a depth of 25-30 cm.

Straighten the walls of the intestine, using the bellows to gently insufflate air into the rectum intermittently as the scope advances with obligatory observance of all anatomical curves of the rectum and rectosigmoid flexure. Note the presence in its lumen of fecal content, pathological discharge and determine changes in the surface of the mucous membrane. If there are tumors, ulcers or other pathological changes in the lumen of the intestine, determine their location (anterior, posterior or lateral walls of the intestine). Next, determine the shape, size, nature of the surface, displacement, the presence of bleeding. During rectosigmoidoscopy some diagnostic and treatment manipulations like biopsy, removal of polyps and bleeding control with use of electric or laser coagulation is possible.

After examining the distal part of the sigmoid colon and rectum, gradually remove the rectosigmoidoscope from the rectum and examine the tube, paying attention to the features of fecal contents and the presence of pathological discharge (blood, mucus, pus, tumor detritus).

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several options for examining the rectum with a rectal speculum are proposed. After looking at each option, the student has to select the correct number of this option in the window on the right. Then the student has to complete the attempt and confirm the action and complete the test, or return to the questionable answer and review the questions, reaffirm the completion of the test, and submit the results.

Features of examination of patients with rectal *prolapse and chronic hemorrhoids 3-4 stages:*

1. At the examination of the patient it is necessary to define:

Complaints of:

A) Pain:

1. pain localization (in the abdomen along the colon, anus, anal canal, rectum, perianal region)
2. pain intensity (weak, moderate, strong)
3. pain irradiation (in the perineum, in the prostate gland if male, in the vagina if female, in the coccyx, in the buttocks)
4. pain character (constant, cramping), connection with defication act
5. if there have been similar attacks of pain before

B) Other complaints are consistently detected :

1. body temperature changes (by how much it is increased)
2. changes from other organs and systems

Disease and life anamnesis:

A) Date and time of the disease onset

B) When and where patient sought medical attention:

1) what kind of treatment was received before admission to hospital
2) when taken to hospital (date, time)

C) Possible causes of the disease: degeneration of eating quality, alcohol intake, physical overload, etc.

D) Living and working conditions that could cause the disease

E) For women - obstetric and gynecological history:

1) the number of pregnancies
2) the number of births
3) the date of the last menstrual period
4) whether the last menstrual period was on time

Physical examination:

Examination:

A) General examination:

1. the severity of the patient's condition
2. the patient's behavior: calm or restless
3. body temperature, pulse rate
4. the condition of the tongue (dry, wet)
5. the condition of the pharynx and tonsils
6. the condition of the lower extremities

B) The next following examination:

Thorax examination

Abdomen examination:

1. drawn in, bloated
2. symmetrical, asymmetrical
3. the degree of involvement of the anterior abdominal wall in the breathing act

Perianal area: the presence near the anus of the protruding part of the mucous or all layers of the rectum, its edema, change of its color from red to dark red; the presence of enlarged hemorrhoids at 3-5 "hours", 7 "hours" and 11 "hours", with a change in skin color above them from dark red to black;

Palpation (including gynecological and rectal examination):

To detect prolapse of the rectum or hemorrhoids, a finger examination is performed in the position of the patient half-sitting with his feet on the couch.

A) Localization of pain and tension in the rectum or in the part of it

B) Determination of local manifestations of the disease by finger examination of the line intestines: the presence near the anus of the fallen out part of the mucosa or all layers of the rectum, its edema; the presence of hemorrhoids at 3-5 "hours", 7 "hours" and 11 "hours".

C) Determination of peritoneal symptoms and their localization

D) Identification of symptoms by other organs and systems

Percussion:

A) Thorax

B) Abdomen

Auscultation:

A) Thorax

B) Abdomen

On the basis of the received information after interrogation of the patient (complaints, the anamnesis of disease and life) and his physical examination (examination, palpation, percussion, auscultation) the substantiation of the previous diagnosis is carried out.

3. Diagnostic program with data analysis of additional researches:

By ambulance - counting the number of leukocytes in the blood, then the general CBC to detect changes in the leukocyte formula - its shift to the left, decrease in ESR, decrease in the number of erythrocytes, decrease in color and decrease in hemoglobin. If possible, rectal examination of the rectum, rectomanoscopy.

4. Differential diagnosis:

When rectal prolapse and chronic hemorrhoids 3-4 stages the following is carried out:

rectal prolapse with malignant tumor of the rectum, foreign body of the rectum, chronic hemorrhoids 3-4 stages;

chronic hemorrhoids 3-4 stages with chronic anal fissure, malignant tumor of the rectum, foreign body of the rectum, rectal prolapse.

5. Clinical diagnosis:

The nosological unit and the form of the disease course are indicated, there are complications - on the basis of clinical and statistical classification.

6. Organizational and therapeutic tactics:

Defining the need of hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions.

The possibility of using a special diet, cold, laser coagulation, electrocoagulation, drugs (ointment Bezornil, Posterisan-forte, Aurobin, capsules Detralex, Cyclo 3 fort, Phlebodia, Venolan), surgery, development of professors DP Chukhrienko and Y.S. Bereznitsky.

Test questions for self-assessment of preparation for the lesson:

1. The importance of learning the course of rectal prolapse and chronic hemorrhoids 3-4 stages?
2. What is defined during a patient's interview with a suspect of having rectal prolapse and chronic hemorrhoids 3-4 stages?
3. Why is it important to identify all complaints of a patient that is suspected of having rectal prolapse and chronic hemorrhoids 3-4 stages?
4. Why is it important to know the exact date and time of rectal prolapse and chronic hemorrhoids 3-4 stages' onset?
5. Why is it important to know what previous treatment the patient suspected of having rectal prolapse and chronic hemorrhoids 3-4 stages received?
6. How can the patient's living and working conditions affect the occurrence and course of rectal prolapse and chronic hemorrhoids 3-4 stages?
7. Why is the following sequence during the patient's survey important: collecting complaints, clinical charts and life history?
8. What can be found on examination of the abdomen and perianal area of a patient suspected of having rectal prolapse and chronic hemorrhoids 3-4 stages?
9. Why is it possible to detect part of the mucosa or all layers of the rectum on palpation?
10. What changes can be detected on palpation near the anus of a patient with suspected rectal prolapse and chronic hemorrhoids 3-4 stages?
11. What changes can be detected by digital examination of the rectum of a patient suspected of having rectal prolapse and chronic hemorrhoids 3-4 tbsp.?
12. Features of physical examination of a patient with suspected rectal prolapse?
13. Features of physical examination of a patient with suspected hemorrhoids 3-4 stages?
14. Differences in physical examination of a patient with suspected rectal prolapse and chronic hemorrhoids 3-4 stages?
15. Features of clinical manifestations of the patients' disease with suspected rectal prolapse and chronic hemorrhoids 3-4 stages?
16. What is the basis for the preliminary diagnosis of rectal prolapse and chronic hemorrhoids 3-4 stages?
17. What are the principles of forming a list of diseases for differential diagnosis?
18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics for patients with rectal prolapse and chronic hemorrhoids 3-4 stages?

METHODOLOGICAL DEVELOPMENT
Knowledge control on
"Rectal prolapse syndrome"

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:

1. Independently, in the conditions of out-of-classroom preparation (at home, in a dormitory), to solve in writing a situational clinical problem from one of the educational elements which are a part of a syndrome which is being studied.

2. When solving a situational clinical problem, based on the conditions, formulate in written form**:**

- Previous diagnosis
- Diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- Differential diagnosis of the two diseases that are most likely in this case
- Clinical diagnosis
- Treatment program
-

3. In the next practical lesson, the written work is submitted for checking to the teacher, who assesses the level of mastery of a professionally oriented case.

Cases on "Rectal prolapse syndrome" (individual clinical cases)

CASE 1

Patient A.(female), 68 years old, complains of the bowel prolapse from the anal canal, which occurred after constipation and difficult defecation . Previously, such complaints were not noted, there were several gynecological surgeries and hard physical labor. Examination of the anal area revealed a prolapse of the rectum up to 10 cm, which is dark red in color, cannot be reduced with the fingers.

CASE 2

Patient B.(male), 58 years old, complains of the bowel prolapse from the anal canal, which occurred after constipation and difficult defecation . Previously, such complaints are not noted, in the anamnesis, there were several surgical interventions for abdominal hernias and hard physical labor. Examination of the anal area revealed a prolapse of the rectum up to 12 cm, which is dark purple, covered with ulcers and areas of necrosis, cannot be reduced with the fingers.

CASE 3

Patient B.(male), 38 years old, complains of dull pain, discomfort in the anal area, prolapse of piles, which are self-reducible. Previously, such complaints were not noted, but periodically after defecation there is a release of fresh blood. On examination of the anal area enlarged hemorrhoids are noted outside in 3, 7 and

11 o'clock position, normal color, painful on palpation, Digital rectal examination are observed in 3, 7 and 11 o'clock position with enlarged hemorrhoids, fresh blood is noted on the glove.

CASE 4

Patient G.(male), 48 years old, complains of dull pain, discomfort in the anal area, prolapse of piles after defecation, which can be reduced with hands, the release of fresh blood. Previously, such complaints have been noted for about 5 years, when a patient worked as a driver. On examination of the anal area enlarged hemorrhoids are noted outside in 3, 7 and 11 o'clock position, normal color, painful on palpation, Digital rectal examination are enlarged hemorrhoids observed in 3, 7 and 11 o'clock position, fresh blood is noted on the glove.

CASE 5

Patient D.(female), 52 years old, complains of dull pain, discomfort in the anal area, prolapse of piles, which after redusing with hands fall out again, the release of fresh blood. Previously, complaints on the prolapse of piles were noted for about 25 years, after a difficult delivery of a second child weighing 5 kg, but then the piles were able to be reduced and they did not fall out for some time. On examination of the anal area enlarged hemorrhoids are noted outside in 3, 7 and 11 o'clock position, normal color, painful on palpation, and in the anal canal during digital examination of the rectum enlarged hemorrhoids are noted in 3, 7 and 11 o'clock position, fresh blood is noted on the glove.

CASE 6

Patient E.(female), 68 years old, complains of prolapse of the intestine from the anal canal, which occurred after constipation and difficult defecation. Previously, such complaints are not noted, in the anamnesis, there were several gynecological surgeries and hard physical labor. Examination of the anal area revealed a prolapse of the rectum up to 10 cm, which is dark red in color, cannot be reduced with the fingers.

CASE 7

Patient J.(male), 58 years old, complains of prolapse of the intestine from the anal canal, which occurred after constipation and difficult defecation. Previously, such complaints are not noted, in the anamnesis of several surgical interventions for abdominal hernias and hard physical labor. Examination of the anal area revealed a prolapse of the rectum up to 12 cm, which is dark purple, covered with ulcers and areas of necrosis, cannot be redused with the fingers.

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CASE 8

Patient Z.(male), 38 years old, complains of dull pain, discomfort in the anal area, prolapse of piles which are self-reduced. Previously, such complaints were not noted, but periodically after defecation there was a release of fresh blood. On examination of the anal area enlarged hemorrhoids are noted outside in 3, 7 and 11 o'clock position of normal color, painful on palpation, Digital rectal examination are observed in 3, 7 and 11 o'clock position with enlarged hemorrhoids, fresh blood is noted on the glove.

CASE 9

Patient K.(male), 48 years old, complains of dull pain, discomfort in the anal area, prolapse of piles after defecation, which can be digitally reduced, the release of fresh blood. Previously, such complaints have been noted for about 5 years, when a patient worked as a driver. On examination of the anal area enlarged hemorrhoids are noted outside in 3, 7 and 11 o'clock position, of normal color, painful on palpation, Digital rectal examination are enlarged hemorrhoids observed in 3, 7 and 11 o'clock position, fresh blood is noted on the glove.

CASE 10

Patient L.(female), 52 years old, complains of dull pain, discomfort in the anal area, prolapse of piles, which after being reduced digitally fall out again, the release of fresh blood. Previously, complaints on the prolapse of piles were noted for about 25 years, after a difficult delivery of a second child weighing 5 kg, but then the piles were able to be reduced and they did not fall out for some time. On examination of the anal area enlarged hemorrhoids are noted outside in 3, 7 and 11 o'clock position, normal color, painful on palpation, and in the anal canal during digital examination of the rectum enlarged hemorrhoids are noted in 3, 7 and 11 o'clock position, fresh blood is noted on the glove.

CASE 11

Patient M.(female), 68 years old, complains of the bowel prolapse from the anal canal, which occurred after constipation and difficult defecation . Previously, such complaints were not noted, in the anamnesis, there were several gynecological surgeries and hard physical labor. Examination of the anal area revealed a prolapse of the rectum up to 10 cm, which is dark red in color, cannot be reduced with the fingers.

CASE 12

Patient H.(male), 58 years old, complains of prolapse of the bowel prolapse from the anal canal, which occurred after constipation and difficult defecation. Previously, such complaints were not noted, in the anamnesis, there were several surgical interventions for abdominal hernias and hard physical labor. Examination of the anal area revealed a prolapse of the rectum up to 12 cm, which is dark purple, covered with ulcers and areas of necrosis, cannot be digitally reduced.

METHODOLOGICAL DEVELOPMENT
of a practical lesson

Topic № 15. «Diarrheal-inflammatory syndrome:
Ulcerative colitis and Crohn's disease»

Module 1. Urgent abdominal surgery and proctology.
Content module 3. Urgent proctology.
Topic № 15. Ulcerative colitis and Crohn's disease.

Definition: **Diarrheal-inflammatory syndrome** occurs due to the poly etiological nature on the background of changes in the reactivity of the organism, under the influence of infection, development of collagenosis, disorders of the innervation of the colon, changes in the function of the adrenal cortex and hypovitaminosis (deficiency of vitamins B12 and folic acid). These primary lesions lead to chronic inflammation of the mucous membrane of the colon with involvement of the submucosal layer in the pathological process.

Pathological immune reaction causes chronic inflammation of the mucous membrane, and against the background of mental changes leads to the manifestation of the disease, provokes its exacerbation and complications, with ulcerative-granulomatous changes of the intestinal wall, ulceration of the mucous membrane, manifestations of diarrhea and supplementing , which may require surgery after urgent consultation with a surgeon and proctologist.

The most common causes of diarrheal inflammatory syndrome are ulcerative colitis and Crohn's disease.

1. Ulcerative colitis is a chronic nonspecific diffuse ulcerative lesion of the large bowel.

2. Crohn's disease is a chronic inflammatory-granulomatous lesion of the digestive tract, which is segmental in nature, with a predominant localization in the small and large intestines.

The ultimate goals of learning the studying element:

1. Formation of a preliminary diagnosis
2. Diagnostic program and analysis of the obtained data
3. Differential diagnosis (list of diseases, differential diagnostic tables with analysis)
4. Clinical and statistical classification of the disease and clinical diagnosis
5. TREATMENT PROGRAMM
Urgency of hospitalization
Urgency of the operation
Preoperative preparation
Postoperative treatment

The purpose of the practical lesson:
To establish the level of assimilation of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner on the topic - ulcerative colitis and Crohn's disease, which is related to diarrheal-inflammatory syndrome.

Forms of knowledge control and skills in practical classes:
1. Test control of knowledge (computer knowledge control; 30 test cases)

2. Theoretical survey of each student with an assessment of the following questions:
- justification of the previous diagnosis
- definition of the diagnostic program and analysis of the received data
- differential diagnosis
- formation of clinical diagnosis
- definition of the treatment program

3. Assessment of each student's performance of practical skills:
- the order of preparation of the patient for fibro colonoscopy and irrigoragraphy
- analysis of irrigograms (for ulcerative colitis and Crohn's disease, polyps and diverticula)

Informational part of the methodical development

The minimum basic level of knowledge required to master the topic:
1. Anatomy, topographic anatomy and operative surgery are topographic and anatomical characteristics of the colon and rectum, abdominal cavity.

2. Physiology is the functions of the colon and rectum.
3. Pathological physiology is the pathogenesis of the inflammatory syndrome.
4. Pathological anatomy is morphological changes in the colon and rectum, in the abdominal cavity, depending on the duration of the disease and the reasons that led to the development of inflammatory syndrome.
5. Microbiology, virology and immunology are the place of microbial factor and fracture of the body's immune system in the occurrence of inflammatory processes in the colon and direct intestines.
6. General surgery, propaedeutics of internal diseases are methods of questioning and physical examination of the patient

The specific purpose of self-preparation for practical training:
Using the basic level of knowledge and skills, to acquire theoretical knowledge and practical skills that will ensure the mastery of practically oriented cases in the amounts:
1. Examination of the patient to determine the clinical course of ulcerative colitis and Crohn's disease (patient survey and physical examination)
2. Substantiation and formation of a preliminary diagnosis of diseases

3. Drawing up a diagnostic program and analysis of the results of additional research
4. Formation of the diseases list for differential diagnosis and its carrying out
5. Formation of clinical diagnosis on the basis of clinical and statistical classification of diseases
6. Formation of a treatment program for ulcerative colitis and
Crohn's disease

Self-preparation program for a practical lesson:

1. The actuality of the diarrheal-inflammatory syndrome problem.
2. Identification of diseases related to diarrheal-inflammatory syndrome.
3. Causes and mechanism of development of diseases related to diarrheal-inflammatory syndrome.
4. Clinical manifestations (complaints, anamnesis, data of physical examination of the patient) of nonspecific ulcerative colitis and Crohn's disease.
5. Principles of diagnosis and the amount of data required for the formation of the previous one diagnosis of diseases related to diarrheal-inflammatory syndrome
6. Principles of drawing up a diagnostic program to clarify the previous diagnosis and further treatment.
7. Lists of diseases for differential diagnosis, compilation of differential diagnostic tables with comparative analysis.
8. Clinical and statistical classifications of ulcerative colitis and Crohn's disease, and the principles of clinical diagnosis.
9. Substantiation of the organizational and medical program.

Practical skills that are attached to the learning element:

1. The order of preparation of the patient for colonoscopy and irrigoragraphy
2. Analysis of irrigography (barium enema) (in nonspecific ulcerative colitis and Crohn's disease, polyps, diverticula).

1. The order of preparation of the patient for colonoscopy and irrigography: Colonoscopy (or fibrocolonoscopy) is a method of visual examination of the colon, which is performed for diagnostic and therapeutic purposes.

Irrigography (-scopy) (or barium enema) is a method of contrast X-ray examination of the colon after the introduction of a mixture of barium through an enema.

Preparing the patient for these tests requires cleansing the colon of feces, fluid and mucus. To do this, use a slag-free diet, mechanical bowel cleansing with laxatives, enemas and polyethylene glycol based osmotic laxatives (Fortrans, Endofalk, Moviprep etc,).

Also use of irritatives or peristaltic stimulants - castor oil (60-80 ml), senna (140 mg), osmotic laxatives magnesium sulfate (125-250 ml of 25% solution per day before the examination), mannitol (up to 1500 ml of 5% solution 4-5 hours before the examination) and saline solutions.

For patients without functional changes at 15-17 o'clock the day before investigation prescript 30-60 ml of castor oil, after the defecation make two clearing enemas in volume on 1,0-1,5 liters each with water of room temperature with an interval in 1-2 hours, and on the day of the study in the morning perform two more enemas of the same volume.

The investigation can be performed no earlier than 2 hours after the last enema. This term is necessary in order to eliminate or reduce the effects of irritation of the intestinal mucosa, and to release residual fluid. If diseases accompanied by constipation, a patient requires several days of diet preparation in combination with laxatives, evacuant enemas, and in patients with increased motor function of the intestine and frequent stools laxatives should not be used and can be limited to evacuant enemas.

The most effective preparation for colonoscopy and irrigography is the use of polyethylene glycol based osmotic laxatives **Endofalk** according to the following scheme: 6 sachets are dissolved in 3 liters of water then drink 1 liter of solution every hour with intervals of 15-30-60 minutes before the research.

It is also possible to use other polyethylene glycol based osmotic laxatives - **Fleet Phospho-soda, Fortrans, Moviprep etc.**

For most patients, there is no need in anesthesia of the perianal area and anal canal before the investigation, however, applications of anaesthetic gel (**Nefluan**, **Luan ect.)** can also be used. For patients with mental disorders, increased nervous excitability, manifestations of pain in diseases of the anal region, a history of connective tissue disease, colonoscopy is performed under general anesthesia.

Instructions for performing the test

Control of practical skills: the question is based on the principle of the test: several options for examining the rectum with a rectal speculum are proposed. After looking at each option, the student has to select the correct number of this option in the window on the right. Then the student has to complete the attempt and confirm the action and complete the test, or return to the questionable answer and review the questions, reaffirm the completion of the test, and submit the results.

2. Analysis of irrigograms (for nonspecific ulcerative colitis and Crohn's disease):

When analyzing the irrigography, it is necessary to hold it correctly in your hands or install it in the negatoscope, focusing on the marks: the letters "R" and "L".

It should be noted that we have an irrigography, the result of a contrast X-ray examination of the colon after the introduction of a mixture of barium through an enema.

If a patient is diagnosed with nonspecific ulcerative colitis on X-rays of the mucous membrane, the intestine will have: a) many small defects, reminiscent of "moth beaten rug ", i.e. covered with so-called "button ulcers"; b) a lot of small protrusions towards the lumen - inflammatory pseudopolyps; c) loss of haustration- X-ray symptom of "garden hose" or "inverted tobacco pipe".

If the patient is diagnosed with Crohn's disease on X-rays of the intestinal mucosa, the intestine will have: a) areas of uneven, bumpy protrusions toward the lumen - a characteristic relief of "coblestone"; b) thickening of the intestinal wall, asymmetric wrinkling of the mesentery, narrowing of the intestinal lumen - stenosis, with the so-called radiological symptom of "cockade", c) segmental distribution in the intestine of the two previous manifestations, between which are large segments of radiologically unaltered intestine - a symptom of "kangaroo leap".

Instructions for performing the test

Control of practical skills in the analysis of radiographs when built on the principle of the test. After selecting one answer to a question from some data, the student has to place the cursor on the field with the correct answer and confirm their choice. The following question automatically appears. The third question contains four pictures of radiographs, from which it is necessary to choose an X-ray with signs of ulcerative colitis or Crohn's disease and remember its serial number. The next one is on a separate screen which appears after clicking on the button marked "continue", it is necessary to select the sequence number of the radiograph and click on the selected field. Then it is necessary to complete the attempt by clicking the "continue" button again. After that, the test closes and shows the result.

Please note, it is impossible to return to the question to which the answer was given!

Features of examination of patients with *ulcerative colitis and Crohn's disease*:

1. At the examination of the patient it is necessary to define:

Complaints of:

A) Pain:

1. pain localization (in the abdomen along the colon, anus, anal canal, rectum, perianal region)
2. pain intensity (weak, moderate, strong)
3. pain irradiation (in the perineum, in the prostate gland if male, in the vagina if female, in the coccyx, in the buttocks)
4. pain character (constant, cramping), connection with defication act

5. if there have been similar attacks of pain before

B) Other complaints are consistently detected :

1. Stool changes (diarrhea or delay, the presence of pathological discharge: blood, mucus, pus, tumor detritus)
2. body temperature changes (by how much it is increased)

3. changes from other organs and systems

Disease and life anamnesis:

A) Date and time of the disease onset

B) When and where patient sought medical attention:

1. what kind of treatment was received before admission to hospital
2. when taken to hospital (date, time)

C) Possible causes of the disease: degeneration of eating quality, alcohol intake, physical overload, etc.

D) Living and working conditions that could cause the disease

E) For women - obstetric and gynecological history:

the number of pregnancies
the number of births
the date of the last menstrual period
whether the last menstrual period was on time

2. Physical examination:

Examination:

A) General examination:

the severity of the patient's condition
the patient's behavior: calm or restless
body temperature, pulse rate
the condition of the tongue (dry, wet)
the condition of the pharynx and tonsils
the condition of the lower extremities

B) The next following examination:

Thorax examination

Abdomen examination:

1. drawn in, bloated
2. symmetrical, asymmetrical

3. the degree of involvement of the anterior abdominal wall in the breathing act

Perianal area: the presence of fistula openings near the anus or on the buttocks skin , from which there may be pus, swelling of the skin and subcutaneous tissue, a change in its color from red to dark red.

Palpation (including gynecological and rectal examination):

A) Pain localization and tension of muscles of an abdominal wall, existence of an infiltrate

B) Determination of local manifestations of the disease in the digital examination of the rectum: the presence of a painful defect of the mucous membrane of the anus at 12 or 6 "hours" of linear or elliptical shape with dense edges; the presence of painful dense
infiltration or fluctuations under the edema of the perianal skin and tissue, and in the rectum - sagging and soreness of its wall.

C) Determination of peritoneal symptoms and their localization

D) Identification of symptoms from other organs and systems

Percussion:

A) Thorax

B) Abdomen

Auscultation:

A) Thorax

B) Abdomen

On the basis of the received information after interrogation of the patient (complaints, the anamnesis of disease and life) and his physical examination (examination, palpation, percussion, auscultation) the substantiation of the previous diagnosis is carried out.

3. Diagnostic program with data analysis of additional researches:

By ambulance - counting the number of leukocytes in the blood, then general CBC to detect changes in the leukocyte formula - its shift to the left, increased ESR, decreased erythrocyte count, decreased color index and decreased hemoglobin. Performing rectoscopy, colonoscopy and irrigography (-scopy), taking biopsy material from planar ulcers, pseudopolyps, granulomatous-scar narrowings of the intestinal wall, followed by histological examination.

4. Differential diagnosis:

When ulcerative colitis and Crohn's disease the following is carried out:

ulcerative colitis with Crohn's disease, malignant tumor of the colon, dysentery, typhoid fever;

Crohn's disease with ulcerative colitis, malignant tumor of the cecum, acute intestinal obstruction, acute appendicitis.

5.Clinical diagnosis:

The nosological unit and the form of the disease course are indicated, there are complications - on the basis of clinical and statistical classification.

6. Organizational and therapeutic tactics:

Defining the need of hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their directions of action), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions.

The possibility of using a special diet, drugs **Salofalk**, **Budenofalk**, **Remicade**, surgery.

Test questions for self-assessment of preparation for the lesson:

1. The importance of learning the course of ulcerative colitis and Crohn's disease?
2.What is defined during a patient’s interview with a suspect of having ulcerative colitis and Crohn's disease?
3. Why is it important to identify all complaints of a patient that is suspected of having ulcerative colitis and Crohn's disease?
4. Why is it important to know the exact date and time of nonspecific ulcerative colitis’ and Crohn's diseas’s onset?
5. Why is it important to know what previous treatment the patient suspected of having ulcerative colitis and Crohn's disease received?
6. How can the patient's living and working conditions affect the occurrence and course of ulcerative colitis and Crohn's disease?
7. Why is the following sequence during the patient's survey important: collecting complaints, clinical charts and life history?
8. What can be found on examination of the abdomen and perianal area of a patient with suspected nonspecific ulcerative colitis and Crohn's disease?
9. Why is the detection of an infiltrate in the right iliac region during palpation possible?
10. What changes can be detected during palpation of the skin near the anus of a patient with suspicion on nonspecific ulcerative colitis and Crohn's disease?

11. What changes can be detected by digital examination of the patient's rectum with suspected nonspecific ulcerative colitis and Crohn's disease?
12. Features of physical examination of a patient with suspected nonspecific ulcerative colitis?
13. Features of physical examination of a patient with suspected Crohn's disease?
14. Differences in physical examination of a patient with suspected nonspecific ulcerative colitis and Crohn's disease?
15. Features of clinical manifestations of the patients' disease with suspected nonspecific ulcerative colitis and Crohn's disease?
16. What is the basis for the preliminary diagnosis of nonspecific ulcerative colitis and Crohn's disease?
17. What are the principles of forming a list of diseases for differential diagnosis?
18. Why in the clinical diagnosis is it important to reflect not only the nosological form of the disease, but also its course and complications?
19. Why is it important to use clinical and statistical classification of diseases to form a clinical diagnosis?
20. What is important to determine in the formation of treatment tactics for patients with nonspecific ulcerative colitis and Crohn's disease?

METHODOLOGICAL DEVELOPMENT

knowledge control on "Diarrheal-inflammatory syndrome"

Written solution of a clinical problem at home

Forms of intermediate control of knowledge and skills:

1. Independently, in the conditions of out-of-classroom preparation (at home, in a dormitory), to solve in writing a situational clinical problem from one of the educational elements which are a part of a syndrome which is being studied.

2. When solving a situational clinical problem, based on the conditions, formulate in written form**:**

- Previous diagnosis
- Diagnostic program (list the research methods and the sequence of their implementation with the analysis of possible results)
- Differential diagnosis of the two diseases that are most likely in this case
- Clinical diagnosis
- Treatment program
-

3. In the next practical lesson, the written work is submitted for checking to the teacher, who assesses the level of mastery of a professionally oriented case.

Cases on "Diarrheal-inflammatory syndrome" (individual clinical cases)

CASE 1

Patient B. (female), 25 years old, complains of dull pain in the right iliac region, which occurred after constipation and hard defecation, intermittent diarrhea with mucus and altered blood. Previously, no such complaints were noted, however, according to the patient, the mother had a similar disease, and she was treated and dispatched by a gastroenterologist and proctologist. Examination of the abdomen revealed no pathology, palpation in the right iliac region is painful, palpable dense formation of approximately 5x5 cm, mobile, symptoms of peritoneal irritation are negative.

CASE 2

Patient T.(male), 30 years old, complains of a dull pain in the right iliac region, which occured acutely at night. Previously, such complaints were not noted, however, constipation periodically occurs, alternating with diarrhea mixed with mucus and altered blood. On the examination: the general condition of the patient is good. The abdomen is moderately swollen, the anterior abdominal wall is involved in the breathing process. At a palpation in the right iliac area considerable pain is defined, dense formation approximately 8x7 cm, movable, peritoneal symptoms are negative.

CASE 3

Patient S.(male), 35 years old, complains of a dull pain in the left part of the abdomen, frequent, loose stool up to 5 times a day with admixtures of mucus and fresh blood, periodic increase of body temperature to 37.5 ^{0}C. In the anamnesis, the patient said about coming through the severe nervous shock on the background of chronic diseases of the digestive tract about one month ago. Examination of the abdomen revealed no pathology, palpation in the left iliac region reveals moderate pain, symptoms of peritoneal irritation are negative.

CASE 4

Patient D.(male), 30 years old, complains of constant dull pain in the abdomen, frequent, loose stool up to 10 times a day with admixtures of mucus, pus and fresh blood, increased body temperature up to 38.0^0C. In the anamnesis, frequent similar attacks in the spring-autumn periods were noted, it was on dispensary supervision and treatment at the gastroenterologist. On the examination: a patient is asthenic, moderately low body weight. The abdomen is moderately swollen, palpation reveals significant pain in the course of the colon, the symptoms of peritoneal irritation are negative.

CASE 5

Patient B.(female), 25 years old, complains of general weakness, fatigue, weight loss, constant pain in the left part of the abdomen, frequent, loose stool up to 15 times a day with mucus, pus and fresh blood, fever up to 39^0C. In the anamnesis, the patient said about coming through the severe nervous shock on the background of chronic diseases of spicy food poisoning about one month ago. On the examination: the patient is asthenic, she significantly reduced body weight. The abdomen is swollen, palpation reveals significant pain in the left half of the abdomen along the colon, the symptoms of peritoneal irritation are questionable.

CASE 6

Patient Shch.(female), 34 years old, complains of general weakness, fatigue, weight loss, constant pain in the left abdomen, frequent, loose stools up to 15 times a day with mucus, pus and fresh blood, fever up to 39^0C. In addition, the patient is concerned about joint pain, which is exacerbated by movement. From the anamnesis: she has been ill for 1.5 years, periodically in hospital. The last exacerbation occurred a week later. On the examination: the patient is asthenic, he significantly reduced in body weight. The contours of the knee and elbow joints are blurred, movements in the joints are limited, painful. The abdomen is swollen, palpation reveals significant pain in the left half of the abdomen along the colon, the symptoms of peritoneal irritation are questionable.

CASE 7

Patient G.(male), 35 years old, complains of constant strong pain in the abdomen, more in the left part, nausea, vomiting, general weakness. From the anamnesis: for a long time notes pain in the left half of the abdomen, diarrhea more than 10 times a day with mucus, pus and blood in the stool. Three hours later, pain in the abdomen suddenly intensified, there was vomiting, bloating, gas retention. On the examination: the patient's condition is serious, body temperature is 38.7^0 C., significant weight loss is determined. The tongue is dry, with tongue plaque. The abdomen is evenly swollen, the anterior abdominal wall does not participate in the act of breathing. On palpation, the abdomen is tensive, also, there is noted sharp pain all over the abdomen, but more on the left, a positive symptom of Schotkin-Blumberg.

CASE 8

Patient Ch.(male), 30 years old, complains of constant pain in the right iliac region, which occured acutely at night, nausea, single vomiting, diarrhea with admixtures of altered blood in the stool. From the anamnesis: previously such complaints were not noted, but periodically there are constipations, alternating with diarrhea. On the examination: the condition of a patient is fair. The abdomen is moderately bloated. At a palpation moderate tension of a front abdominal wall and pain in the right lateral and iliac sites is defined, dense formation approximately 8x7 cm, without accurate contours, mobile is noted, peritoneal symptoms are negative.

CASE 9

Patient Y.(male), 28 years old, complains of moderate pain in the right half of the abdomen, diarrhea, nausea, intermittent vomiting, discharge of altered blood during defecation, weight loss, fever up to 37.6^0C. From the anamnesis: he has been ill for 2 years, the condition periodically worsens in spring-autumn periods. On the examination: the patient's condition is fair, the skin is moderately pale. The tongue is weeping, with tongue plaque. The abdomen is moderately swollen, the anterior abdominal wall is involved in the act of breathing. On palpation, the abdomen is soft, moderate pain in the right half. In the right iliac region, a painful infiltrate is not clearly defined without clear contours. Peritoneal symptoms are negative.

CASE 10

Patient N.(female), 26 years old, complains of general weakness, rapid fatigue, constant pain in the left part of the abdomen, frequent, loose stool up to 15 times a day with mucus, pus and fresh blood, weight loss, fever up to 39^0C. From the anamnesis: about a month ago she suffered a severe nervous shock on the background of spicy food poisoning. On the examination:: the general condition of the patient is serious, the patient is asthenic, significantly reduced body weight. Body temperature is 39^0C, pale skin. The abdomen is swollen, palpation reveals significant pain in the left half of the abdomen along the colon, peritoneal symptoms are questionable.

CASE 11

Patient F.(female), 30 years old, complains of general weakness, repeated (more than 10 times a day) watery feces with mucus and pus, tenesmus, intermittent pain in the left part of the abdomen, fever up to 38.4^0C. From the anamnesis: she has been sick for 2 days, the disease occured suddenly, after a severe nervous shock. On the examination: the general condition of the patient is fair, the skin is moderately pale. The abdomen is moderately swollen, the anterior abdominal wall is involved in the act of breathing. During a palpation, considerable pain in the left half of the abdomen on a course of a colon is defined, peritoneal symptoms are not defined.

CASE 12

Patient K.(female), 24 years old, complains of general weakness, fatigue, weight loss, constant pain in the left part of the abdomen, frequent, loose stools up to 15 times a day with mucus, pus and fresh blood, fever up to 39^0C. In addition, the patient is concerned about the constant pain in the right hypochondrium. From the anamnesis: she has been ill for 1 year, periodically in hospital. The last exacerbation occurred 10 days later. On the examination:: the patient is asthenic, significantly reduced body weight. The abdomen is swollen, the anterior abdominal wall is limited in the act of breathing. At a palpation it is defined as enlarged(+ 4 cm), moderately painful liver, considerable pain in the left half of the abdomen along a colon, peritoneal symptoms are negative.

METHODOLOGICAL DEVELOPMENT
Checking the acquisition of practical skills

Module 1. Urgent abdominal surgery and proctology
Content module 3.Urgent proctology
Topic № 16. Checking the acquisition of practical skills

The final analysis and evaluation of the results of the acquired practical skills is carried out.

METHODOLOGICAL DEVELOPMENT
final control of knowledge
for module 1 " Urgent abdominal surgery and proctology"

Module 1: Urgent abdominal surgery and proctology

Content modules:
1. General principles of recognition and formation of clinical diagnosis
2. Urgent abdominal surgery
3. Urgent proctology

The purpose of the module control: Establish the level of student's preparation to work with the patient and the level of acquisition of theoretical knowledge and practical skills by students within the professionally oriented cases of a general practitioner under module **1. Urgent abdominal surgery and proctology.**

Forms of knowledge control to module 1 "Urgent abdominal surgery and proctology":
1 .Test control on the computer
2. Examination of a patient with one of the pathological conditions belonging to module 1 «**Urgent abdominal surgery and proctology**», and on this basis:
- report on the patient's condition (complaints, clinical chart and life history)
- demonstrate practical skills in physical examination of a patient with a specific pathology (examination, palpation, percussion, auscultation)
- justify the previous diagnosis in written form
- to form a diagnostic program in written form and to analyze the obtained results
- make a differential diagnosis of two similar diseases in written form
- form a clinical diagnosis in written form
- justify the treatment program in written form

Informational part of methodical development

The specific purpose of the final control on module 1 «Urgent abdominal surgery and proctology»: Determining the quality of uptaking by each student the content of practically oriented cases within the general practitioner (theoretical knowledge and practical skills) in the amount of:
1. Study of the clinical course of the disease (patient survey and physical examination)
2. Formation of a preliminary diagnosis of the disease
3. Drawing up a diagnostic program and analysis of research results

4. Formation of the list of diseases with which it is necessary to make the differential diagnosis and its carrying out
5. Principles of the clinical diagnosis formation (classification of diseases)
6. Treatment program (the need for surgical treatment, the urgency of hospitalization,
7. indications for surgery and drug therapy).

The program of independent preparation for the final control on module 1 «Urgent abdominal surgery and proctology»:

1. Master the principles of examination of a surgical patient (patient survey - complaints,
2. clinical chartand, life history; physical examination).

3. Master the principles of formation of the preliminary diagnosis (components of the preliminary diagnosis, the sequence of clinical and physical data in the preliminary diagnosis).

4. Master the principles of compiling a diagnostic program (the purpose of diagnostic methods, the sequence of their implementation and the list, depending on the clinical situation; possible options for changes in laboratory and instrumental studies in surgical pathology).

5. Master the principles of differential diagnosis of diseases (identify diseases with which it is necessary to differentiate, identify the main syndromes and symptoms that differentiate diseases).
6. Write the clinical classification of the disease and the principles of clinical diagnosis in written form.

7. Principles of the medical program formation (definition of necessity of inpatient or out-patient treatment, in need of inpatient treatment to define urgency of hospitalization, the basic directions of application of medical technologies, the list of medicines and their doses for medical treatment).

At the practical lesson of the module control: checking the level of preparation for work with the patient and level of mastering of theoretical knowledge and practical skills by students within professionally oriented cases of the general practitioner on the module will be carried out partially or completely by associate professors or professors.

Glossary

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Sample situational clinical problem and algorithm for its written solution:

CASE
The 35-year-old patient consulted a doctor of the rural outpatient clinic with complaints of a protrusion in the groin area on the left side, which appeared after lifting excess weight, the protrusion is painless. From the anamnesis: the patient notes that for about 5 years the protrusion appears periodically after lifting excess weight and a strong cough, disappears in a horizontal position; patient's work involves construction, which often requires lifting excess weight.
On the examination: the patient is overweight, on the left in the groin area below the line of the inguinal folds there is a protrusion of about 3 × 3 cm, on palpation painless, easily adjustable in a vertical position, and disappears in a horizontal position; at percussion of a protrusion - tympanitis, at auscultation – sounds of peristalsis.

1. To formulate in writing the substantiation of the previous diagnosis:

2. To define in writing the necessary diagnostic program and to analyze the received results:

3. To make in writing a differential diagnosis of similar diseases:

4. To formulate the full clinical diagnosis in writing:

5. To define and substantiate the necessary treatment program in writing:

Correct written answer:
1. Considering patient's complaints on existence of a painless protrusion in the left inguinal area which appeared after lifting excess weight; clinical chart, which indicates that the protrusion of, appears periodically for the last five after lifting excess weight and strong cough, disappears in a horizontal position; life history data - a woman works on construction, which is associated with frequent lifting of excess weight; on examination - the patient is overweight, on the left in the groin area below the inguinal fold there is a protrusion, approximately 3x3 cm, on palpation - painless, easily adjusted in a vertical position, disappears in a horizontal position; at percussion of a protrusion – tympanitis, ar auscultation – sounds of peristalsis.

2. To confirm the diagnosis of "femoral hernia on the left" there is no need to perform additional research methods (laboratory and instrumental), sufficient physical examination methods: examination, palpation, percussion, auscultation of the protrusion.
To prepare and conduct treatment, to know the condition of the patient's body, the presence of concomitant and undetected diseases, to perform surgical intervention and to monitor the effectiveness of treatment the following must be performed: 1) general CBC; 2) general clinical analysis of urine; 3) biochemical blood

analysis; 4) blood and urine sugar; 5) coagulogram; 6) blood group and rhesus factor; 7) ECG; 8) fluorography; 9) consultation with a gynecologist. It is necessary to analyze possible pathological changes in the analysis and research of the patient with this disease, its complications or comorbidities.

3. The presence of some similar clinical manifestations of the patient's disease on the clinical case and inguinal adjustible hernia on the left determines the necessity of a differential diagnosis between them.

Such similar manifestations are: complaints on the presence of painless protrusion in the left groin area, anamnestic - protrusion in both cases may be present for a long time, on examination - protrusion in the left groin area, painless on palpation, percussion - tympanitis, auscultation peristalsis sounds can be heard.There is no necessity for additional research methods to clarify the diagnoses of these diseases, so we do not analyze them. When choosing other diseases for differential diagnosis, the analysis of similar and different manifestations of
results of laboratory and instrumental researches obligatory ***However, careful comparison of even similar manifestations and removal of pathognomonic symptoms, which characterize the only one of these diseases allows to exclude one of the diagnoses.***Thus, in the conditions of the case the patient complains of the painless protrusion in the groin area on the left, which appeared after lifting excess weight, while the men more often have painless protrusion on the left with the inguinal adjustable hernia; from the anamnesis of the disease - in terms of the case the patient's protrusion periodically appears after lifting exess weight or after the strong cough, while with inguinal reversible hernia on the left protrusion will also be present for a long time, but more often men have; from the life anamnesis - in the terms of the case the patient is a woman, and women are more likely to have femoral hernias, while inguinal hernias are more common with men; on examination - in the terms of the case the protrusion is in the groin area on the left below the inguinal fold, which is characteristic of a femoral hernia, while in inguinal hernia the protrusion will be above the inguinal fold; on palpation - in terms of the case protrusion can be painlessly reduced in the vertical position, and in the horizontal disappears on its own, while in inguinal hernia protrusion disappears on palpation in the vertical and horizontal positions, but finger examination of the inguinal canal can detect pulsation of the lower epigastric artery.
If it is palpated from the outside of the hernia sac, it is a direct inguinal hernia, and if to the middle of it - oblique. There is no need for additional research methods to clarify the diagnoses of these diseases, so they are not analyzed. When choosing other diseases for differential diagnosis, the analysis of similar and different manifestations in the results of laboratory and instrumental studies is obligatory.
After making such a detailed comparison and determining the difference between the manifestations of femoral hernia on the left from the cardinal manifestations of inguinal hernia on the left, the diagnosis of inguinal hernia on the left can be ruled out.

4. Left femoral reducible hernia

5.Consultation with a CRH surgeon to address the issue of planned surgery. The need for hospitalization for urgent or planned surgery (indications for surgery, preoperative preparation, postoperative management of the patient with the definition of groups of drugs and their action directions), or the possibility of conservative and outpatient treatment with the definition of groups of drugs and their directions.
Treatment of uncomplicated hernias - planned surgery: herniotomy with hernial ring plastic with tissue tension (autoplasty) or without tissue tension with auxiliary materials (alloplasty), so there is a need to consult CRH surgeon for planned hospitalization and planned surgery (preparation of the intestine) operating field (shave the skin at the site of intervention), premedication (atropine 1 ml subcutaneously and diphenhydramine 1 ml subcutaneously 30 minutes before surgery). After the operation - anesthesia (ketonal 2 ml 3 times a day, from the second day after the operation - in the form of pills for 3 days), dressings, diet - table 1a and activation of the regime from the second day after the operation.

Reference and information data for classes' preparation (differential diagnostic tables)

Differential diagnosis of oblique and direct inguinal hernias

Disease symptoms	Nosological entity		
	Oblique inguinal hernia	**Direct inguinal hernia**	**Femoral hernia**
Complaints	Protrusion in the groin area, which may descend into the scrotum	Protrusion in the groin area, often on both sides	Protrusion in the upper third of the thigh
Clinical chart	Protrusion is often related with physical activity	Existens og hernia of parent	Protrusion is often related with physical activity
Objective information			
Gender	More often male	More often male	More often female
Age	More often young	More often elderly	More often elderly
Examination of the hernia's location			
Localization	Often unilateral	Often bilateral	Unilateral
Relative to the scrotum	May descend into the scrotum	Does not descend	Does not descend
Outcome from the abdominal cavity	Through the inner ring of the inguinal canal (lateral inguinal fossa)	Through the outer ring of the inguinal canal (medial inguinal fossa)	Through a muscular or vascular lacuna
Which opening orifice is expanded	The internal and external openings of the inguinal canal are expanded	The external opening of the inguinal canal is expanded	The inguinal openings are not expanded
The ratio of the hernia sac to the spermatic cord	Located in the middle or laterally from the elements of the spermatic cord	Located medially from the elements of the spermatic cord	Not connected with the spermatic cord
The ratio to the femoral arch	Located above the inguinal ligament	Located above the inguinal ligament	Located below the inguinal ligament

Differential diagnostic table of acute appendicitis (epigastric stage)

Disease symptoms	**Nosological entity**				
	Acute appendicitis, epigastric stage	**Acute cholecystitis (simple form)**	**Acute pancreatitis (swollen form)**	**Acute pancreatitis (swollen form)**	**Peptic ulcer disease of the stomach and duodenum**
Complaints					
Pain					
- localization	Epigastric area	Right hypochondrium	Epigastric area, mesogastrium	Under the xiphoid process	In the pyloroduodenal zone
- character	Constant	Constant	Constant	Constatant, intensifies after eating	Associated with eating
- intensity	Medium	Intensive	Intensive,belt-like	Medium, burning	Intensive
- irradiation	None	In the right scapula, shoulder girdle	In the lumbar spine	None	In the shoulder girdle, back
Vomiting	Disposable	Recrudescent, with bile, does not alleviate the condition	Recrudescent, does not alleviate the condition	Recrudescent	На висоті болю вжитою їжею, полегшує стан
Heartburn	None	None, bitter taste in mouth	None	Present	Present
Defecation	Sometimes with a delay	Unchanged	Characteristic delay	Unchanged	Characteristic delay
Body temperature	Subfebrile	Subfebrile	Normal	Subfebrile	Normal
Clinical chart					
Provoking factors	None	Fat, fried food	Alcohol, excessive consumption of fat food	Poor quality, spicy food	Irregular diet, stressors
Objective information					
General condition	Reassuring	Reassuring	Intermediate severity	Reassuring	Reassuring
Integuments	Ordinary	Subectericity is possible	Moderately pale	Ordinary	Ordinary
Tongue	Wet	Wet, tongue plaque	Wet, tongue plaque	Wet, tongue plaque	Wet, tongue plaque
Tachycardia	Moderate	Moderate	Moderate	None	None
Examination of the abdomen					

Palpation	Soft, pain over the navel	Tense and pain in the right hypochondrium	Soft, pain in the projection of the gland	Soft, pain in the epigastrium	Locally tensed, pain in the epigastrium in the projection of the ulcer
Percussion	Without features	Without features	Tympanites along the lumbar colon	Without features	Without features
Auscultation	Without features	Without features	Decreased sonority of peristalsis	Without features	Without features
Pathognomonic symptoms	Kocher, Sitkovsky, Rovsing, Bartomie-Michelson, Rozdolsky, Obraztsov	Ortner's,Kehr's, Murphy	Kehr te, Mayo-Robson, Chukhrienko	None	Boas, Openhovsky
Additional research methods					
Laboratory methods	Moderate leukocytosis	Moderate leukocytosis	Increased amylase, lipase, moderate leukocytosis	Moderate leukocytosis	Without pathological changes
Fibrogastroduodenoscopy	Without features	Without features	Without features	Inflammation and erosion of the gastric mucosa	Ulcerative defect with an inflammatory shaft
Ultrasound diagnostics	Thickening of the walls of the appendix	Echopositive inclusions with an echo path in the bladder cavity, thickening of the bladder wall	Enlargement of the pancreas	Not informative	Not informative

Differential-diagnostic table of acute appendicitis at the stage of local manifestations

Disease symptoms	Nosological entity					
	Acute appendicitis	**Perforated ulcer, stage of imaginary well-being**	**Right ovary cyst rapture**	**Acute right-sided salpingitis**	**Acute mesenteritis**	**Acute pyelonephrit is on the right**
Complaints						
Pain						
- localization	Right iliac region	Epigastric and right iliac region	The right iliac region and above the pubic	The right iliac region and above the pubic	Umbilical area	Right lumbar region
- character	Constant	Constant	Constant	Constant	Paroxysmal	Constant
- intensity	Not intense	High intensity	Low intensity	Intensive	Moderate	Low intensity
- irradiation	None	None	In the rectum	У поперек	None	All over the abdomen
Nausea	Present	Not typical	Not typical	Not typical	Present	Not typical
Vomiting	May be disposable	Not typical	Not typical	Not typical	Not typical	Not typical
Body temperature	Subfebrile	Subfebrile	Normal	Febrile with chills	Subfebrile or febrile	Febrile or hectic with chills
Clinical chart						
Provoking factors	None	Absent, occurs with recrudescenc e of peptic ulcer disease	Ovulation, sexual intercourse	Hypothermia , chronic inflammatory process	Colds	Hypothermia, urolithiasis
Objective information						
General condition	Reassuring	Intermediate severity or grave	Reassuring	Reassuring	Reassuring	Grave
Pulse	Moderate tachycardia	Severe tachycardia	Severe tachycardia	Tachycardia	Moderate tachycardia	Tachycardia
Tongue	Weeping	Dry	Weeping	Weeping	Weeping	Weeping
Examination of the abdomen						
Palpation	Moderate tense and pain in the right iliac region	Tense and pain throughout	Moderate tense and pain in the lower parts and above the pubic	Moderate tense and pain in the lower parts and above the pubic	Moderate tense and pain in the mesogastric and along the mesentery of the small intestine	Soft structure, pain in the right half of the abdomen

Percussion	Pain in the right iliac region	Lack of hepatic dullness	Sometimes blunting	Without features	Without features	Without features
Auscultation of the abdominal cavity	Without features	A rapid decline or absence of peristalsis	Decreased sonicity of intestinal murmurs	Without features	Without features	Without features
Pathognomonic symptoms	Kocher, Rovsing, Sitkovsky, Bartom-Michelson	Mendel, Spizharny, Shchetkin-Blumberg	Promptov, Shchotkin-Blumberg	Promptov	Sternberg	Pasternatsky
Rectal examination	Pain in the anterior wall of the rectum	Pain and overhang of the anterior wall of the rectum	Pain when the uterus is displaced and the overhang of the rectum anterior wall	Pain when the uterus is displaced	Without features	Without features
Additional research methods						
CBC	Moderate leukocytosis	Moderate leukocytosis with rod-shaped shift to the left	Moderate leukocytosis with shift to the left	Significant leukocytosis with rod-shaped shift to the left	Moderate leukocytosis with lymphocytosis	Significant leukocytosis with rod-shaped shift to the left
Clinical urinalysis	Without features	Moderate toxic leukocyturia and albuminuria	Without features	Without features	Without features	Leukocytes, erythrocytes, protein, cylinders
Ultrasonic Diagnostics	Enlargement of the appendix and thickening of its walls	Free fluid in the abdomen	Cyst or free fluid	Changes in the uterine tubes and ovaries	Enlarged lymph nodes of the mesentery	Pathology of the pelvic-kidney complex
Radiography review of the abdominal cavity	Not informative	Under the diaphragmatic cupula is a sickle-shaped lumen	Not informative	Not informative	Not informative	Enlargement of the kidney's shadow on a review radiograph

Differential diagnosis of acute cholecystitis (simple form)

Disease symptoms	**Nosological entity**				
	Acute cholecystitis	**Acute appendicitis**	**Exacerbation of ulcerative disease**	**Right-sided pleuropneumonia**	**Urolithiasis, right-sided renal colic**
Complaints					
Pain					
- localization	Right hypochondrium	Epigastric region or right iliac region	Epigastric area	Right hypochondrium and lower chest	Right lumbar region
- character	Constant, dull ache	Constant, stabbing pain	Periodic	Constant, stabbing pain	Paroxysmal
- intensity	Moderate	Not intense	Intense during the attack	Moderately intense	Very intense
- irradiation	In the right upper arm, shoulder	None	Often in the back	None	In the right thigh, groin, scrotum
Nausea	Significant	Moderate	Not typical	Not typical	Occurs often
Vomiting	Frequent, duodenal contents with bile	Rare, disposable, gastric contents	Disposable, recently eaten food	Not typical	Frequent, gastric contents, or "empty"
Bode temperature	Hyperthermia	Subfebrile	Normal	Fever heat	Normal
Clinical chart					
Provoking factors	Fat, fried food	None	Seasonal	Hypothermia, respiratory diseases	Spicy food, physical overload, overeating
Objective information					

General condition	Reassuring	Reassuring	Reassuring	Intermediate severity	Intermediate severity
The patient's position in bed	Active	Forced, on the right side	Active, half-bent during a pain attack	Forced, half-bent	Restless, constantly changes position
Integuments	Ordinary or subicteric	Normal	Normal	Pale cyanotic	Normal
Tongue	Tongue plaque, dryish	Weeping, tongue plaque	Weeping, tongue plaque	Weeping, dryish when dyspnea	Weeping, clean
Pulse	Moderate tachycardia	Moderate tachycardia	Normal	Tachycardia	Tachycardia
Breathing	Not changed	Not changed	Not changed	Dyspnea	Not changed
Urination	Not changed	Not changed, short-term dysuria with pelvic and retrocecal location of the appendix	Not changed	Not changed	Dysphoric disorders
Examination of the abdomen					
General examination	The area of the right hypochondrium lags behind in breathing, symmetrical	Symmetrical, involved in the process of breathing	Symmetrical, involved in the process of breathing	The right part lags behind in the process of breathing	Moderately swollen, the right part lags behind in the process of breathing
Palpation	Moderate tense and pain in the right hypochondrium	Soft, moderate pain in the epigastrium and right iliac region	Soft or moderately tensed, pain in the epigastrium	Soft, moderate pain in the right hypochondrium	Soft or moderately tensed, pain in the projection of the kidney and right ureter
Percussion	Without pathological manifestations	Without pathological manifestations	Without pathological manifestations	Dull percussion sound in the thoracic cavity on the right	Without pathological manifestations
Auscultation	Peristaltic sounds are not changed	Peristaltic sounds are not changed	Peristaltic sounds are not changed	Peristaltic sounds are not changed	Peristaltic sounds are not changed
Pathognomonic symptoms	Ortner's, Kehr , Murphy, often Parthier	Kocher, Rovsing, Bartomie-Michelson, Obraztsov, Rozdolsky	Boas, Openhovsky	None	Pasternatsky on the right side
Additional research methods					
CBC	Leukocytosis to 12 – 15 · 109/l	Moderate leukocytosis 9 – 10 · 109/l	Not changed	Leukocytosis	Not changed

Clinical urinalysis	Not changed	Not changed	Not changed	A small number of leukocytes, protein	Hematuria, protein and leukocytes
Review or contrast radiography	Often the presence of shadows of concrements	Not informative	Symptom of "niche" and "index finger" in contrast gastrography	Darkening in the right lung, effusion in the pleural cavity, restriction of mobility of the diaphragm on the right	Sometimes concrements' shadows, increase of the shadow of a kidney on the right, a delay of contrast in an ureter at a contrast urography
Ultrasonic Diagnostics	Thickening of the bladder wall, echo positive inclusions with a path in the gallbladder cavity	Widening of the cavity and thickening of the walls of the appendix	None	May be fluid in the pleural cavity	Increased kidney size, the presence of echo-positive formation in the renal pelvis or ureter

Differential diagnosis of acute cholecystitis (destructive form)

Disease symptoms	**Nosological entity**				
	Acute cholecystitis (destructive)	**Perforation of gastric and duodenal ulcers**	**Acute destructive appendicitis**	**Acute destructive pancreatitis**	**Torsion, perforation of the ovarian cyst**
Complaints					
Pain	Present	Present	Present	Present	Present
- localization	Right hypochondrium	Not localized	Right iliac region	Epigastric and mesogastric areas	Hypogastric area
- character	Constant	Constant	Constant	Constant	Gradually growing

- intensity	Intense	Extremely intense	Moderately intense	Extremely intense	Moderate
- irradiation	In the right upper arm, shoulder, heart area	All over the abdomen	None	In the back, lumbar region	In the thighs, groin, rectum
Nausea	Constant, comes with vomiting	Not typical	Occurs often	Constant	Not typical
Vomiting	Often	Not typical	Not often	Often	Not typical
Anamnesis	Acute onset, often pain attacks	Acute onset	Acute onset	Acute onset	Gradual growth of clinical manifestations, chronic genital disease
Body temperature	High, up to 39 ° C	Normal or subfebrile	Increased to 38 ° C	Normal	Subfebrile
Clinical chart					
Provoking factors	Fat, fried foods	Exacerbation of peptic ulcer disease, physical activity	None	The presence of gallstone disease, alcohol abuse	None
Objective information					
General condition	Intermediate severity	Grave	Reassuring	Grave	Intermediate severity
The patient's position in bed	Forced on the right side	Forced on the right side with bent legs	Forced on the right side	Forced, sedentary, on the back	Restless
Integuments	Pale with a yellowish tinge	Pale, weeping	Normal	Pale bluish, with cyanosis' spots	Pale
Tongue	Dry, tongue plaque	Dry, tongue plaque	Dryish, tongue plaque	Dry	Weeping
Blood pressure, pulse	Blood pressure within normal limits, tachycardia	Blood pressure is low, tachycardia	Tachycardia (temperature-pulse "scissors")	Low blood pressure, tachycardia, arrhythmia	Blood pressure is unstable, tachycardia
Breathing	Normal	Chest breathing, accelerated	Normal	Chest breathing, accelerated	Normal
Urination	Normal	Oliguria	Normal, depending on the location of the appendix - dysuria	Oliguria or anuria	Normal
Examination of the abdomen					
General examination	Symmetrical, right hypochondrium lags behind in the act of breathing	Moderately swollen, anterior abdominal wall is not involved in the	Symmetrical, right iliac region is not involved in respiration process	Swollen, the anterior wall is not involved in respiration process	The hypogastric area is not involved in respiration

		respiration process			
Palpation	Tensed, painful infiltration or enlarged gallbladder in the right hypochondrium	Tensed all over the abdomen	Tensed, soreness in the right iliac region	Tensed in the epigastrium and mesogastric region, where painful infiltration is often palpated	Moderate intention in the hypogastrium, where a round painful formation is often palpated
Percussion	Tympanitis in the flank areas	Lack of hepatic dullness, obtrusion in the flank areas	Tympanitis in the flank areas	Obtrusion in the flank areas	Obtrusion in the flank areas
Auscultation	Normal peristaltic sounds	Peristaltic sounds are sharply attenuated or cannot be heard	Peristaltic sounds are attenuated	Peristaltic sounds cannot be heard	Peristaltic sounds are attenuated
Pathognomonic symptoms	Ortner's, Kehr , Murphy, Georgievsky, Shchetkin-Blumberg in the right hypochondrium, Parturier	Shchotkin-Blumberg throughout, Spizarny, Mendel, Voskresensky	Sitkovsky, Rovsing, Bartomier - Michelson, Ostrovsky, Obraztsov, Shchotkin-Blumberg in the right iliac region	Kehr te, Voskresensky's, Chukhrienko's, Mayo-Robson, Shchetkin-Blumberg, "colored" symptoms	Shchotkin-Blumberg, Promptov
Rectal examination	Without pathological manifestations	Overhang and soreness of the anterior wall of the rectum	Overhang and soreness of the anterior wall of the rectum	Overhang and soreness of the anterior wall of the rectum	Overhang and soreness of the anterior wall of the rectum
Additional research methods					
CBC	Leukocytosis with a shift to the left	Leukocytosis or leukopenia with a shift to the left	Moderate leukocytosis with a shift to the left	Erythrocytosis, leukocytosis with a shift to the left	Anemia, leukocytosis with a shift to the left
Clinical urinalysis	Protein, leukocytes, bile pigments	Protein, leukocytes,	A small amount of protein, leukocytes	Protein, leukocytes, cylinders, high urine α-amylase	A small amount of protein, leukocytes
Review or contrast roentgenography	Often the presence of concrements' shadows	Sickle-shaped enlightenment over the liver, the level of fluid in the abdomen	Not informative	Intestinal hyper pneumatosis, enlarged duodenum, effusion in the left pleural cavity	Intestinal hyper pneumatosis, fluid level in the abdomen

Ultrasonic diagnostics	Thickening of the gallbladder wall, echo positive inclusions with the echo path	Free fluid in the abdomen	Increased shadow of the appendix, free fluid around	Extended echo positive zone of the pancreas	Echo Positive formation in the area of the uterine appendages

Differential diagnosis of acute pancreatitis (shock phase)

Disease symptoms	**Nosological entity**				
	Acute pancreatitis (shock phase)	**Myocardial infarction, abdominal form**	**Perforated ulcer (shock phase)**	**Mesenteriothrombosis (phase of hemodynamic disorders)**	**Nphrocolic**
Complaints					
Pain					
- localization	In the upper abdomen	Behind the sternum	All over the abdomen	Without clear localization	In mesogastric and hypogastric
- intensity	Very intense	Intense, squeezing pain	Knife-like	Very intense	Very intense
- character	Dull ache, constant	Stabbing pain, constant	Stabbing pain, constant	Stabbing pain, paroxysmal	Stabbing pain, paroxysmal
- irradiation	In the back, girdling	In the epigastric region, left arm and upper arm	In the upper arm	None	In the genitals, thighs
Vomiting	Uncontrollable - first with food, then bile or intestinal contents	Reflex, with consumed food	None or disposable with consumed food	Uncontrollable, sometimes with an admixture of "coffee grounds "	Reflex, with consumed food
Defecation	Delayed	Delayed	Delayed	Fecal matter mixed with blood	Not changed
Clinical chart					
Provoking factors	Alcohol consumptio, eating fat and fried food	Stress, physical activity	Exacerbation of peptic ulcer disease	Atherosclerosis, cardiovascular pathology with arrhythmia	Shaking ride, spicy food
Objective information					
Integuments	Pale, dry, colored symptoms are present	Pale, covered with cold sweat, acrocyanosis	Pale, covered with cold sweat	Pale	Pale

Pulse	Tachycardia	Tachycardia, arrhythmia	Bradycardia, which is replaced by tachycardia	Tachycardia, often arrhythmia	Tachycardia
Blood pressure	Decreases	Decreases	Decreases	Decreases	Not changed
Tongue	Dry	Weeping	First weeping, then dry	Dry	Weeping
Examination of the abdomen					
- general examination	Participates in respiration process	The upper part lags behind in respiration process	Does not take part in respiration process	Takes part in respiration process	Takes part in respiration process
- palpation	The abdomen is soft, pain in the epigastrium	Moderate muscle tension in the epigastrium	Board-like muscle tension and soreness all over the abdomen	Muscle tension and pain without clear localization	Muscle tension and pain in the lower abdomen parts, disappears when the patient is distracted
- percussion	Obtusion in the sloping places, tympanitis over the transverse colon	Without features	Lack of hepatic dullness	Without features	Without features
- auscultation	Weakening or absence of peristalsis	Without features	Weakening of peristalsis	Increased peristalsis	Without features
Pathognomonic symptoms	Kehr te, Chukhrienko's, Voskresensky's, Mayo-Robson, "color symptoms"	-	Spizarny, Mondor's tribe	-	Pasternatsky
Additional research methods					
CBC	Moderate leukocytosis with a shift to the left	Moderate leukocytosis with a shift to the left	Moderate leukocytosis with a shift to the left	At first without changes, then leukocytosis	Not changed
Clinical urinalysis	Oligoanuria, later toxic changes	Not changed	Not changed	Oligoanuria, later toxic changes	Protein, fresh red blood cells
Electrocardiography	Toxic ischemic changes of a	Signs of acute myocardial ischemia	Not changed	The presence of atrial fibrillation is possible	Without features

	myocardium are possible				
Review radiography	Intestinal hyper pneumatosis, Gobiet's symptom	Not informative	Free gas under the domes of the diaphragm	Not informative	Shadows of concrements
Ultrasonic diagnostics	Swelling of the gland and tissue around	Not informative	The presence of free fluid	Not informative	The presence of concrements, hydronephrosis

Differential diagnosis of bleeding
from the upper and lower parts of the gastrointestinal tract

Signs	Bleeding's nature	The patient's condition	Vomiting	Fecal matter	Data from additional studies
From the upper gastrointestinal tract	More often profuse	Often severe, the clinic is hemorrhagic shock	"Coffee grounds" or slightly altered blood, with clots	Black tarry (melena)	At an esophagogastro duodenoscopy source of can be found
From the lower	More often chronical	More often fair, the clinic of	Not character	With an admixture of	At a rectoromanosco py or a

gastrointestinal tract		posthemorrhagic anemia		slightly altered or fresh blood	colonoscopy source of can be found

Differential diagnosis of bleeding from the upper gastrointestinal tract

Disease symptoms	**Nosological entity**					
	Esophagitis	**Esophageal varicose veins dilatation**	**Gastric and duodenum ulcer**	**Mallory-Weiss syndrome**	**Erosive gastritis**	**Gastric cancer**
Complaints						
Vomiting	Hematemesis, or with an admixture of "coffee grounds	Blood with clots, often without gastric contents	More often type "coffee grounds", if massive bleedings - hematemesis	Frequent, first with food and then with red or dark blood	With the blood admixture, different intensity and frequency	Often repeated, in moderate quantity, "coffee grounds" type
Pain	Feeling of pressure, burning behind the sternum	In the liver, a feeling of heaviness and distension in the abdomen	In the epigastrium associated with eating, pain often disappears with the onset of bleeding	Not typical	Dull, spilled in the epigastrium, associated with eating disorders	Not constant, rarely intense
Burping, heartburn	Often	Not typical	Often	Not typical	Often	Loss of appetite, belching, weight loss
Provoking factors	Reflux of stomach contents	Earlier hepatitis, alcoholism, on the background of increased changes in the liver	Gastric and duodenum ulcer	Alcohol overuse, overeating	Тривале приймання медикаментозних препаратів (аспірин, НПЗП, гормони)	Chronic atrophic gastritis, antacid conditions
Objective information						

Gender	More often female	More often male	More often male	More often male	More often female	More often male
Age	More often 30-50 years	More often 30-50 years	More often 20-50 years	More often 30-50 years	More often 20-50 years	Older than 40 years
General condition	More often reassuring	Increasing general weakness, when massive blood loss - collapse	The clinic of acute blood loss is more often expressed: weakness, tachycardia	Depends on the volume of blood loss and concomitant pathology	Often the general condition is reassuring, rarely collapses	Increasing general weakness, weight loss, pale skin, decreased tissue turgor
Arterial tension	More often within normal limits or insignificant hypotension	BP is reduced according to the degree of blood loss	BP is reduced according to the degree of hematemesis	BP is reduced according to the degree of hematemesis	More often within normal limits or insignificant hypotension	More often within normal limits or insignificant hypotension
Pulse	Normal or moderate tachycardia	Tachycardia according to the degree of blood loss	Tachycardia according to the degree of blood loss	Tachycardia according to the degree of blood loss	Normal or moderate tachycardia	Normal or moderate tachycardia
Examination of the abdomen	Sometimes - pain in the epigastrium	Enlarged and painful liver, possible hypersplenia, jaundice, ascites, varicose veins of the abdominal wall	Pain during palpation in the epigastrium or duodenal projection	Sometimes - pain in the epigastrium	Moderate pain in the epigastrium, a bright red tongue is possible	Insignificant pain in the epigastrium, sometimes palpable tumor
Rectal examination	Black and shaped stool or tarry fecal matter	Black and shaped stool or tarry fecal matter	More often tarry stool "melena"	Black and shaped stool or tarry fecal matter	Black and shaped stool or tarry fecal matter	Black and shaped stool or tarry fecal matter
Additional research methods						
Endoscopy	If esophagoscopy - hyperemia and hypostasis of mucous membrane, existence of erosions	If esophagoscopy – nodulated varicose veins of a gullet, probably - with erosions	If gastroduodenoscopy - existence of an ulcer defect of different localization	If esophagogastroscopy - existence of horizontal splits of a mucous membrane of a gastroesophageal zone	If gastroscopy - erosions on tops of folds of a mucous membrane of a stomach	If gastroscopy - it is possible to reveal existence of a tumor, often with an ulcer

Differential diagnosis of bleeding

from the lower parts of the gastrointestinal tract

Disease symptoms	**Nosological entity**					
	Large bowel			***Straight intestine***		
	Tumor	**Ulcerative colitis**	**Diverticulosis**	**Hemorrhoids**	**Fissure**	**Tumor**
Complaints						
Blood effusion from the anal canal	More often in small portions, possibly profuse	More often in small portions, when grave conditions of disease profuse is possible	Occurs suddenly, fecal matter mixed with more or less altered blood, may be profuse	Excreted in drops or in the form of a jet at the end of the act of defecation, found on toilet paper or toilet walls	Blood is not mixed with fecal matter , a strip of fresh blood on the side of the fissure	An admixture of dark or, less often, red blood in the fecal matter
Pain	More often there are no painful sensations, sometimes - aching pain without clear localization	Before defecation, more often in the left iliac region	In the lower abdomen	Not typical, occurs in thrombosis of the nodes	Strong cutting pain in the anus area during the act of defecation	Typical for the late stage, iappears early only if anal cancer
Body weight	More often not changed	Reduced weight	Not changed	Not changed	Not changed	Decreases in the later stages
Clinical chart						

Defecation	Periodically - delay of feces and gases, alternating retention of feces and diarrhea	8-10 times a day, constant urges, in the stool - mucus, blood, pus	Alternating retention of feces and diarrhea or asymptomatic course	When exacerbation - reflex delay of defecation	In anamnesis – longlasting retentions of feces due to pain during defecation	Mucus, pus and blood in the stool, constipation
Provoking factors	None	Exacerbation of the disease	None	Retention of feces	Retention of feces	None
Objective information						
Gender	More often male	More often male	Equally often	More often male	More often female	More often male
Age	Often 40 years	More often 20-50 years	Older than 40 years	More often 30-50 years	More often 20-50 years	Older than 40 years
General condition	Depends on the stage of the process and the degree of anemia	In mild course - reassuring, in severe forms - grave	More often reassuring or intermediate severity	Depends on the amount of blood loss	The general condition does not change significantly	Depends on the stage of the process and the degree of anemia
Arterial tension, pulse	Normal or moderate hypotension and tachycardia	Reduced, tachycardia	Normal or moderate hypotension and tachycardia	Normal, changes only if considerable blood loss	Within the norm	Normal or moderate hypotension and tachycardia
Skin	Pale with a grayish tinge	Pale	More often normal color	More often normal color	Normal color	Pale with a grayish tinge
Examination of the abdomen	The tumor can be palpated, sometimes - the pain around it	Pain along the large bowel	Pain during palpation in the lower abdomen, in the left iliac region	Without features	Without features	Without features
Examination of the anal area	Without features	Without features	Without features	Sometimes itching, falling out of hemorrhoidal tumor	Fissure when separating the perianal folds	Tumor with anal localization
Rectal examination	Feces with blood admixtures	Feces with blood admixtures, mucus	Feces with blood admixtures, or slightly altered blood	Traces of red blood	Increased sphincter tone, sharp pain, possible traces of fresh blood	Tumor or ulcer with dense edges, traces of blood
Additional research methods						
CBC	Anemia	Anemia, leukocytosis	Within normal limits, if significant	From normal to significant anemia	Within the norm	Anemia

			blood loss - anemia			

Endoscopic examination	At a colonoscopy - existence of a tumor in different parts of a large intestine	At a colonoscopy - hypostasis, hyperemia of a mucous membrane, existence of flat ulcers, sometimes - the merging ulcers.	At a colonoscopy - presence of diverticula	At anoscopy - enlarged hemorrhoids of pale or bluish color, filled with blood clots, tense, eroded in places, covered with ulcers	At anoscopy - the presence of a linear defect in the anal canal	At rectoscopy - a tumor, often with an ulcer

Differential diagnosis table of perforated ulcer in the shock stage

Disease symptoms	**Nosological entity**				
	Perforated ulcer in shock phase	**Myocardial infarction, abdominal form**	**Acute pancreatitis, severe course, in the shock phase**	**Mesenteriothrombosis, stage of hemodynamic disorders**	**Nephrocolic**
Complaints					
Pain					
- localization	All over the abdomen	Behind the sternum, in the epigastrium	In the upper abdomen	Without clear localization	In the meso- and hypogastrium, lower back
- character	Sharp, sudden	Squeezing	Growing, girdling	Constant	Paroxysmal
- intensity	Intense	Intense	Extremely intense	Intense	Intense
- irradiation	In the upper arm	In the epigastric region, left arm and upper arm	In the lumbus	None	In the genitals, thighs
Nausea	Present	Present	Present	Present	Present

Vomiting	Not typical	Not typical	Frequent, first with food, then with bile and "coffee grounds"	Sometimes with an admixture of "coffee grounds"	Might be with consumed food
Fecal matter	Delay	Delay	Delay	With blood admixtures	Not changed
Clinical chart					
Provoking factors	None	Stress, physical activity	Alcohol, fat, protein foods	Atherosclerosis	Rabbit riding, spicy food
Objective manifestations					
General condition	Grave	Grave	Grave	Grave	Reassuring or intermediate severity
Integuments	Pale, covered with cold sweat	Pale, covered with cold sweat, acrocyanosis	Pale bluish, dry, with colored symptoms	Pale cyanosis, acrocyanosis	Pale
Tongue	Weeping at the edges	Weeping	Dry	Dry	Weeping
Pulse	Bradycardiawhich is replaced by tachycardia	Tachycardia, arrhythmia	Tachycardia	Tachycardia, arrhythmia	Tachycardia
Blood pressure	Reduces	Reduces	Reduces	Reduces	Not changed
Examination of the abdomen					
General examination	Is not involved in the respiration process	The upper half lags behind in the respiration process	Freely involved in in the respiration process	Freely involved in in the respiration process	Freely involved in in the respiration process
Palpation	Expressed tension and pain all over the abdomen	Moderate tension and pain in the epigastrium	Soft abdomen , pain over the navel	Soft abdomen , pain all over the abdomen	Soft, pain in the lower parts of the abdomen, pain disappears when the patient is distracted
Percussion	Lack of hepatic dullness	Without features	Tympanitis in the projection of the colon, blunting in the flank areas	Tympanitis all over the abdomen	Blunting in the flank areas
Auscultation	Peristalsis' weakening	Without features	Weakening or lack of peristalsis	Increased peristalsis	Without features
Pathognomonic symptoms	Mendel, Spizharny, Shchotkin-Blumberg	Pseudo-positive Shchotkin-Blumberg symptome	Kehr te, Mayo-Robson, Chukhrienko	Shchotkin-Blumberg	Pasternatsky
Additional research methods					
Laboratory	Moderate leukocytosis	Moderate leukocytosis	Leukocytosis with a shift to	No leukocytosis	No leukocytosis

			the left, increased amylase, blood lipase		
Electrocardiography	None	Signs of acute ischemia	None	None	None
Review radiography of the abdominal cavity	Sickle-shaped enlightenment under the dome of the diaphragm	Not informative	Hyperpneumatosis of the colon	Dynamic intestinal obstruction	Shadows of concremets
Ultrasonic diagnostics	Free fluid in the abdomen	Not informative	Enlargement of the pancreas	The level of fluid in the abdominal cavity	Increased echotinous kidney, concremets' shadow

Differential diagnosis of the terminal stage of diffuse peritonitis

Disease symptoms	**Nosological entity**				
	Terminal stage of peritonitis	**Diabetic coma**	**Hypoglycemic coma**	**Uremic coma**	**Hepatic coma**
Complaints					
Pain					
- localization	All over the abdomen	Non-localized in the abdomen	No pain	Non-localized in the abdomen	In the right hypochondrium
- character	Constant	Periodic	-	Nagging pain	Dull, constant
- intensity	Pain secedes or ceases with time	Not intense		Not intense	Not intense
- irradiation	None	None	-	In the lumbus	None
Vomiting	Frequent, intestinal contents, regurgitation	Periodic	Not typical	Vomiturition	Periodic, abundant
Clinical chart					
Provoking factors	Delayed medical resource utilization	Delayed intake of antidiabetic drugs	Overdose of hypoglycemic agents, or untimely food consumption after their use	Kidney disease with acute or chronic renal failure, poisoning	Liver disease with liver failure, poisoning
The onset of the disease	Acute attack	Gradual onset of disease	Sudden onset of disease	Gradual onset of disease	Gradual onset of disease
Anamnesis	The duration of the disease is 3-5 days	Prolonged course of diabetes	Prolonged course of diabetes	Chronic kidney disease (chronic pyelonephritis, pyo hydronephrosis)	Hepatic cirrhosis of various genesis, poisoning by hepatotropic poisons, viral hepatitis

Objective information					
Consciousness	Remains for a long time, lost gradually before death	Lost gradually after mental depression	Lost quickly after arousal, delirium	Lost gradually	Delirium develops with gradual loss of consciousness
Integuments	Pale, gray, dry, drastically reduced turgor, acrocyanosis	Pale, dry	Pale, wepping	Dry, traces of scratchings, swellings	Dry, jaundice with a "liver" tinge, spot hemorrhages
Muscle tone	Muscle tone is absent	Muscular hypotension, lethargy of tendon reflexes	Hypertonia, muscle rigidity, pathological tendon reflexes	Fibrillar twitching of various muscles, increasing of tendon reflexes	Motor anxiety, neck extensors may become tensed
Convulsions	Absent	Absent	Definitive	Come with increasing depth of the coma	Rare
Eyes	The tonus of the eyeballs is reduced, the pupils dilate	The tonus of the eyeballs is reduced	The tonus of the eyeballs is normal	Narrowed pupils, eyelids' swelling, the tone of the eyeballs is reduced	Without features
Tongue	Dry as a brush, cracked	Dry, raspberry-red	Weeping	Weeping	Weeping
Breathing	Frequent, then - pathological forms	Kussmaul breathing , then - superficial, the smell of acetone	Shallow breathing	Deep, sometimes Cheyne-Stokes respiration, smell of ammonia	Deep breathing
Cardiovascular system	Small, frequent pulse, arrhythmia, constant decrease of blood pressure	Tachycardia, muffled heart sounds, arterial hypotension	Clear tones, bradycardia	Hypertension, tone II accent, pericardial friction noise	Tachycardia, low blood pressure, muffled heart sounds
Examination of the abdomen					
General examination	Flattened, "frog", the abdominal wall does not involved in respiration process	Retracted abdomen, moderately tensed, limitly involved n in respiration process	Not distended abdomen, involved in respiration process, soft	Moderately tensed, not distended abdomen	Increased in volume, limitly involved n in respiration process
Palpation	Sometimes - local pain, often negative Schotkin's	Moderate pain, pseudo-positive Shchotkin's symptom	Soft, painless	Soft, painless	Sharp pain and tension in the right hypochondrium

Percussion	Dullness in flank areas	Tympanitis	Tympanitis	Tympanitis	Dullness in the flank areas, in the mesoepigastric region
Auscultation	Peristalsis is absent, "dead silence", "noise of a falling drop"	Peristaltic sounds are normal	Peristaltic sounds are normal or increased	Peristaltic sounds are normal or reduced, may be sounds of peritoneal friction in the lower parts	Peristaltic sounds are normal or reduced
Additional research methods					
CBC	Leukocytosis, often leukopenia, a sharp shift of the formula to the left, the presence of immature leukocytes	Glucose> 5 mmol / l, metabolic acidosis, ketonemia, leukocytosis	Glucose <3 mmol / l, moderate leukocytosis	Urea> 30 mmol / l, creatinine > 1000 mmol / l, metabolic acidosis	Azotemia, hyperbilirubine mia
Clinical urinalysis	Oliguria, anuria, toxic changes: erythrocytes, protein, cylinders	Glucosuria, ketone bodies	Without features	Oliguria or anuria	Bile pigments, urobilin, leucine crystals and tyrosiney
Review radiography of the abdominal cavity	Multiple shapeless Kloiber's cups, arches, fluid level in the abdomen	Moderate intestinal pneumatosis	Without features	Without features	Increased shadow of the liver, fluid level in the abdomen
Ultrasonic diagnostics	Free fluid in the abdomen	Without features	Without features	Without features	Increase or decrease in the size of the liver, enlargement of the spleen

Differential diagnostic table of types of acute intestinal obstruction

Disease symptoms	**Types of obstruction and their manifestations**			
	Strangulation obstruction	**Obstructing adhesion**	**Functional intestinal obstruction**	**Spastic obstruction**
Complaints				
Pain				

- localization	All over the abdomen	All over the abdomen, more in the obstacle area	All over the abdomen	All over the abdomen
- character	Cramping pain	Cramping pain	Constant	Paroxysmal
- intensity	Very intense, with short intervals	Moderate, with long lasting intervals	Dull, expansive, sometimes with periodic intensification	Moderate
Nausea	At first occurs periodically, then constantly	Occurs in the later stages	Constant	Occurs periodically
Vomiting	Frequent - with consumed food, bile, intestinal contents	In the early stages of the disease, vomiting may be absent	Frequent - stagnant gastric or intestinal contents	Frequent – with consumed food, bile
Defecation	In the early stages of the disease may be a discharge of feces and gases	Delay of the discharge of feces and gases	Delay of the discharge of feces and gases	Delay of the discharge of feces and gases
Clinical chart				
Provoking factors	Previously postponed operations, hernias	Inflammatory and tumor diseases of the intestines, foreign objects	Inflammatory diseases and injuries of the abdominal cavity and retroperitoneal space	Diseases of the central nervous system, hysteria, helminthic infection, lead poisoning
Disease onset	Acute onset	Gradual onset	Gradual onset	Gradual onset
Objective research				
General condition	Slowly deteriorating	Slowly deteriorating	Grave	Reassuring or inermidiate severity
Integuments	Pale, dry, acrocyanosis	Pale or gray, dry	Pale, dry	Pale during pain attack
Pulse	Frequent, weak	Tachycardia	Tachycardia	Tachycardia
Blood pressure	Decreases	Decreases in running cases	Decreases in running cases	Not changed
Tongue	First weeping, then dry	First weeping, then dry	Dry	Weeping
Examination of the abdomen				
-General examination	Swollen, asymmetrical, during the pain is not involved in respiration process	Swollen, asymmetrical, involved in respiration process	Evenly swollen, often not involved in respiration process	Evenly swollen, involved in respiration process
Palpation	Soft, pain and tension during attack	More often local tension and pain at the pathology site	Pain anf often tensed all over the abdomen	Soft, during the attack – pain and tension
Percussion	Different levels of tympanitis	Different levels of tympanitis	Tympanitis, blunting in the flank areas	Without features
Auscultation	Increased peristalsis in the first hours, then - weakening	Weakening of peristalsis after a long time of strengthening	Decreased or absent peristalsis	Increased peristalsis

Pathognomonic symptoms	Valya, , Sklyarova, Grekova, Shlanga	Valya, Kivulya, Sklyarova, Grekova, Shlanga	Sklyarov's,Shchetkin-Blumberg	Sometimes Valya's symptom
Additional research				
CBC	Hemoconcentration	Hemoconcentration or anemia	Leukocytosis with a shift of the leukocyte formula to the left	No changes
Clinical urinalysis	Oligoanuria, later toxic changes	Oligoanuria, toxic changes	Oligoanuria, toxic changes	Without features
Review radiography	Intestinal arches, Kloiber's cups, often with a predominance of length over height	Intestinal arches, Kloiber's cups, often with a predominance of length over height	Intestinal hyperpneumatosis, small Kloiber's cups	Intestinal hyperpneumatosis
Passage of X-ray contrast agent	Delay in the contrast promotion	Delay in the contrast promotion	Not informative	No delay in the contrast promotion
Irigography	Not informative	Defect or filling breakage	Not informative	Not informative

Differential diagnosis of obturation

bowel obstruction

Disease symptoms	**Нозологічні захворювання**			
	Obturation bowel obstruction	**Nephrocolic**	**Stenosis of the pyloric stomach**	**Crohn's disease**
Complaints				
Pain				
- localization	All over the abdomen	In the lumbar region, in different parts of the abdomen	In the epigastrium	All over the abdomen
- character	Cramp-like with long "light" gaps	Cramp-like	Constant	Cramp-like with increasing frequency
- intensity	Not intense, dull	Intense, sharp	Not intense, dull	Intense, sharp
- irradiation	All over the abdomen, in the resurrection bone, lumbar	In the inguinal area, scrotum, thigh	None	All over the abdomen
- what relieves pain	Antispasmodics, enemas	Heat, antispasmodics, blockings	Gastric lavage, vomiting	Pain cannot be alleviated
Vomiting	Late (8-10 days), infrequent, intestinal "fecal" contents	Reflex, infrequent	Regular, once in 1-2 days, plentiful, with earlier consumed food, putrefactive content	Frequent, intensional contents

Defecation	Absent, the gases do not go away	Without changes, the gases go away	Once in 2-3 days, the gases go away	None, the gases do not go away
Clinical chart				
Provoking factors	Obstruction of the intestinal lumen by a tumor, a foreign body	Reflex irritation of the renal pelvis, ureter with concrements	Cicatricial-ulcerative narrowing of the pyloroduodenal part	Cicatricial-granulomatous narrowing of the intestinal lumen
Anamnesis	Develops gradually (tumors), rarely acutely, foreign bodies, helminthic infection)	Occurs acutely on the background of urolithiasis, diathesis	Develops gradually, on the background of peptic ulcer disease	Develops gradually,on the background of granulomatous enteritis
Objective manifestations				
General condition	Grave	Reassuring	Intermediate severity, depending on the stage of compensation	Grave
Integuments	Pale	Normal	Pale, dry	Pale
Tongue	Dry, tongue plaque	Weeping	Dryish	Dry
Pulse	Tachycardia	Normal	Normal	Tachycardia
Blood pressure	Decreases	Not changed	Not changed	Decreases
Examination of the abdomen				
General examination	Asymmetric, bloated, involved in the respiration process	Symmetric, limitly involved in the respiration process	Asymmetric due to protrusion in the epigastrium, involved in the respiration process	Asymmetric, bloated, limitly involved in the respiration process
Palpation	Soft, painful, often palpable tumor and swollen loops of intestines	Moderately tensed and painful	Soft, painless, enlarged stomach	Moderately tensed and painful, swollen loops of intestines are palpated
Percussion	High tympanitis, blunting in the flank areas	Tympanitis all over the abdomen	High tympanitis in the epigastrium	Tympanitis in the mesoepigastrium, blunting in the flank areas
Auscultation	Attenuation of peristaltic sounds	Peristaltic sounds of usual sonority	Increased sonority of gastric peristalsis, which is absent in decompensation	Increased sonority of peristaltic sounds
Pathognomonic symptoms	Sklyarova ("slap noise")all over the surface of abdomen	Pasternatsky	Vasylenko ("slap noise" in the epigastrium)	Sklyarova ("slap noise")all over the surface of abdomen
Rectal examination	Grekov's symptoms, positive	The ampoule is filled with feces	In an ampoule usual color feces	"Empty" ampoule for a long lasting course or feces

	Cege - Manteifel test			with discharge of dark blood, mucus
Additional research methods				
CBC	Anemia, leukocytosis	Not changed	Erythrocytosis, decreased blood protein, blood volume deficit	Leukocytosis, blood volume deficit
Clinical urinalysis	Reduced amount of urine	Fresh erythrocytes, protein	Reduced amount of urine	Reduced amount of urine, toxic changes in urine analysis
Review radiography of the abdominal cavity	Kloiber·s cups , "filling defect" in urgent irigography	The shadow of the calculus in the urinary tract during urography	Enlargement of the stomach with a decrease in the shadow in the pelvis, barium retention for more than 12-24 hours	Kloiber·s cups
Ultrasonic Diagnostics	Signs of intestinal obstruction	Shadows of concrements, expansion of a renal pelvic complex	Overflow of the stomach with contents	Signs of intestinal obstruction

Differential diagnosis of jaundice

Disease symptoms	**Type of jaundice**			
	Parenchymal jaundice	**Mechanical jaundice**		**Hemolytic jaundice**
		tumor origin	**calculus genesis**	
Complaints				
Pain	Dull, heaviness in the right hypochondrium	Moderate or absent	Biliary colic	Not typical
Body temperature	Subfebrile	Normal or subfebrile	Subfebrile or hectic when cholangitis	Normal
Early signs	Headache, joint pain, catarrhal phenomena	Rapid fatigability, decreased appetite	Pain attack before jaundice	General weakness, anemia
Clinical chart				

Prooking factors	Contact with patients with jaundice, toxic substances, parenteral drug administration	Chronic pathology of the pancreas and biliary tract	Pain attacks in the right hypochondrium, often accompanied by jaundice, biliary tract surgery	Relatives, who had similar disease, being in the cold
Gender, age	More often people under 40 years	More often after 40 years, mostly males	More often females after 50 years	More often children and people under 50 years
Disease development	Cyclical during 3-5 weeks	Stage by stage, progressing	Acute, after pain attack	Cyclic or acute, the presence of jaundice in childhood
Development of jaundice	Fast	Slowly progressing, in a short period of time	Fast, after pain attack	Slow, long lasting subicteric sclera and skin
Itchy skin	Short-lived, not intense at the height of jaundice	Persistent, intense, sometimes appears with jaundice	Not intense, not constant	Absent
Objective information				
Skin color	Yellowish, reddish	Yellow-grayish or dark green to brown, sometimes with petechial hemorrhages	Yellow	Light yellow with a lemon tint
Jaundice's intensity	Moderate	From moderate to sharp	From moderate to sharp	Not large
Examination of the abdomen				
General examination	Without features	May increase in volume due to ascites	Without features	Without features
Palpation				
- liver	Moderately enlarged, not indurated, painful	Enlarged, indurated, possibly hilly	Enlarged, often painful	Not enlarged or moderately enlarged , indurated, painful
- gallbladder	Not palpable	Palpable, enlarged, tensed, painless (Courvoisier's symptom)	Not palpable or palpable and painless, when the presence of inflammation - painful (Parturier's symptom)	Not palpable
- spleen	Often enlarged	Often not enlarged	Often not enlarged	Enlarged
Additional research methods				
CBC	Leukopenia, lymphocytosis	Moderate anemia, increased ESR	Leukocytosis	Anemia, lymphocytosis, increased ESR

Bilirubin	Moderately increased levels of direct and more - indirect bilirubin	High bilirubin content due to the direct fraction	High bilirubin content due to the direct fraction	Moderately increased level of indirect bilirubin
Transaminases	Increased activity AST / ALT	AST / ALT activity is not changed or slightly increased	AST / ALT activity is not changed	AST / ALT activity is not changed
Alkaline phosphatase	Activity is sometimes increased	Increased activity (in 100% of cases the level of the liver fraction is increased)	Activity is increased	Activity is not changed
Sediment samples	Positive	Negative	Negative	Negative
Aldolase	Increased total level of aldolase and, in particular, isoenzyme B	Increased level of aldolase A	Not increased	Not increased
Cholesterol and esterification ratio	Increased	Do not changes or increases	Do not changes or increases	Do not changes or increases
Special tests	Hepatitis A: positive anti-HAV Igm test. Hepatitis B: positive tests HveAg or anti-HBe, HBsAg or anti-HBs, anti-HBs Igm, HB DNA Hepatitis C: positive tests for anti-Hc Igm, HC RNA Hepatitis D: positive tests for total antibodies to HDV, and HDV DNA Hepatitis G: positive test HGV RNA	Not used	Not used	Positive Coombs' reaction (antibodies to erythrocytes). Osmotic stability of erythrocytes is reduced. Detect thermal and cold antibodies in serum. Increased level of haptoglobin
Clinical urinalysis				
- color	Dark, bilirubin absence at first, then present	Dark (presence of direct bilirubin)	Dark (presence of direct bilirubin)	Not changed, bilirubin absence
- urobilin content	At first, urobilin is absent for some time, then excessively or moderately increased	Absent when complete obstruction of the extrahepatic bile ducts	Absent when complete obstruction of the extrahepatic bile ducts	Sharply increased
Fecal analysis	At first, the fecal is discolored (increased fat), then - the color is normal, stercobilin is absent at first, then present	Acholic feces (stercobilin is absent, increased fat)	Acholic feces кал	Normal or hypercholic feces (increased stercobilin)
Duodenoscopy	Without pathology	May show signs of tumor	There may be signs of a stone	Without pathology

			lodged in the papilla	
Laparoscopy	Red liver, gallbladder without pathology	Brownish-green liver, enlarged gallbladder, without signs of inflammation	Enlarged liver, enlarged gallbladder without or with signs of inflammation	Yellow-greenish liver, not enlarged gallbladder
Ultrasonic diagnostics	No bile ducts' dilation and no signs of obstruction of bile outflow	Dilated ducts, signs of obstruction of bile outflow	Concrements in the gallbladder and ducts, bile ducts dilated above the obstruction	No bile ducts dilation and no obstruction of bile outflow
ERCP	Contraindicated during the acute period	Signs of obstruction in the distal choledochus with dilation of the ducts above	Presence of stones or concrements in the choledochus with dilation of the ducts above	Not informative

Differential diagnostic table of mechanical jaundice of various etiologies

Disease symptoms	**Nosological entity**			
	Pancreatic cancer	**Major duodenal papilla cancer**	**Gallstone disease**	**Cholangitis**
Complaints				
Pain				
- localization	In the epigastrium	In the right hypochondrium	In the right hypochondrium	In the right hypochondrium

- irradiation	Lower back pain	In the right scapula	In the right scapula, collar bone, right shoulder	Under the right scapula, collar bone, in the right shoulder
- intensity	Dull pain	Significant level of pain	Stabbing pain before jaundice	Significant level of pain
Weakness, loss of appetite and weight	At the beginning of the disease all patients have	Absent, at the beginning of the disease	Not typical	Weakness and loss of appetite as a result intoxication
Temperature rising	Does not increase	After pain attacks - up to 39-40C with excessive sweating	After the attacks - to subfebrile temperatures	Daily or once in 2-3 days to 39-40 C with chills and excessive sweating
Jaundice	Not always	After the attack, everyone has	Not always	After the attack, everyone has
Itchy skin	All patients have, may occur before jaundice	Occurs after pain attack and with jaundice, happens to almost all patients	Appears after the jaundice's development	Not typical
Clinical chart				
Duration of illness	5-7 months	1-2 years	Many years	**Abrupt in onset**
The onset of the disease	Gradual	Hepatic colic	Hepatic colic	Hepatic colic
The course of the disease	Progressive	With periodic augmentation	With periodic augmentation	Progressive
Objective information				
General condition	Grave	Grave	Intermediate severity	Grave
Skin color	Yellow-grayish or dark green with petechial hemorrhages	Yellow-grayish or dark green with petechial hemorrhages	Yellow	Yellow
Examination of the abdomen				
General examination	Not often - protrusion in the epigastrium due to tumor	The abdomen is symmetrical, takes part in the respiration process	The abdomen is symmetrical, takes part in the respiration process	The abdomen is symmetrical, takes part in the respiration process
Palpation	The abdomen is soft, pain in the epigastrium, the tumor can be palpated	The abdomen is soft, painless	The abdomen is soft, painless, or pain in the right hypochondrium in acute cholecystitis	The abdomen is soft, moderate pain in the right hypochondrium in
Hepatomegalia	Not critical	Not critical	None	Hepatolienal syndrome
Pathognomonic symptoms	Courvoisier, in almost 100% of cases	Courvoisier, in almost 100% of cases	None or positive Kehr , Ortner's, Murphy, Parturier symptoms if acute cholecystitis	Charcot Triad
Additional research methods				

CBC	Anemia	Anemia as a result of acute or chronic blood loss	Leukocytosis when acute cholecystitis	Leukocytosis, anemia
Biochemical parameters	Increased levels of total and direct bilirubin, sometimes - hyperglycemia	Increased levels of total and direct bilirubin, sometimes - hyperglycemia	Increased levels of total and direct bilirubin,	Increased levels of total and direct bilirubin, alkaline phosphatase, aminotransferases
Clinical urinalysis	Bile pigments, sometimes glucosuria	Bile pigments	Bile pigments	Urobilin
Cholangiography	Signs of bile duct compression in the retroduodenal area, dilation of the ducts above the level of obstruction	Signs of obstruction in the duodenal papilla, enlargement of the entire duct system	Presence of an obstacle - a stone(s) in ducts, expansion of ducts above level of an obstacle	Cannot be done in the acute period
Duodenoscopy	Compression of the intestine or the germination of a tumor in the intestinal wall	The presence of a tumor-like formation in the area of the large duodenal papilla	Absence of the pathology or the presence of a wedged stone in the large duodenal papilla	Absence of the pathology purulent discharge from the large duodenal papilla
Ultrasonic diagnostics, computed tomography	Duct dilation, the presence of a tumor-like formation in the head of the pancreas	Enlargement of the extrahepatic bile ducts	The presence of stones in the gallbladder and duct system, if jaundice - dilation of the ducts	Signs of the main pathology, thickening of the bile duct wall