

# **BIOPSY-SECTIONAL COURSE**

***FOR THE FOREIGN STUDENTS OF  
THE HIGHER MEDICAL  
ESTABLISHMENT OF THE  
III - IV DEGREE OF  
ACCREDITATION***

**Speciality:7.110101 “General medicine”**

## ***CONTENTS***

<b>Theme 1.</b> Drawing up of appropriate anatomical documents: Incision report of clinical and anatomical investigations, anatomical diagnosis, death certificate.....	3
<b>Theme 2.</b> The dissection of dead person in case of death from the disease of a therapeutic structure or infectious pathology. The clinical and anatomical analysis.....	38
<b>Theme 3.</b> The dissection of died person from surgical and obstetrics pathologies. The clinical and anatomical analysis.....	70
<b>Theme 4.</b> The dissection of the dead child. Features of the clinical and anatomical analysis and the organization of the dissection in pediatric practice.....	93
<b>Theme 5.</b> The role of pathological and anatomical service in the control through the quality of treatment and prophylactic work. The organization of work of the medical control and clinical conferences.....	100
<b>Theme 6.</b> Biopsy investigations.....	112

## Theme 1

### *Drawing up of appropriate anatomical documents: incision report, clinic-anatomical conclusion, concomitant anatomical diagnosis, death certificate*

**Motivation:** It is necessary to draw up the appropriated pathological and anatomical documents after incision of a deceased body: incision protocol, anatomical conclusion, death certificate.

**Aim:** To study the main rules of drawing up of incision protocol, anatomical diagnosis, clinical and anatomic conclusion, death certificate.

**Task:** To know the structure of incision protocol, anatomical conclusion, death certificate.

To learn how to make pathological and anatomical diagnosis which based on pathogenesis principle, write out death certificate and encipher the diseases according to **WCD-X**.

To know how to draw up the principal and anatomical documents.

### Lesson equipment

1. Incision protocol.
2. Death certificate.
3. **WCD-X**.

#### 1. Material for pre-auditorium independent work

1. Study the structure of the incision protocol.
2. Study the structure of the death certificate.

## **2. Questions for self-control of the theoretical material of the lesson**

1. Concept of diagnosis formulation.
2. Structure and principle of clinical pathological and anatomical diagnosis.
3. Primary disease concept.
4. Complications of primary disease concept.
5. Concurrent diseases concept.
6. Combined primary disease concept.
7. Competitive diseases concept.
8. Conception of united and background disease.
9. Direct death cause.
10. International classification and nomenclature of diseases.
11. The peculiarities of diagnosis formulating in the presence of surgical intervention, doctor error and incorrect manipulations.
12. Compression of clinical, pathological and anatomical diagnoses.
13. The rules of drawing up of the death certificate.
14. Concept of final or previous for substitution of previous death certificate.
15. Filling up peculiarities of the points of the first part with singling out of the sub points a, b, c and filling up of the point 8 second part.
16. Te peculiarities of the death certificate filling up in child practice under the prenatal pathology.
7. The peculiarities of death certificate filling up in obstetrics-gynecologic practice

### **(I. MATERIAL FOR FREE BEFORE-CLASS WORK)**

#### **Compressed exposition of theoretical and instructional materials**

## **I. Order and methods of section of deceased in stationary of the medical institutions**

After ascertainment of fact of biological death the doctor of permanent institution should leave a body in the ward during two hours. On the hip such medical doctor must write the last name, name, patronymic, date and time of death, marked by brilliant green. Usually they fasten rubber tape to the hand, in which passport information is marked on. The last method is more expedient in those medical institutions in which single cases of death are observed.

During bearing out of body and its next research it is necessary to follow all moral-ethical and professional requirements. Ethical requirements are keeping of medical secret of everything what determined at section. One should also remember, that the deceased which serves for science, had relatives. Professor V. Gruberg, for example, required from students and those which worked in dissection room, to take off hats, "as wearing of hats does not answer dignity of room". It is desirable to caution junior medical stuff, that cadaveric hypostasis can disfigure face at placing of body with the up back. It shouldn't be forgotten that after ascertainment of fact of biological death it is necessary to close eyes, tie up a lower jaw, cover the deceased with clean sheet, etc. At the same time the deceased with a filled case record is transported into the morgue.

Before necropsy of the deceased dissector researches all information about life, diseases and death of patient, which it is possible to know from case record of patient, finds out in treating doctor absent facts which tell about dynamics of disease. Sometimes it is expedient to specify some information even for relatives, especially in the cases of brief stay of patient in permanent establishment. The laboratory, instrumental and other methods of research, methods of treatment, doses of drugs that were used by patient, are attentively studied,

diagnoses are taken away on the title sheet of case record, and also all working diagnoses, fixed in diaries. The study of these circumstances pursues another important purpose - exception or ascertainment of presence of medico-legal aspect.

It is desirable, that dissector, learning all the necessary are given, set diagnosis which can not coincide with a diagnosis treating a doctor. By this measure, P. Kalitievskiy specifies, a dissector to a certain extent puts itself at position treating of doctor, that it is especially important for the mutual understanding between a pathologist and clinician.

*In execution a pathologic- anatomical section there is a certain algorithm:*

1. To provide section at daily illumination, as lamplight changes colour reproduction.

2. To dress the rubber apron and sleeve protectors on him. They recommend utilize the anatomic gloves. It will prevent communicable diseases, and also penetration of ptomaine, through the possible defects of skin.

3. External review of body of the deceased. They set sex, constitution, nutritional state, condition of covers, presence of signs of death, rash, hemorrhage, wounds, ulcers, edema, etc. It is desirable, that treating doctor confirm passport information of the deceased.

4. Basic sectional cut. It is necessary to watch, that it did not pass through post operational cuts, scars and other defects.

5. Detailed research of cavities with finding out of features of location and location related one to another of organs, presence of commissures, exudate, transudate, extraneous bodies, etc.

6. Removal from the cavities of organs and their research (sizes, weight, colour, consistency, shape, etc.) with the simultaneous taking of necropsy, and also depending on the tasks of dissector, and also from material for bacteriological,

serologic, biochemical and virology researches. Sometimes needs X-ray research of bones.

7.Short result with formulation of pathologic-anatomical diagnosis, reason of death, presence of possible divergences, between clinical and pathologic-anatomical diagnoses, finding out of additional questions which are interested of clinician.

8.Toilet of dead body.

9.Reporting of section.

First Virkhov was the first who described the method of autopsy. Later it was perfected by Kiari, Letul, O. Abrikosov, G.Shore. Methods of the last two are most widespread in dissection practice.

O. Abrikosov suggested to probe organs on cavities. From the beginning it is recommended to take out the organs of neck and pectoral cavity in a complex. Then separate intestine, liver, stomach and duodenum, by a single complex, urinary ways and other parts also by a single complex.

G. Shore offered the method of full evisceration of organs - removal of organs of neck, breast, abdominal cavities and small pelvis as the single continuous complex. At research of organs also are not separated one from another keeping anatomic-physiological integrity. This method is comfortable enough at research of the deceased which died after operative intervention. In such cases it is expedient in detail to inspect the area of the operating field, namely the condition of surgical stitches, vessels, presence and character of exudate, rightness of implementation of operation.

### **Reporting of section**

Reporting of section is performed by means of pathologic- anatomical document. It consists of such parts: passport, description, pathologic-anatomical diagnosis and pathologic-anatomical conclusion. In passport part there are last name, name, patronymic of the deceased, his age, address, number of case record, profession and speciality, entering in

hospital and death diagnoses. In protocol of section they bring in also short information from case record about the features of etiology, clinical symptoms, instrumental and laboratory investigations, methods of treatment. It is desirable to specify occupation but not pension, and also characteristic signs of the disease. The order of filling of descriptive part is different. Nowadays is observed tendency to its simplification, walking away from the classic form of exposition. Impermissible use of general terms, for example, "atherosclerosis", "adenoma", "pneumosclerosis" and others like that in place of description of pathologic-morphological symptoms, or comparison of size of pathological changes, with such objects, as a nut, pea, egg, in place of the exact pointing of sizes. It should be remembered that pathologic-anatomical description is judicial document, that's why even insignificant changes, which, in opinion of pathologist, are not notable, at subsequent research can have main value. Even in the purpose to apply the character of section, in which character of pathological changes is only mentioned. Such way often causes errors which are difficult to correct. Photographing and record on videotape are also additional methods of report. The basic requirement which is produced the descriptive part of protocol is sufficient plenitude and clarity, which are combined, on possibility, with the conciseness of exposition.

*In pathologic-anatomical practice such norms of registration of pathologic changes are widely used:*

- ◆ after the anatomic systems of organism;
- ◆ after the course of providing of section;
- ◆ after the preliminary certain place of defeat of the system, related to the features of case, and in future - after course of research of other systems.

Always it is recommended to begin descriptive part from external review of body, registration of nutritional state, condition of skin, mucus membranes, and eyes, hair, nails,

character of edema, etc. After these signs it is possible to assume the presence of any pathology. It is desirable to perform the record of protocol directly after a section, not delaying to the next day, the best of all under dictation after course of implementation of section or with the use of dictaphone.

After formulation of pathologic-anatomical diagnosis follows descriptive part of protocol based on macroscopic diagnostics and if necessary with the use of express methods. Formulation of diagnosis it is desirable to provide in presence of treating doctors before toilet of body.

### **Structure and construction of pathologic-anatomical diagnosis**

**Diagnosis** (diagnosis is recognition) is medical conclusion about the pathological state of health of inspected, presence of disease (traumas) or about reason of death, shown in terms, provided by International classification of diseases, traumas and reasons of death. Setting of it is the finishing stage of analysis of data of anamnesis, clinic, laboratory instrumental researches, results, macro and microscopic morphological researches.

*According to the stages of diagnostic process variants they distinguish:*

- ◆ diagnosis at the protracted supervision of the state the health of district or family doctors, and also during performing of prophylactic supervisions;
- ◆ diagnosis at entering into medical institution;
- ◆ clinical diagnosis concerning given treatment;
- ◆ finishing clinical diagnosis which is set by treating doctor at extract of patient from permanent establishment or in the case of death;
- ◆ pathologic-anatomical diagnosis which pathologist (forensic pathologist) set based on research of sectional or biopsy material.

Modern clinical and pathologic-anatomical diagnosis must show nosology, etiology, pathogenesis, morphological and functional symptoms and prognosis of disease. Pathologic-anatomical diagnosis must include all stages of cognitive process: supervision, morphological and functional description of pathological changes, determination of nosology belonging of disease (formal diagnosis), determination of etiology, mutual relations, and sequence of origin of morphological symptoms with the account of information of anamnesis, clinical symptoms and complex of results of in-life laboratory, instrumental and morphological researches (clinical diagnosis of this patient or the deceased), and also determination of prognosis in the cases of setting of diagnosis on the basis of research biopsy.

It follows to mean that every nosological unit contains both reason and consequence is possible, which will be realized only in certain terms. Reason and consequence connected by possibility and reality, chance and authenticity. Thus connection of reason with accident includes for itself variety of consequences at the same reason, and possibility of transition of reason in consequence is determined authenticity.

*At registration of pathological-anatomical diagnosis it is necessary to mention, that:*

- ◆ one reason can result in one consequence;
- ◆ one reason can result in plural consequences;
- ◆ one consequence can be caused by plural reasons;
- ◆ reason and consequence (s) can entail death of patient;
- ◆ reason and consequence (s) can change the symptoms of disease (pathomorphosis).

Treating doctors and pathologists often variously interpret and understand the same phenomena, their place among found out other for a patient processes both from the point of view cause and effect, their value in course of diseases, and cleanly from diagnostic positions. Clinicians often set by basic

nosology unit that is display of disease or complications on which were directed their treatment, or reanimation measures. Exactly it results, that without the unique principles of interpretation and registration of pathologic-anatomical processes the compatible work of treating doctors and pathologists will be ineffective and will not bring any value for clinical practice and professional development of the doctor.

Final diagnosis is result of difficult process of comparison and comprehension of numerous facts, collected by doctor in the process of treatment, in basis of which lie laws of formal and dialectical logic. Formulating of diagnosis is not formal stage, but conclusion of thinking of doctor in verbal form. Consequently, there must be clear principles of its formulating, which are clear both for treating doctor and pathologist, at statistical analysis of death rate of population.

*Clinical and pathologic-anatomical diagnosis consists of 3 parts:*

1. Underlying disease
2. Complication of underlying disease
3. Concomitant diseases.

As underlying disease must be proposed that nosology form, which in itself or through pathogenetic mechanism is complicated and cause functional disorders which stipulated clinical picture in patient and caused death. For example ulcerous disease of stomach, lung cancer, croupous pneumonia, rheumatism, etc. Thus it is not necessary to mention symptoms and syndromes which substitute nosology unit.

It is expedient to appeal to the term "disease". This term is used for denotation of disease of separate person, determining of nosology unit and generalized concept of disease as of the biological and social phenomenon. All existent determinations do not satisfy doctors both in theory, and practice.

The most useful of the known determinations of disease belonged R. Virchow: "Life at abnormal conditions". Y. Koncheim understood disease as overall deviation from a normal vital process, which caused cooperation of external and internal terms and reflect processes of organism. It is possible to accede to determination A. Strukhov: "It is a process of vital activity of integral organism, is a process of fight for a survival", also I. Davidovskiy and V. Silvestrov: "It is adaptation of organism, which is characterized by specific forms and levels of adaptation acts". On the whole, summarizing these determinations, it is possible to consider, that disease is violation of vital functions of organism under influence of factors of internal and external environment which is characterized by limitation of adaptation with simultaneous mobilization of compensatory-adaptation mechanisms. Consequently, under disease it is possible to understand the compensatory-adaptational processes, reactions of organism on a damage. For example, hypertrophy of heart as compensatory process at hypertensive disease is display of fight of body for a survival. Next to it, dilatation of its cavities – it is display of disorder of compensation.

Every damage, adaptation and compensational processes always have disfunction expression, sometimes the new quality, not characteristic for the healthy organism. Such signs, which can be found out by the clinical and morphological methods of researches, and also be used for diagnostics and prognosis of disease is named a symptoms. They are distinguished availability of exposure onto obvious and hidden, after the terms of expression - onto early and late, after a diagnostic value of position of pathogenetic interpretation - onto unspecific, specific and pathognomonic. For example, Ponce's rheumatism is the unspecific inflammatory reaction of synovial cavity for a patient with tuberculosis, the presence of

tubercular granuloma is the specific sign of tuberculosis, and endocarditis is pathognomic sign of rheumatism.

Aggregate of symptoms on the basis of their connection of etiology and pathogenesis or only of pathogenesis at the undetermined etiology of disease makes clinical expression of nosological character of syndrome. For example, hemorrhagic syndrome can be at acute leucosis, haemophilia, cirrhosis of liver, avitaminosis C, urinary syndrome is observed at glomerulo and tubulopathy, urolythiasis, essential arterial hypertension, diseases of kidneys, hormone productive tumours etc. Syndrome is part of nosology, that's why in clinical conditions they use syndrome approach, and syndrome diagnosis is the stage to setting of nosologic diagnosis. In pathological anatomy such syndromes are general pathologic processes which help to determine pathogenesis of diseases; they most often are manifested as symptoms or complications of disease. There are cases, when syndrome displays complications that come on the first plan in clinical and morphological picture. Exactly it caused violation of determination of concept of basic and construction of diagnosis pathogenic principle, and also to the selection of new nosologies. For example, myocardial infarction is the cardiac form of expression of atherosclerosis or hypertensive disease. Reason of it is durable ischemia, predefined by spasmus or by the thrombosis of arteries. But, taking into account the social and clinical value of cardiac infarction, new nosology - ischemic disease of heart is selected. In such cases a heart attack comes forward as underlying disease.

In practice of pathologist rarely there are cases, when signs of one disease, for example, of typhoid are present. Mostly on section they find out few pathological states.

*In such cases for determination of underlying disease it is recommended to use principles:*

◆ to give advantage the pathological condition which can be considered as principal reason deaths;

◆ to give advantage to more severe condition .

◆ if it is impossible to give advantage after first or second principle, to take into account condition which is most reliable after frequency.

*Most expedient, in our view, the method of determination of basic disease is founded on the basis of such principles:*

1. What pathological condition is direct reason of death?

2. What pathogenetic conditioned process caused its development?

3. what symptoms of nosology are the pathological process most inherent?

The last is nosology unit. For example, asphyxia caused by corking of bronchial tubes by blood; bleeding from erosion of vessels as a result of caseous necrosis of wall; cavernous tuberculosis.

In a number of cases it is impossible to select one nosology unit and a few diseases which would in itself entail death. There is nothing use the so-called combined underlying disease.

*Nosology forms which are included in its composition can be combined in such variants:*

◆ competitive diseases;

◆ united diseases;

◆ combination of basic and background diseases.

Under competitive diseases unite two nosologies which in themselves and through complication would lead to death. For example, combined underlying disease: ischemic heart disease - initially arising up transmural cardiac infarction of front-lateral wall of the left ventricle of heart and cerebrovascular disease - hemorrhage in the left hemisphere of cerebrum. Complication of underlying disease: edema of lungs, swelling of substance of cerebrum with wedging in the large cervical foramen.

In this case edema of lungs was as a display of left-ventricle insufficiency, swelling of substance of cerebrum with wedging in the large cervical foramen, caused by hemorrhage in a cerebrum, and it could lead to death. Unlike competitive diseases, combined diseases, each separately, is not mortal, but at their simultaneous development draw mortal complication.

United diseases can exemplify simultaneous presence at patient of post infarction cardiosclerosis and chronic non-specific disease of lungs.

Each of these diseases can cause chronic cardiac insufficiency, however at their combination terminal symptoms come quickly.

*Necessary condition of presence of combination of diseases are:*

- ◆ eloped in time of two diseases which gives a new qualitative display of pathological process;

- ◆ general for these nosologies complications.

Rheumatic disease and chronic form of the secondary tuberculosis can be an example. They are different on etiology and pathogenesis of disease, but general for them there can be complication - amyloidosis of kidneys, in case of which is finished with uraemia.

Background disease after A.V. Smolyanskiy is nosology, which has substantial role in origin and unfavourable course of pathologic process. For example pyelonephritis or tuberculosis on background of diabetes melitus, tuberculosis at drug addiction or alcoholism. It follows to mean at setting of such diagnosis, that background nosology is that disease at breaking of which it is possible to warn mortal investigation of underlying disease, or on the contrary the presence of which worsens the progression of disease and speeding up of death. Usually it can be represented in a diagnosis or epacris by terms "on background of", "at presence of". For example acute purulent pyelonephritis on background of diabetes melitus or

viral hepatitis of background of chronic toxicomania (alcoholism).

Under complication of underlying disease it follows to understand those pathologic processes which worsen course of underlying disease and pathogenetically is related to him. For example diffuse purulent peritonitis and at the perforated gastric ulcer or festering meningitis at acute pneumonia and etc. Sometimes one complication can arise at time of development cause of another one. For example ulcerative phlegmonous appendicitis, abscesses of liver, icteric peritonitis. In such cases it is desirable to specify all complications in the sequence of their origin in pathologic-anatomical diagnosis, grounding on the given morphology, pathogenesis and clinical picture.

Concomitant disease is considered that nosology unit, of which is etiologically and pathogenetically disconnected with underlying disease. Processes which have substantial pathological symptoms and is possible side influence on resistance of organism are written down in this part.

Thus, registration of pathologic-anatomical diagnosis is grounded on the basis of nosology principle with the mention of etiology, pathogenesis and anatomic localization of processes with maximal using headings of ICD OF WHO. Adhering to the last principle, not always it is possible to build a pathological-anatomical diagnosis on pathogenetic principle. Those, in obedience to ICD OF WHO, as underlying disease it is suggested to propose cardiac and cerebral clinical-morphological forms of atherosclerosis and hypertensive disease (cardiac infarction, cerebrovascular disease). It relates to tuberculous meningitis. At pathogenesis this pathological process there is complication, however, in obedience to ICD OF WHO, it grows as underlying disease (A.7.0- tuberculous meningitis).

It is known that the number of medical measures can be complicated by severe, sometimes by incompatible with life, pathological processes.

*In obedience to ICD OF WHO, the complications which arose up as a result of therapeutic and surgical aggressions (U40-U84), included:*

- complications, linked with the use of medical devices and built on;
- unforeseen unfavourable reactions which arose up at introduction in accordance with setting of medications in a therapeutic or prophylactic dose;
- by chance harm is inflicted to the patient during surgical and therapeutic aggression;
- surgical and therapeutic procedures which are reason of anomaly reaction of patient;
- complication is remote without mention about unintentionally doing harm during procedure.

In those cases, when lethal complications come after the grounded and correctly performed medical measures, they are considered as lethal complications of underlying disease concerning which it is accepted these measures. For example: underlying disease - pemphigus (L.10), treated with corticosteroids in therapeutic doses.

Complication of underlying disease: acute steroid perforative gastric ulcer, diffuse fibrinous-purulent peritonitis.

Next to it, number of iatrogenic diseases must be interpreted as basic disease and primary cause of death. They are:

1. Unfavourable results of medical procedures which are performed at an erroneous diagnosis.
2. Wrong performed medical measures which caused death. For example, complication of catheterization of subclavian vein, bronchoscopy, infusion therapy. In this

case it is suggested to formulate a pathological-anatomical diagnosis:

*Underlying disease:* perforation of wall of cardiac right ventricle by intravascular end of catheter at puncture and catheterization of right subclavian vein (date).

*Complication of underlying disease:* pericardium tamponade by infusion fluid and blood; hydro-hemopericardium, edema of lungs, edema of cerebrum.

*Concurrent disease:* influenza of second serotype (by results of posthumous immune fluorescence research).

3. Complication of therapy with development of dysbacteriosis, endo- and exogenic superinfection.
4. Lethal allergic reactions and other complications after introduction of medicinal preparations without the previous performing of allergy tests or ignoring of this information.
5. Incompatible blood transfusion.
6. Death, predefined complication of manipulation, performed with a diagnostic purpose, and also vaccination.

### **Clinical pathological-anatomical conclusion**

Clinical pathologic-anatomical conclusion the most difficult for formulation part of protocol of section. It is a synthesis of clinical course of disease with information, determined at morphological research, determination of etiology, pathogenesis, morphogenesis and mechanism of death. Here dissector writes his opinion about the feature of this case.

*In clinical pathologic-anatomic epacris it is necessary to represent such questions:*

1. Ground of diagnosis: underlying disease, complications, concurrent diseases.
2. Finding out of stages of tanatogenesis and ascertainment of primary and direct reasons of death.

3. Analysis of symptoms of pathomorphosis (influencing of medical measures on clinical-morphological symptoms of disease).
4. Comparison of diagnoses after heading (underlying disease, its complication and concurrent diseases) with pointing of reason of divergence of diagnoses.
5. Finding out of timeliness of diagnostics and hospitalization with the estimation of influencing of this factor on medical process and diagnostics of disease.

There is no clear chart of writing of clinical pathologic-anatomic epacris, that predefined by possibility of other approach in each case. With other words it is the subjective look of dissector to disease with the use of morphological analysis. However, mentioning, that bigger part of epacris is dedicated to analysis of clinical picture and treatment, possibilities of early before-hospital and hospital diagnostics, using of necessary diagnostic measures, timeliness of hospitalization, dynamics of diagnostic process, expedience of operative aggression, description of therapy, reanimation measures, it follows to decide these basic questions collectively, at active voice of treating doctors, on meeting of doctor-control commission, clinical pathologic-anatomical conference. Only in that way is possible to represent the miscalculations of medical thought and organizations of medical-phylactic work in every case.

#### **Medical death certificate**

Formulating pathologic-anatomical diagnosis, pathologist proceeds to the registration of medical death certificate. It should be mentioned, that the basic condition of the correct filling of it is right composed diagnosis and competent using of ICD X.

ICD X (International classification of diseases) makes the unique code list of the three-digit headings, each of which can part on four-dimensional subheadings by number to ten. In

place of the especial digital system of code in previous editions in tenth revision number code is used with a letter - first symbol and number - second, third and fourth symbols. Fourth symbol is located after a decimal point. Thus, numbers of codes are possible contain in a range from A00.0 to Z99.9. After ICD X revision, all diseases and systems are divided on a 21 classes, every class is answered by the certain letter of the Roman alphabet.

*Order of filling of medical death certificate:*

1. Medical death certificates are filled with pen, with legible handwriting.
2. All points of certificate must be filled. In case of absence of any information it is necessary to write down there "is no information", it is no set. On medical death certificates and parts of them, they fill in the number of ascertainment after the State register of current statistical units of Ukraine, and through a fraction - serial number of medical death certificate.
3. Reason of death is written down in two parts of 11 point of medical death certificates.

**First part of it is divided into three lines (I a, b, c).**

**Etiologically and pathogenetically connected diseases are written there:**

a - direct reason of death, what type of disease, syndrome or symptoms, which are lethal complication of underlying disease;

b -the transient conditions which are pathogenetically related to direct reason of death and underlying disease;

c - basic primary disease which stipulated direct reason of death. Basic primary disease which is written down in the line of I b is encoded one of codes of ICD X. 44

In the second part of 11 point doctor must mark other diseases, which negatively influenced on course of underlying disease, but causally disconnected with disease or its complication which directly is reason of death. For example:

- 1) I.
  - a. Acute post hemorrhagic anaemia.
  - b. Bleeding from the varicose veins of gullet.
  - c. Combined cirrhosis of liver.
 II. Rheumatoid arthritis, phase of remission. It is necessary to encode the cirrhosis of liver – K74.6.
- 2) I a. Chronic renal insufficiency.
  - b. Subacute glomerulonephritis.
  - c. scarlet fever
 II. Lymphohypoplastic anemia, anomaly of constitution. Encode scarlet fever– A38.

3) Ia. Hepatic-renal insufficiency.

b. Mechanical icterus.

c. Cancer of caput of pancreas.

II. IHD. Post infarction cardiosclerosis.

Encode cancer of head of pancreas - S25.0.

At filling of point 11 of medical death certificate on died woman in childbirth or woman recently confined they recommend to do a record in such order:

In the case of complications of pregnancy, births, of postnatal period and also as a result of other aggressions, information about reason of death is written down in the first part of generally accepted chart in lines I a , b, c.

For example:

1) Ia. Acute respiratory-cardiac insufficiency.

b. Embolism by amniotic fluid.

II. Pregnancy is second, births are first, urgent.

Encode embolism by amniotic fluid - 088.1.

2) Ia. Acute post hemorrhagic anaemia.

b. Uterine bleeding.

c. Pregnancy is first, spontaneous abortion.

II. Endemic multinodular goiter.

Encode spontaneous abortion - 003.

In the case of death of pregnant woman or woman recently confined as a result of disease, which existed before or arose up in the period of pregnancy and unconnected with direct obstetric reason, but burdened physiologically influencing of pregnancy or accident, list about reason of death write down in lines I a, b, c but here in part II it must be done record about pregnancy and its time:

For example:

1. I a. Chronic right ventricle cardiac insufficiency.  
b. Dilatation of right ventricle of heart.  
c. Rheumatism, active phase, stenosis of mitral opening.

II. Pregnancy is second, 22 weeks.

Encode rheumatism with the defect of mitral valve -I05.9.

2. I a Cardiopulmonal shock.

b. pulmonary embolism.

c. Cystoma of the left ovary with torsion of pedicle.

II. Pregnancy is first, 32 weeks.

Encode Cystoma of ovary – D27.

In all cases of death of women in post-natal period within the limits of 42 days after births in part II do a record: "Postnatal period .... day".

For example:

1) Ia. Purulent meningitis

b. Abscess forming in lungs.

c. Crupous pneumonia.

II Post-natal period, 28 day.

Encode crupous pneumonia – J15.2.

In cases of death from traumas in point 11 they specify localization and character of trauma.

For example:

1) I a. subdural hematoma.

b. Dug of the tent of cerebellum.

c. Fracture of basis of skull.

II. Diabetes melitus.

Encode fracture of basis of skull - S02.1.

2) Ia. Post hemorrhagic shock.

b. Dug of femoral artery.

c. Open fracture of middle third of right hip.

II. Encode open fracture of right hip - S78.81.

*In a point 12 it is necessary clearly to specify:*

Ia - date of trauma: year, month, day;

b - at accidents, unconnected with a work, specify the type of trauma (domestic, street, traffic etc.);

c - a place and circumstances of trauma.

For example:

I a. 2000, January, 22;

b. traffic;

In road, running-down accident of car.

In a point 13 bring information only on the basis of certification of the deceased, is given out in accordance with Law of Ukraine "about status and social status of citizens which suffered as a result of the Chernobyl catastrophe".

In a point 14 write down the name of medical ascertainment, date of given out of certificate, signature of doctor which gave out a death certificate, by the certified by seal of establishment.

A record about delivery of medical death certificate (№ of record, date, reason of death) must be done in proper medical documents: case record of patient (form 003/r), case record of births, form №096/c), case record of ambulatory patient (form №025/r).

## **Addition № 22**

The main disease writes completely in the pathologic-anatomical diagnosis as well as all concurrent diseases and their complications.

Pathological processes that directly pathogenetic are bound with the main disease pertaining to the complications.

The most main nosologic forms that as of autopsy and clinical is not bound directly with main disease is considered the concurrent diseases.

### **Pathologic-anatomical diagnosis**

The main disease: ulcerous disease of the stomach with ulcer on small curvature.

The complications of main the disease: perforation of ulcer, diffusive purulent peritonitis.

The concurrent diseases: adenoma of prostate, chronic cystitis, small polycystic of kidneys.

### **Pathologic-anatomical diagnosis**

The main disease: adenocarcinoma of the left mammal gland with metastases in lungs, pleura, liver, ovaries.

The complications of main the disease: cachexia.

The concurrent diseases: ascaridosis.

### **Addition № 23**

#### **Physician death certificate**

In part “The cause of death\* write about death conditions. It is necessary to distinguish two conceptions:

In line “1a” write the directly cause of death.

In line “1b” write process whose development brings to the directly cause of the death.

In line “1c” write the main cause of the death which of the main disease.

In line "II" write concurrent diseases that promote approaching of death.

### **3. The Algorithm of auditorium work.**

#### ***1. To give answer to situation task:***

1. The patient A. of 70-years old was brought to the hospital with stomach cancer, and during transporting him to X-ray department the patient suddenly died.

During incision of cancer with destruction of stomach wall the numerous metastases, myocardium infarction, myocardium rupture were revealed. What disease should be considered principal one and what disease is concurrent? Write out doctor death certificate

2. Incision of the deceased from uremia due to chronic glomerulonephritis, chronic bronchitis with pulmonary emphysema, generalized atherosclerosis of all arteries, inferior lip cancer on the initial stage of invasive growth were revealed. What diseases are principal, concurrent, concomitant ones?

3. After incision of the deceased body P. 80-years old, following diagnosis was made: principal disease: general atherosclerosis, atherosclerosis of aorta, brain vessels, coronary vessels, cardio- sclerosis, hypertrophy of left ventricle (1.6sm) Complications of principal disease: gray softening of brain in the left frontal lobe.

Concomitant disease: chronic bronchitis. What is anatomist error in making diagnosis?

4. During the autopsy hypertrophy of heart ventricle, primarily contracted kidney, hemorrhage into the right temporal region of the Brian, Brian edema, prostate adenoma were revealed. Formulate anatomic diagnoses. Write out doctor death certificate.

5. During the incision the sclerosis heart valves, inflammation of the aortic valve with its perforation, infarction of spleen,

kidneys, chronic bronchitis, atherosclerosis of aorta. Formulate the anatomic diagnosis.

6. During the autopsy it was revealed: sclerotic deformation and inosculation of the mitral valve folds, hypertrophy of the right atrium and the right heart ventricle, brown in duration of lungs, kidneys, spleen, mace liver, as cites, hydrothorax, Anadarko, chronic ulcer of stomach, atherosclerosis of aorta. Formulate path anatomic diagnosis write out doctor death certificate.

7. During the autopsy of the dead it is revealed: the left ventricular hypertrophy, secondary contracted kidney, fibrous pericarditis, micro focal bronchopneumonia, edema of lungs, serous hemorrhagic enteritis, stones in gallbladder, of abdominal cavity. Formulate anatomic diagnosis. Write out doctor death certificate.

8. During the autopsy it was reveal: blood presence in the stomach lumens, small intestine, pallor of tissues of internal organs, tubercular cavern in the region of the right lung apex, right ventricular hypertrophy, decrease of the liver size with its deformation , large regions of connective tissue and small nodules of regeneration , enlargement of esophagus veins, atherosclerosis of aorta. Formulate path anatomic diagnosis. Write out doctor death certificate.

9. During the incision the path anatomist revealed the following picture primary: gangrenous appendicitis on the occasion of witch the operation-appendectomy, was performed; hemorrhagic infiltration of pancreas, edema of lungs, fracture of the 4-5-6-7-ribs on the right side and 3-4 ribs on the left side, chronic bronchitis, infarction of spleen, extensive through-and through myocardial infarction of pestered wall of left ventricle posterior wall, parietal thrombus of the heart left auricle, thrombosis of the right renal artery and mesentery vessels of appendix. Formulate path anatomic diagnosis. Write out doctor death certificate.

10. During incision is revealed: atherosclerosis of coronary vessels, atherosclerotic cardiosclerosis, of abdominal part of aorta and mesenteric arteries, thrombosis of superior mesenteric artery, gangrene of small intestine, generalized, and peritonitis adipose dystrophy of liver, granular dystrophy of epithelium of kidney .

Formulate anatomic diagnosis. Write out doctor death certificate.

11. During the autopsy of the dead M., 47- years old, following morphologic changer were revealed: fibroin hemorrhagic tracheobronchitis, colitis, fibrous pericarditis , hyperplasia of spleen, edema of lungs, brain, impression of cerebellum tonsils into great occipital foramen, calculi in gallbladder, acute diffuse glomerulonephritis, atherosclerosis of aorta and coronary vessels, atherosclerotic cardio-sclerosis. Formulate anatomic diagnoses. Write out doctor death certificate.

12. During the incision of the dead L., 42-years old, revealed following clinical picture: erosive gastritis, bilateral stagnant plethora of kidneys, brown indurations of lungs, hemorrhagic infarction of lower part of the right lung, cirrhosis of liver, atherosclerotic cardiosclerosis, hypertrophy of walls of heart right and left ventricles with dilatation of their cavities, rheumatic heart disease: sclerosis of mitral and aortic valves with their insufficiency and stenosis of atrioventricular and aortic foramina. Formulate anatomic diagnosis. Write out doctor death certificate.

13. During the incision of the dead K., 52-years old, from the gynecological disorders, following morphological changes were revealed: atherosclerosis of aorta, infantile uterus, atrophy and sclerosis of apothecia and uterine tubes, lateral hydronephrosis with adipose tissue around kidneys, chronic bronchitis diffuse pneumosclerosis, emphysema of lungs, chronic pulmonary heart, embolism a of main column of the

pulmonary artery, infarction of lungs in lower lobes. Formulate anatomic diagnosis. Write out doctor death certificate.

14. After incision of the dead N., 58- years old, following diagnosis was made: atherosclerosis of aorta, brain and heart vessels. Complications of principal disease are: moderate left ventricle hypertrophy, fibrinous pericarditis, edema of pia mater of brain substance. Concurrent diseases are: chronic diffuse glomerulonephritis with transformation into secondary contracted kidney, gastritis, fibrinous colitis, fibrinous pleuritis, deforming polyarthritis of hands and feet, sub serous uterine fibromyoma. Formulate anatomic diagnosis. Write out doctor death certificate.

15. After incision of the dead K., of 24- years old, following diagnosis was made: principal diseases are ischemic heart disease, atherosclerosis of coronary vessels, atherosclerotic cardio sclerosis, ischemia and dystopia of cardiocytes, subpericardial hemorrhage. Complications of principal disease are: edema of lungs, hemorrhages in the region of pancreas, hemorrhagic tracheobronchitis, serous hemorrhagic enteritis. Concurrent diseases are: ulcerous atherosclerosis of aorta, clots parietal aorta, chronic bronchitis, polycystosis of kidneys. Point out mistakes, made in formulating of anatomic diagnosis. Formulate correct diagnosis. Write out doctor death certificate.

16. After incision of the dead V., 51-years old, following diagnosis was made: principal disease is disseminated sclerosis, edema of cerebrum. Complications of principal disease: dystrophic changes in parenchymatous organs, generalized cachexia. Concurrent disease: bilateral chronic fibrocavernous tuberculosis of lungs. Analyse this diagnosis, point out the mistakes made. Formulate anatomic diagnosis. Write out doctor death certificate.

17. After incision of the dead L., 31-years old, following diagnosis was made: principal disease is subserous fibromyoma of uterus, spleen hyperplasia. Complications of

principle disease are corneal gestation, rupture of the part of uterine tube, internal hemorrhage, anemia of internal organs, edema of lungs. Point out the mistake made in formulating the diagnosis. Formulate the correct anatomic diagnosis. Write out doctor death certificate.

18. During the bronchoscopy of the right main bronchus and parietal pleura of the patient was injured. This resulted in the right lateral pneumothorax and mediastinal emphysema. To eliminate the above mentioned pathological changes doctor must use the pleural cavity drainage, suturing of rupture of main right bronchus, right lateral bilobectomy. After the operation bilateral aspiration pneumonia, brain edema. Formulate anatomic diagnosis. Write out doctor death certificate.

19. During the autopsy of the deceased K.,-36-years old, following pathology was revealed: hypertonic (hypertrophy of heart left ventricle), chronic alcoholism, brain atrophy, moderate internal hydrocephalia, delirium tremens, alexia, general venous plethora, considerable dystrophic changes in parenchymatous organs, left lateral lobar pneumonia (crupous pneumonia) with fibrinous pleuritis.

Formulate correct anatomic diagnosis, write out doctor death certificate.

20. During the incision of the dead M., 48-years old, following changes were revealed: pneumosclerosis, emphysema of lungs, atherosclerotic nephrosclerosis, ischemic heart disease: stenous atherosclerosis of coronary arteries, stratifying rupture of myocardium, exudative pericarditis. Formulate anatomic diagnosis. Write out doctor death certificate.

21. 25.10.93 the patient K., 38-years old, was performed appendectomy in connection with phlegmonous gangrenous appendicitis. On the third day after the operation the stitches of appendix stump parted that caused to fibrinous purulent peritonitis, hypostatic pneumonia, adipose liver dystrophy

arose. During the incision of the dead ulcer petrification atherosclerosis of brain aorta was revealed besides the above mentioned pathology. Formulate correct anatomic diagnosis. Write out doctor death certificate.

22. In patient C., 50-years old, who was ill with cancer of pancreas, obstructive jaundice arose as a result of common bile duct squeezing and purulent angiocholitis.

On 16/03./93 the operation was performed with gallbladder drainage. During the incision of the dead the purulent bile peritonitis, subdiaphragmatic abscess melting of tendinous centre of diaphragm, parenchymatous dystrophy of internal organs, metastases of pancreas, cancer in the adrenal glands were revealed. Formulate correct anatomic diagnosis. Write out doctor death certificate.

23. During the incision of the dead C., 43-years old, it was revealed: ischemic heart disease, which appeared as atherosclerosis of coronary vessels, atherosclerotic cardiosclerosis. Besides, atherosclerosis of aorta, chronic duodenum ulcer with disorder of stomach evacuation function, emaciation, aspiration of stomach content into trachea, bronchi, purulent aspiration pneumonia, dystrophy in parenchymatous organs were found. Formulate correct anatomic diagnosis. Write out doctor death certificate.

24. During the incision of the dead F., 56-years old, following pathology was revealed: cardio sclerosis with moderate left ventricle wall dystrophy, infarction of myocardium in the region of left ventricle with misbalance and rupture of wall, myocardial tamponade, stagnation plethora of spleen, lungs, kidneys, liver, bilateral hydrothorax, pia mater edema atherosclerosis with callosity of coronary arteries and sclerosis of vessels of brain base. Formulate correct anatomic diagnosis.

25. During the incision of the dead A., 62-years old, it was revealed: chronic bronchitis, diffuse pneumosclerosis, bronchoectasia, emphysema of lungs, chronic pulmonary heart,

atherosclerosis of aorta, coronary arteries, brain vessels, subtotal hematoma in the right hemisphere of brain with tissue compression. Edema of parametrium. Formulate the correct anatomic diagnosis. Write out doctor death certificate.

26. During the incision of the dead S., 52-years old, it was revealed: ascariidosis, atherosclerosis of aorta and coronary vessels, atherosclerotic cardiosclerosis, bilateral hemorrhagic pleuritis and pericarditis with cardiac compression, decomposition of heart activity, numerous hemorrhagic infarctions of lungs, edema of lower extremities, emaciation, nodal cancer of peripheral bronchi of right lung with metastasis into pleura, bronchial and cervical lymphatic nodes and liver. Formulate correct anatomic diagnosis. Write out doctor death certificate.

27. The patient N., 34-years old, was treated in the gynecological department. On 27/09/93 amputation of uterus was performed. On 4/10/93 she was operated for wound dilatation of left ileac region and the wound was drained. During the incision it was revealed: injury of bladder wall and sigmoid wall during the operation, restoration of integrity of bladder and intestine, a small number of bladder sutures. Generalized purulent peritonitis, numerous abscesses between intestinal loops, embolism of branches of mesenteric arteries, hemorrhagic infarctions of bowel, bilateral lower lobar bronchopneumonia, necrotic nephrosis, uremia, edema of lungs, parenchymatous dystrophy of myocardium, liver were revealed as well. Formulate correct anatomic diagnosis. Write out doctor death certificate.

28. During the incision it was revealed: plethora of internal organs, edema of brain and lungs, right lateral macrofocal bronchopneumonia, acute dermatopolymyositis. Formulate correct anatomic diagnosis. Write out doctor death certificate.

29. During the incision of the dead K., 36-years old, it was revealed: hemorrhagic encephalitis with brain edema,

hemorrhagic tracheobronchitis, hemorrhagic middle and lower local pneumonia, dystrophic changes in liver, kidneys, and myocardium, enlargement of heart cavity. During bacteriological investigation influenza type A virus was grown. Formulate correct anatomic diagnosis. Write out doctor death certificate.

30. After incision of the dead L., 49-years old, the following diagnosis was made: principle disease is amyloidosis of kidneys. Complication of principle disease: periphery and cavity edema. Concurrent diseases: atrophic gastritis, fibrinous cavernous tuberculosis of lungs, pneumonia in the lower lobes and productive focal emphysema of lungs, chronics pulmonary heart, atherosclerosis of aorta. Analyse the diagnosis. Formulate correct anatomic diagnosis, write out doctor death certificate.

31. The patient K., 42-years old, with pathology of kidneys (chronic diffuse glomerulonephritis) died of cerebral hemorrhage. During the incision were revealed secondary contracted kidney, hypertrophy of left ventricle wall up to 2.5sm, brain edema, edema of lungs, and hemorrhage in the regions of right media brain ganglia with breaking into lateral ventricles. Formulate correct anatomic diagnosis. Write out doctor death certificate.

32. After incision of the dead U., 49-years old, following diagnosis were made: principal disease-ulcerative petrification atherosclerosis of coronary vessels. Complications of principal disease: atherosclerotic cardiosclerosis, decomposition of pulmonary heart, insufficiency of tricuspid valve, periphery and cavity edema (hydropericardium, hydrothorax), cirrhosis of liver, venous plethora of internal organs. Concurrent diseases: cirrhotic tuberculosis of lungs, emphysema of lungs. Analyze the given examples and formulate correct anatomic diagnosis. Write out doctor death certificate.

33. During the incision of the dead L., 56-years old, it was revealed: atherosclerosis of aorta and coronary vessels, moderate cardiosclerosis, lobar pneumonia with left lateral transformation, purulent left lateral pleuritis, dystrophic changes in liver, kidneys, myocardium hypertrophy and prevesicular gland. Formulate correct anatomic diagnosis. Write out doctor death certificate.

34. After the incision of the dead N., 48-years old, who was treated in the mental hospital, following diagnosis was made: principal diagnosis: chronic alcoholism, cerebral atrophy, internal hydrocephaly, pia mater sclerosis, considerable dystrophic changes in ganglion cells of brain. Complications of the principle disease: edema and swelling of brain. Concurrent diseases: ischemic heart disease: stenotic atherosclerosis of coronary arteries, infarction of left ventricle posterior wall, general venous plethora, edema of lungs. Analyze the given example and formulate correct anatomic diagnosis. Write out doctor death certificate.

35. Patient L., 47-years old, which used large doses of alcoholic drinks for a long time, was treated in the psychiatric hospital and suddenly died. After the incision the following anatomic change were revealed- sclerosis of pia mater, dystrophic changes in brain, liver, dystrophic changes in myocardium, kidneys edema and swelling of brain substance, internal hydrocephalia, bilateral lower lobar macrofocal purulent bronchopneumonia. Glioblastoma with destruction of right frontal region with the right basal penetration of brain ganglia, truce part of brain were found too. Analyze the given examples and formulate correct anatomic diagnosis. Write out doctor death certificate.

36. The patient M., 38-years old, was made abortion in the gynecological department. But in 3 months she died in the neurosurgical department form brain edema. After the incision following diagnosis was made: principle disease: rheumatic

heart disease: sclerosis and mitral incompetence. Complications of principle disease: venous plethora of internal organs, cyanotic indurations of kidney, spleen. Concurrent diseases: epithelioma of uterus, metastasis into the brain and lungs, grey softening of left hemisphere. Analyze the given examples and formulate correct anatomic diagnosis. Write out doctor death certificate.

37. During the incision of the dead K., 48-years old, who was treated in mental hospital and suddenly died, the following picture was revealed- congenital stenosis of urethras, bilateral hydronephrosis, hypertension: wall hypertrophy of left ventricle, , anxious-depressive syndrome (according to clinical date), chronic bronchitis, bronhoclerosis, reticular pneumosclerosis, emphysema of lungs, chronic pulmonary heart, general venous plethora, edema of legs, atrophic thrombosis of left leg veins, embolism of the pulmonary trunk and branches of pulmonary artery, hemorrhagic infarctions of lungs. Formulate correct anatomic diagnosis. Write out doctor death certificate.

38. The patient N., 28-years old, was treated without success in the therapeutic department of the district hospital and died. Following changes were revealed: edema of lungs, hydropericardium (150mb), myocardium hypertrophy, cardio fibrosis, hemorrhagic infarction of the right lung, general cyanosis, congestion indurations of kidneys and spleen, brawn indurations of lung, rheumatic myocarditis (presence of Aschoff-Talalayers granules), recurrent warty endocarditic of bicuspid , tricuspid and aortic valves, incompetence of bicuspid and tricuspid valves. Analyze this case. Formulate anatomic diagnosis. Write out doctor death certificate.

39. During the incision of the dead, 63-years old, following morphological changes were revealed: ulcerous and petrification atherosclerosis of aorta, fibrous-cavernous tuberculosis of the right lung, emphysema of lungs,

pneumosclerosis, pulmonary heart, acute left ventricular pericarditis (259 ml ), general venous plethora, cyanotic indurations of kidneys and spleen, hydrothorax: coronary sclerosis, diffuse cardioclerosis, transmural infarction of left ventricle anterior wall. Analyze the given morphological changes. Formulate correct anatomic diagnosis. Write out doctor death certificate.

40. The patient D., 76-years old, was brought to the hospital with marked dementia. In 8 days prior to his death the temperature raised, the signs of meningitis appeared and the patient died. During the incision following morphological changes were revealed: ulcerous and petrification atherosclerosis of aorta , brain vessels, coronary sclerosis ( stenosis of 75% of lumens), cardiosclerosis, general venous plethora, chronic bronchitis, cylindrical bronchiectasia with bilateral purulent bronchopneumonia, bronchial and vascular sclerosis, metastasis purulent staphylococcal meningitis, edema of brain, penetration of cerebral ganglia into major occipital foramen. Analyze the given morphological and clinical changes and formulate correct anatomic diagnosis. Write out doctor death certificate.

41. The patient G., 22- years old, was admitted to the neurological clinic. She complained of numbness in the right limbs with cerebral symptoms. The diagnosis was: ischemic infarction in the region of vertebra basilar artery on the basis of general atherosclerosis. The patient died suddenly. Morphological changes were revealed during the incision. But besides this chronic thrombophlebitis and varicose of shins, thromboembolia of pulmonary trunk and pulmonary artery branches, numerous hemorrhagic infarctions of lungs, bilateral fibrinous pleuritis, atherosclerosis of brain vessels, brain atrophy, internal hydrocephaly, obliterating mixed thrombosis of middle brain artery, ischemic infarction of posterior department of the left hemisphere were found. Analyze the

given morphological and clinical changes and formulate correct anatomic diagnosis. Write out doctor death certificate.

42. In the surgical department the patient L., 72-years old, died from bilateral bronchopneumonia, which developed after appendix perforation in spite of the fact that the operation of appendectomy with drainage of peritoneal cavity were made. On 8/8/92 during the incision it was revealed: phlegmonous-ulcerous appendicitis, diffuse peritonitis, bilateral lower lobar macrofocal bronchopneumonia, dystrophic changes in parenchymatous organs, ulcerous and petrification atherosclerosis of aorta, stenosis of brain arteries and coronary vessels of the heart. On the base of clinical findings and incision results Formulate anatomic diagnosis and write out doctor death certificate.

43. In the gynecological department the women died with the signs of peritoneal pathology. During the incision subserous fibromyoma of uterus, rupture of uterine tube, paleness of mucous membranes, anemia of internal organs, small hemorrhages into the layers of pleura. Formulate anatomic diagnosis on the base of given findings. Write out doctor death certificate.

44. The women, 34-years old, was ill with hypertonic disease, nephropathy and her third pregnancy was over with premature delivery of premature fetus with the signs of intrauterine asphyxia. Formulate the cause of death and principle disease. Write out doctor death certificate.

45. The fetus weighting 4900 kg with brain birth injury was brought to the incision. From the patient's delivery history it is known that the delivery was over by vacuum extraction because of the weak delivery activities and lack of connection between pelvis and fetus. The term of pregnancy is 42 weeks. Fill in doctor death certificate.

46. The child, 3-month-old, with numerous nervous system and cardiovascular system developmental defects died from micro

focal pneumonia. Formulate anatomic diagnosis. Write out doctor death certificate.

## Theme 2

### *The dissection of the deceased in case of death from an illness of a therapeutic structure and infectious pathology. The clinical-anatomic analysis*

**Motivation:** following position of the order № 81 MO3 of Ukraine 1992 dead bodies in stationary of medical institutions are subjects of the pathologic-anatomical investigations. At the same time there is a whole list of cases when the cancellation of pathologic-anatomical dissections are not supposed.

**The purpose:** to study features and a technique of carrying out of dissection and registration of the pathologic-anatomical documentations in case of the death connected to a therapeutic and infectious pathology.

**The task. To know** the basic principles of the technique of carrying out of opening.

**To learn** or define (determine) morphological displays of complications at therapeutic and infectious diseases.

**To be able** to carry out clinical-anatomic analysis in a concrete case of death from disease of a therapeutic structure, to formulate the pathologic-anatomical diagnosis, to write out doctor certificate about death, to cipher on MKX-X the basic therapeutic and infectious nosology.

#### **The equipment of the lesson.**

1. The report of dissection.
2. Doctor certificate about death.
3. MKX-X.
4. The addition G (Regulations about the order of the dissection of corpses in treatment-and-prophylactic

establishments) under the order № 81.

5. The addition H (Regulations about carrying out of the clinical pathologic-anatomical analysis of fatal consequences) in the order № 81.

6. The addition P (Regulations about pathologic-anatomical research of the deceased) under the order № 81.

7. The addition T (the Instruction on features and the order of pathologic-anatomical research of corpses which contain radioactive elements) under the order №81.

8. The addition Y (the temporary instruction of measures of infection avoidance of the stuff of the pathologic-anatomical department at pathologic-anatomical dissection and morphological researches of bodies and infectious patients, to be infected with immunodeficiency virus (HIV)) under the order №81.

9. The addition F (the instruction about the bacteriological research of a cadaveric material) under the order №81.

10. The addition X (the instruction about taking of corpse blood and a spinal liquid for biochemical and biophysical researches) under the order № 81.

11. Section set for dissection of the deceased.

12. Body of the dead man, case record of the deceased.

### **I The material for before lecture-room independent work**

**1 To repeat the contents of the addition B under the order №81 MO3 Ukraine.**

**2 To study the contents of the addition G under the order №81.**

### ***REGULATIONS***

#### ***about the order of dissection of corpses in treatment-and-prophylactic establishments***

All corpses of died patients in treatment-and-prophylactic establishments, as a rule are subjects of dissection. The head

physician, the chief of a pathologic-anatomical bureau have the right of a cancellation of dissection only in extreme cases. A cancellation of dissection by the head physician, or chief of a pathologic-anatomical bureau is allowed in writing indications in a case record of the patient with a substantiation of the reasons of a cancellation of dissection. Urgent dissections of corpses is carried out right after doctors of a medical institutions in case of biological death; the dissection in according to plan (the planned dissection) to be carried out after granting a case record of the inpatient or case record of the outpatient with the conclusion of the head physician or his assistant on medical part about a direction of pathologic-anatomical dissection. Medical documentations of the deceased. From different hospitals it is delivered in a pathologic-anatomical bureau (branch) together with a corpse. The cases record of inpatients died in the second part of the day before are transferred to a pathologic-anatomical bureau, pathologic-anatomical branch of hospital not later 9 o'clock in the morning. The case record of the inpatient with the pathologic-anatomical diagnosis brought in it not later than 5-7 days after dissection is transferred to the medical archive of the hospital. The case record can be detained for longer term only after the special sanction of a management of the hospital.

The cancellation of dissection is not authorized:

- a) in a case of death of patients which have stayed in treatment-and-prophylactic establishment less than a day;
- b) in cases which demand it judicial - medical researches;
- c) at infectious diseases and their suspicions;
- d) in all cases of unclear lifetime diagnosis (it is not dependent on term of stay in medical establishment);
- e) in cases of death in medical preventive establishment after diagnostic researches, carrying out of medical measures in time or after operation, blood transfusion, not accounting

individual tolerance of medical preparations. Corpses which are not established under the order of the head physician are transferred for judicial – medical researches.

If the death has come from mechanical damages, poisoning, mechanical asphyxia, actions of high temperatures, electricity, after the artificial abortion which has been carried out outside of a medical institution, violent actions under condition of when there is a certificate of determining of one of these reasons of death, the head physician of the hospital according to the order carries out a direction of a corpse on judicial- medical dissection.

At similar case in a hospital the main (on duty) doctor is obliged to inform bodies of Office of Public Prosecutor and militia.

If the in the certificate on one of the reasons of death which are mentioned above come to light at pathologic-anatomical dissection this one is stop. The doctor which carry out dissection undertakes measures under the savings of a corpse, all its tissues for the subsequent judicial - medical research. On the carried out part of pathologic-anatomical research the report at the end of which the reason for carrying out of judicial - medical dissection is made.

The doctor at once is obliged to inform the head physician who immediately informs on it Office of Public Prosecutor or a regional police station on each case of the interrupted pathologic-anatomical dissection and waits for the order from the public prosecutor or bodies of militia. Judicial - medical dissection of corpses of persons which have died in medical establishments can carry out in pathologic-anatomical branch of the given medical establishment, regular judicial - medical experts or the doctor appointed for it by bodies of Office of Public Prosecutor.

In case of primary revealing in the time of dissection of sharp infectious disease or its suspicion the pathologist is

obliged to inform on it the head physician of a medical institution and to send the urgent message about an infectious disease, food, professional poisoning, unusual reaction to an inoculation to the sanitary station.

With the purpose of the perfect control through the quality of diagnostics and treatment of patients of out-patient networks pathologic-anatomical dissection of the deceased at home in such cases can be carried out:

died patients at the age of 50 years, which have suddenly died at houses with not clear genesis of death (at obligatory exception of violent death), were on the account of territorial polyclinics with suspicion of sharp ischemic illness of heart, cerebrovascular illnesses, sharp disease of expiratory system.

Delivery of died outpatients in a pathologic-anatomical bureau (branch) is carried out by motor transport of treatment-and-prophylactic establishment.

Together with a body of the dead patient the case record with profound epacris with the conclusion of the basic clinical diagnosis, the complications, concomitant pathology and a principal cause of death follow. On the right side of the out-patient case record there should be a record of the head physician (assistant) territorial polyclinics - « For dissection» and the signature. It acts as the order for divisions of pathologic-anatomical service on execution of autopsy.

### **3 Learn the text of the addition H under the order №81**

#### ***REGULATIONS***

#### ***about carrying out of the clinical-anatomic analysis of fatal consequences***

The clinical-anatomic analysis is a method of knowledge of circumstances of occurrence of diseases, features of its currents, and also the direct reasons and mechanisms of approaching of death.

The main methodological condition of carrying out of the

clinical-anatomic analysis is observance of principle unities of morphological and functional changes. Thus on bases studying clinical sheets about complaints of the patient, character of symptoms which took place at his life, physical, clinical-laboratory and other facts in their comparison to pathologic-anatomical changes, the pathologist reveals a degree of conformity of clinical displays of illness and its morphological and functional changes.

1. The order of comparison of clinical and pathologic-anatomical diagnoses.

Results of the clinical-anatomic analysis which are carried out together by the pathologist and the clinical physician, find the display in clinical pathologic-anatomical conclusion, the acts of the commission on studying of fatal consequences and in the report of the pathologic-anatomical conference.

Distinction of clinical and pathologic-anatomical diagnoses on the basic disease considers:

cases, when the form of disease is incorrectly determined nosologically (for example, at chronic glomerulonephritis the exposed diagnosis of a chronic pyelonephritis), it is incorrectly specified localization of process (for example, at a cancer of a stomach - a cancer ovariorum or in the clinical diagnosis the instructions on them are absent (for example, at a cancer of a direct gut the diagnosis of a tumour of a abdominal cavity is established);

The cases when it is incorrectly established etiology of the diseases.

The cases when instead of the basic disease in the final clinical diagnosis the symptom or a syndrome (for example, jaundice, uraemia, haemorrhage in brain, volumetric process) is specified only;

The cases, when recognize only one of competing or united diseases;

The cases when the order of a heading in the clinical

diagnosis is broken (for example, the basic disease is put not on the first, and on the second or on the third place), the encryption of the basic disease is accordingly incorrect lead and cipher the basic disease.

It is not considered divergence of clinical and pathologic-anatomical diagnoses on the basic diseases:

The cases when background disease is not recognized;

cases of hyperdiagnostics of concomitant, background diseases, united diseases and complications if in result of performed in connection with hyperdiagnostics of medical measures it has not been caused harm to the patient;

cases when localization pathological process is not correctly recognized within the limits of one body in unspecialized branches (for example if at a tumour in the left temporal part it comes to light in parietal or the heart attack of a myocardium of a back side of a left heart ventricle comes to light a heart attack of its front side, etc.).

Comparing of clinical and pathologic-anatomical diagnoses on other headings in pathologic-anatomical epacris, taking into account the unrecognized or hyperdiagnosed complications and concomitant diseases. With this timeliness diagnostics of fatal complication is estimated and taken into account also.

In case of revealing rough lack of medical - diagnostic work of pathologic-anatomical branch is obliged to report about them to the head physician of treatment-and-prophylactic establishment.

#### **4. Learn the contents of the addition P under the order №81.**

##### ***REGULATIONS***

*about pathologic-anatomical research of the deceased.*

1. The order of registration medical documentation of the deceased in treatment-and-prophylactic establishment.

The establishment of the fact of biological death of the patient is carried out in a medical institution by the attendant or the attending physician about what in the case record corresponding record with a mention of time of death in hours and minutes is done.

The label is attached to a deceased with a mention of such data - branch, a surname, a name and a patronymic of the deceased, year of a birth and date of death, the basic clinical diagnosis. The corpse without a delay is delivered in a mortuary or in cool room, branch for keeping corpses, with temperature 0 - +4 ° the bandages, drainages, intubating and tracheostomy tubes, catheters remain on a place.

At once after approach of death of the patient the attending physician makes the posthumous clinical diagnosis. In posthumous clinical conclusion such questions should be clarified:

The date of disease starting and the complaints of the patient;

The date of the primary manipulations for the medical help with the instruction, where and from whom the patient has received the help;

The date and place of the primary hospitalization, the name of all medical establishments where in the subsequent it was surveyed or received treatment of the patient, the contents of diagnostic and medical measures;

The generalized characteristic of current disease in time stay in each medical institution;

The date of the hospitalization where is given medical help, the diagnosis at a direction, the previous diagnosis, the final diagnosis, the contents of the carried out medical measures (at carrying out of operations - the name of the operation, duration, a kind of a narcosis); date of occurrence, character of symptoms of complications, date of their recognition, the accepted measures; the clinical characteristics of a terminal

condition, the contents of the reanimation measures; time of the biological death in hours and minutes, the final clinical diagnosis is a medical conclusion about a character of a disease which had the patient, the direct reason and the mechanism of approaching of death.

The case record of the deceased subscribes the attending physician, the managing of the medical branch.

2. The order of pathologic-anatomical research of the deceased.

Urgent dissection of a corpse is authorized at once after establishment of biological death of the patient. The ordered pathologic-anatomical dissection of the deceased is carried out at hours determined by the schedule of work of a pathologic-anatomical bureau (branch). The case record moves in a pathologic-anatomical bureau (branch) in the nearest hour after death of the patient (at approach of death after 12.00 it should be delivered not later than 9 o'clock of the next day).

The reception and the registration of deceased is made by the hospital attendant of a pathologic-anatomical bureau (branch) who checks the presence of label on a corpse, attributes of its rotting, dental an artificial limb from coloured metals and valuable things about what does a mark in a book of registration, reception and distribution of bodies died and reports to the head of the branch.

The pathologist begins to work on ordered pathologic-anatomical dissection studying of a corpse only after studying the case record and other medical documentation.

On pathologic-anatomical dissection the manager of medical establishment and the attending physician are obliged to be present. Presence of other doctors of a medical institution is authorized.

Before the beginning of pathologic-anatomical dissection examine a corpse with an estimation of a condition of the integument, seen mucous membranes, definition of weight of a body and its long. Pathologic-anatomical dissection should be

full, with research of all cavities of bodies and internal organs, and if it is necessary the spine channel, an inner brain of tubular bones, peripheral vessels and nerves, vegetative nerve ganglions.

After finishing the pathologic-anatomical dissection the pathologist is made out the doctor certificate on death under the form № I O 6/y-84.

Histologic research of bodies and tissues of a corpse is carried out in all cases. For this purpose during dissection get slices of bodies and tissues and locate in fixing solution.

If it is necessary the histologic researches can carry out in the time of dissection by manufacturing preparations on freezing devices. From material, taken for histologic research slices cut out which after registration in the book of the account of laboratory work with a section material is given in the subsequent processing. The rest of material is kept in 10 % solution of formalin before the ending of all researches. Histologic research of a corpse should be ended not later than 5 day after dissection.

For specification of a character of a disease, its etiology and pathogenesis, mechanisms of approach of death it should widely use bacteriologic, virologic, serologic, cytologic and other methods of research.. Taken out the material is carried out according to the instruction for bacteriological, biochemical, biophysical, virologic research.

Pathologic-anatomical research of died is carried out directly after an establishment of the fact of death, but not later than one day from the moment of death.

Dissection of persons which had sharp infectious diseases or at a suspicion on it is carried out whenever possible at the first hours after approaching of death, it is desirable at the presence of the expert health institutions which takes away a material for bacteriological and virologic research. The most reliable results provide bacteriologic and the virologic

researches which have been carried out at first 6-8 hours after approaching of death, as exception the first 24 hours after death.

Liquids that run out from dissected corpses of persons which have died of sharp infectious diseases gather in utensils with a disinfectant solution.

After the termination of dissection of corpses of persons which have died of sharp infectious diseases, before mending executed on a corpse cuts of bodies and cavities of it are processed by disinfectant solution (for example a solution carbolic acids). In a cavity of a corpse is moistened with a disinfectant solution by means of clothes. The corpse is washed by a 1 % solution of chloramin. A section table is washed by a disinfectant solution, tools are sterilized, linen, which was used at opening (dressing gowns, sheets) are disinfected.

### 3. The documentations of pathologic-anatomical researches.

In each case of pathologic-anatomical research the report of pathologic-anatomical research includes such sections:

passport part with a coding column and the list of questions for statistical development on EOM;

clinical conclusion;

the clinical diagnosis;

the text of the report of dissection;

the data of histologic research;

the pathologic-anatomical diagnosis;

pathologic-anatomical conclusion.

The passport part the of report of pathologic-anatomical researches is filled on bases of the case record. In it is underlined - a surname, a name and a patronymic, his age, a medical institution in which he has died, the name of branch. For using of electronic-computer facilities for analysis of the given pathologic-anatomical researches in the right part of the title page of the report.

Clinical conclusion of the report of pathologic-anatomical researches is made by the pathologist in the laconic form. The special attention is given for display of the data of recognition of illness and primary hospitalization of the patient.

In case of death from sharp surgical diseases (appendix perforation, stomach ulcer, etc.), sharp infectious and other diseases at which immediate hospitalization of the patient and urgent operation is necessary.

In clinical conclusion the results of special researches are pointed out, which characterize the following of the basic diseases (laboratory and biochemical researches of blood, urine, a bone brain, x-rays researches, serological reactions, parameters of a blood pressure) in the volume of necessary for acknowledgement (or inclusions) given nosological forms of disease. At the end of clinical conclusion total doses of antibiotics which were accepted, hormones, quantity of blood transfusion and blood substitutes are specified.

In a case of approaching of a death in the early postoperative period in clinical conclusion the report of pathologic-anatomical researches give the detailed data which concern the carried out operation and conducting the patient in the postoperative period. Thus on separate sheet graphically (on hours and minutes) parameters of hemodynamics and breath, the maintenance and volume infusion therapy are marked.

In a text part of the report of pathologic-anatomical researches, all changes which have been revealed at dissection of a corpse are objectively stated. First the structure of a body, color of the integument, seen mucous membranes are described, growth and weight of bodies are underlined. At the presence of operational scars it is underlined its long, a direction according to anatomic areas, appearance, and also the presence in them catheters, etc. At the description of cavities of a corpse the revealing of accommodation, presence in cavities

of contents and its kind, a condition of serous environments are marked. The description of internal organs should be carried out on systems in such sequence: a brain and a spinal cord, organs of breath, organs of blood circulation, organs of blood creation, bone-muscular system.

The pathologic-anatomical changes of internal organs and tissues are described objectively, without personal opinion of the pathologist, using standard units and versions of colors, avoiding comparisons with the size and color of those or another subjects. It is not necessary to apply diagnostic terminology ( pneumonia, nephritis, etc.) To describe changes it is necessary, not supposing opportunity of treatment that contradict one another.

At the description of constant internal organs are specified only their sizes, weight and absence of pathological changes is marked. If any organs are not investigated, specify the reason.

In case of death of patients after operations which were accompanied by removal of those or another organs or tissues, in the report of dissection is given in details description of an operational material, anatomic interaction of organs and tissues which has taken place after operation, the condition of anastomosis, stump of hollow organs, etc.

The text part of the report of pathologic-anatomical researches comes to the end with re-computation of the materials taken from a corpse for carrying out histologic, bacteriological, microscopic and other researches.

At the end of the report the surname and the initials of all officials of a medical institution which were present during dissection are underlined.

Pathologic-anatomical research comes to the end with a formulation of the pathologic-anatomical diagnosis and drawing up pathologic-anatomical conclusion with distinguishing the direct reason and mechanisms of approaching of death, comparison of clinical and pathologic-

anatomical diagnoses, an establishment of character and the reasons of lacks of granted medical aid.

The pathologic-anatomical diagnosis is formulated by a nosologic principle, in pathogenetic sequence with allocation of such headings:

- the basic disease;
- the complication of the basic disease;
- reanimation measures;
- the concomitant diseases and their complications.

The basic disease it is necessary to specify the nosologic unit, which according to qualification and the nomenclature of disease in itself or consequence of its complication appeared the reason of death. The equivalent of nosologic unit is such medical measures (surgical interventions, diagnostic and medical, doctor medical manipulations) which have caused the lethal end in consequence of collateral reactions or complications which have developed in their time, and appeared the reason of death.

If at the patient hospitalized in connection with one disease, (as a rule sharp) which has caused death or as a result of its complication this disease should be counted the basic.

If the patient had some diseases which were among another one or have developed independently one from another, but have affected through pathophysiologic mechanism occurrence of a lethal case, they are specified in a heading of the basic disease which thus refers to combined. The combined basic disease can include:

- two and more independent diseases;
- two and more independent concomitant diseases;
- two diseases, one of which are the identified. («the second diseases»).

In the certain cases each nosologic unit in a heading of the basic disease enters the name by way of value and is allocated with Arabian figures-1,2,3....

The note: as diseases are considered nosologic units, each of which in itself or through the complications could lead to fatal consequences.

Concomitant disease is considered such disease which only in the given connection, valid negative influences on an organism of the patient have led to his death.

Background diseases which have played an essential role in occurrence or adverse of other (basic) disease which became the reason of death are considered.

The "Second" illness is considered disease which has lost in due to course the connection with that disease which has caused it, and has received independent clinical value. Bringing the "second" illness in a basis of the diagnosis, in a heading of the basic disease it is necessary to specify nosologic unit from which this illness has pathogenic connection.

In case of death of the patient in consequence of collateral reactions or complications of medical measures which were carried out in connection with any disease, the last also are specified in a heading of the basic disease.

After the indication of nosologic forms of the basic disease it is necessary to list its most expressed morphological displays, the form and a stage of development.

All operative interventions which were carried out in connection with it with the instruction of their date are brought in a heading of the basic disease.

If biopsy was carried out to the patient, the diagnosis is determined, putted on the basis of histologic research, and also the date and number of this research.

Complications of the basic disease (of operative intervention, medical manipulations) are also pathological process, a syndrome, nosologic unit, which are connected to it pathogenetic (directly or mediocrelly) and have worsened its clinical current.

Complications are specified in chronological sequence in

view of their interrelation.

If in the connection with the complication of any operations or such difficult medical interventions, as a hemodialysis, hemosorption, etc. were carried out, they should be specified in the heading of complications.

Concomitant diseases which etiologically and pathogenetically are not connected to the basic disease (are considered) and had no essential influence on a fatal consequence.

In pathologic-anatomical conclusion the results of the clinical-anatomic analysis which has been carried out during dissection and at carrying out of posthumous clinical and pathologic-anatomical diagnoses of disease are displayed. Pathologic-anatomical conclusion should not be the simple list of the clinical and pathologic-anatomical data. In the laconic form it is necessary to specify it with what the patient was ill, in what pathogenetic connections of the diseases (revealed) and pathological processes are revealed in him, why the treatment was no effective, what direct reasons and mechanisms of death. The degree of display of these questions in pathologic-anatomical conclusion in concrete cases can be different.

The direct reason of death considers pathological reaction, process, a syndrome, nosologic unit, which have led to irreversible changes in functions of the vital bodies. The direct reason of death can be both the basic disease, and its complications (bleeding, a shock, pneumonia, peritonitis, etc.)

Comparison of clinical and pathologic-anatomical diagnoses is carried out both on the basic disease, and on its complications, concomitant diseases.

The extract from the report of pathologic-anatomical research, including the pathologic-anatomical diagnosis, the pathologic-anatomical conclusion with the data of comparison of lifetime and pathologic-anatomical diagnoses is typed and

filed to the case record.

The report of the pathologic-anatomical research subscribes the pathologist who carried out the dissection; checks and signs managing pathologic-anatomical branch or the chief of a pathologic-anatomical bureau.

Excepting for signatures in the report should be legible their surnames are marked.

The first copy of typing report of pathologic-anatomical research is constantly kept in a pathologic-anatomical bureau (branch).

## **5. Study the contents of addition T under the order №81.**

### ***THE INSTRUCTION about peculiarities and the order and features of pathologic-anatomical research of corpses which contain radioactive elements***

In case of death of the patient after introduction to him of radioactive elements or in other cases the attending physician makes the information about a radio-activity of a corpse. In the information the basic sheets about character and quantity of a radioactive isotope, a way and time of its introduction, a level of radioactive radiation from a corpse, concrete recommendations are specified to the pathologist about security measures at dissection.

The information together with other documents is transferred to a pathologic-anatomical bureau (branch). The corpse is delivered to a pathologic-anatomical bureau (branch) with the label attached to it on which the mark about a radio-activity also is put.

Pathologic-anatomical research of a corpse which contains radioactive substances, regular doctors of a pathologic-anatomical bureau (branch) carries out only. During the dissection the presence of the person responsible for radiation

safety is expedient. Before dissection the manager of pathologic-anatomical bureau (branch) together with the attending physician stipulate concrete measures on protection of the stuff against the internal radiation by radioactive substances in the organism, on integuments, clothes.

The stuff presenting during dissection of a corpse, should be suitably instructed on radiation safety. The dissection is carried out in protective clothes (an overalls or a dressing gown, the rubberized apron, rubber gloves and mittens).

All personnel, which had contact with a radioactive corpse, are subjected individual radioactive control. Radioactive pollution of hands, clothes, working surfaces is supervised by the special device both in a process of working, and after dissection.

For the prevention of pollution of a working room, the section table is covered with a dense polyethylene film or on it is established deco, made of stainless steel (others similar materials which wash well and do not give in to corrosion), which has boards and a water drain. It is the most convenient to work on section tables, which easily give in deactivations (stainless steel and etc.).

All blood, contents of intestines gather in the closed buckets then their radio-activity is defined. If the radio-activity does not exceed as much as possible allowable level of the given isotope for water of an opened basins in 10 times, liquid merge in a network. At higher radioactivity they are maintained in places of time keeping during the time, which provides its decrease up to point out above norms, or surrender in points of a burial place of radioactive waste products according to the instruction (indication).

Slices of organs and tissues for histologic research are kept in archive, undertake whenever possible the small sizes located in ordinary fixing solutions and give radioactive control. The order of manufacturing of histologic preparations,

their studying and the savings in archive is defined by the manager of branch of a pathologic-anatomical bureau according to recommendations of radiometric device.

Slices of organs and tissues for radiometric research undertake in a quantity of 30-50gr and located in preliminary checked with radiometers clean utensils which is closed by fuses, is sealed up, as at a direction on judicial-chemical research, and sent in sanitary-and-epidemiologic station. The fixing solution is not applied.

To attempt to work in clean gloves and clean tools, which are washed (by means of tampons) by a 2-3 % solution of a citric acid after a capture of a sample of each body, not supposing carry radioactive elements from one on other bodies.

After the ending of work gloves, aprons, rubber boots and tools carefully wash with water or a soap-sodium solution with a brush. The level of their residual radioactivity (radioactive pollution) is defined. If it exceeds the established as much as possible allowable levels repeated processing is carried out, working rooms give in careful damp cleaning and to a radiation control.

Hands wash with warm water with soap, in a soap-soda solution or 1-2 % a solution of a synthetic washing-up liquid, applying a soft brush. The residual radio-activity is checked and if necessary the processing repeat. Take the general shower. At presence of casual pollution by radioactive elements carefully wash your skin with water and soap.

After the end of the processing hands are greased with vaseline, lanoline or others indifferent ointments.

The chief of the pathologic-anatomical bureau managing pathologic-anatomical branch immediately informs on results of dissection to the head physician.

Funeral of corpses which contain radioactive elements is carried out by a funeral command under supervision of the

expert. At delivery of a corpse the pathologist is obliged to warn the persons, responsible for funeral, about necessity of observance of measures of radioactive safety.

The place and the order of a burial place of corpses are coordinated with bodies of sanitary supervision.

## **6 Study the contents of the addition Y under the order №81.**

### ***THE TEMPORARY INSTRUCTION about measures of avoidance of infection of personnel of pathologic-anatomical bureau (branches) at pathologic- anatomical dissection and morphological researches of organs and tissues of patients infected with a virus of immunodeficiency (HIV)***

The personnel of pathologic-anatomical department (branches) are contingent of very close contact with retrovirus which causes an infection of a HIV, and the activator accompanying HIV infections (cytomegalovirus infection, pneumocystic infection, etc.)

HIV is firm to ultra-violet and to radiation in dozes which exceed usual in 10 times. At temperature of 56°C the virus perishes in 10 minutes. The virus is sensitive to ethanol of, peroxides of hydrogen.

The personnel of pathologic-anatomical bureau (branches) working with materials from the patient with an infection of a HIV and at pathologic-anatomical dissection, should observe safety measures:

1. With a material from the patient with an infection of a HIV is strictly forbidden to work to persons, patients with a flu, the hepatitis, infectious mononucleosis, with damage of a skin of fingers, to pregnant women.
2. On dissection dress- two dressing gowns, a hat, a double gauze mask, glasses or a transparent board which safes all

face, two pairs of rubber gloves, rubber boots or covers on footwear. After dissection the clothes are burnt.

3. The section hall and section tables wash carefully with a 0,5 % solution of chloric to exhaust a 5 % solution of chloramin.

All tools, which were used during dissection, wash with hot water and sterilize in an autoclave during 2-3 hours or process 3 % solution of chloraminum.

During dissection it is not desirable to wash bodies under water under pressure for the prevention of splashing and to use an electric saw for sawing up bones.

4. At cuttings during dissection it is necessary to provide the maximal outflow of blood from a wound, to wash out its flowing water, to wash out peroxide of hydrogen and to fill with iodine. It is necessary to inform about this case in sanitary station. These persons should be under medical supervision and should be surveyed on detection of specific antibodies in blood.

5. In laboratory at cutting out a material from patients with an infection of a HIV (biopsy, a section material) dress an apron, a gauze bandage, a mask, rubber gloves.

6. Material from the patient, who has died of a HIV (slices of organs and tissues are necessary for fixing in formalin not less than 12-15 days in utensils with bright marks and a designation which well is evident. Only after the specified term of fixing the material is authorized to be cut out for preparation of histologic investigation.

7. All set are applied necessarily also at dissection of died with suspicion of an infection of a HIV.

## **7 Study the contents of the addition F under the order №81**

### ***THE INSTRUCTION***

#### ***on a capture of a material from a corpse for bacteriological and virologic research***

1. Bacteriological and virologic research of organs, blood, fluids, a pathologic-anatomical liquids of a corpse estimations of correctness and effectiveness of antibacterial treatment which was carried out for revealing (confirmation) of etiology of infectious diseases.

2. The material is necessary to send to bacteriological research also at dissection of the deceased from other diseases, which were accompanied by different infectious – inflammatory processes or complications (endocarditis, sepsis, pneumonia, suppurations of wounds).

3. At dissection of the deceased of an infectious disease it is necessary the presence of bacteriologist or virologist of a sanitary establishment which carries out the cutting of materials from a corpse, and also collect this material on corresponding environments directly on a place of dissection. At his presence the pathologist is obliged to take away a necessary material itself. For this purpose in section it is necessary to have such equipment and subjects:

refrigerator with temperature  $-20^{\circ}\text{C} + 4^{\circ}\text{C}$ ;

set of sterile tools and sterile utensils (caps, scalpels, scissors, tweezers, platinum loops, cups of Petry, test tubes);

sterile syringes (10-20ml) with long needles or disposable syringes; sterile rubber gloves; bottles with a sterile physiological solution; test tubes or bottles with a sterile 50 % solution of glycerin on a physiological solution; tightly closed rubber fuses bottles with sterile without acid environment; sterile test tubes with wadded tampons on sticks; skim subject glasses in the closed utensils (caps with ethanol); bottle with depurated ethanol (300ml); matches; box or a metal container (thermos) for transportation of a material; cotton wool and gauze napkins and packed paper, polyethylene packages marked paper labels and blanks for a direction of a material to a laboratory; glue, simple pencil for records on glass; disinfectant solutions (chloraminum 3-5 % - 10 lit).

4. The cutting out of a material from a corpse is necessary for carrying out not later than 6-8 hours after death. On occasion under corresponding circumstances the cutting out of a material after (24-48 hours) is supposed.

5. Tests for bacteriological, virologic researches gather: the cutting of slices of tissues, scrapes, capture of liquid on a tampon, pump out of blood and other liquids in medicine dropper or a syringe. At a cutting of a material it is necessary to adhere the rules of asepsis.

6. At the cutting out of a material of parenchymatous organs, skeletal muscles, slices of their tissues in volume of 1-2sm<sup>3</sup> are cut by a clean scalpel or a knife, picked up for free edge by a tweezers, poured from different directions by ethanol and set fire.

After processing by the ethanol the slices immediately are located in sterile utensils by their cutting near the edge of a tweezers with sterile scissors.

The slices of tissues for histologic, bacteriological and cytologic, immunobiological researches take away and fix in the order established for histologic researches.

7. The bones of skull, breast bone and other tubular ones are taken away by bone nipper. The surface of bones before it carefully is cleared by a sterile napkin moistened with ethanol and then carefully is fired in a flame. A bone brain of diaphys tube bones is taken away after the dissection of bone brain channel and disinfecting of a surface by flame in the way of scraping it with sterile tool.

8. The dense contents from cavities (pockets of purulent inflows, of the wound channel, an intestines and etc.) can get on a sterile tampon or spatula after the termination of a section of a wall of the cavity, preliminary disinfected in places of allowable cuts.

9. The cutting out of a material from a surface of the centers of defeat (a skin, mucous membranes, etc.) is carried out by a

scraping of the changed tissues and secretions by means of the sterile tool.

10. For a cutting out of a material from a cavity of a skull it is washed by ethanol. After removal of bone arch of a skull the firm brain environment is wiped by ethanol or is fired out. The liquid from subdural space gets through a puncturing by means of a sterile syringe.

By the sterile tool is carried out also cutting of slices of the changed brain environment and slices of a tissues of a brain before it taking out from a cavity of a skull.

After the removal of a brain from a cavity of a skull the slices of tissues get accordingly to a part given instructions.

11. Tests of blood get before dissection of skull. A surface of the right ventricle is pierced by the end of sterile needle of a syringe. Blood is taken by means of rubber balloon in quantity of 10-20ml.

The blood can be taken out also from a cavity of the right auricle or cave veins.

For revealing of antigenes of a virus of a hepatitis some drops of blood are put on stripes of a clean filtering paper which after drying on air put in envelope and send to virologic laboratory.

12. A taking out of liquid contents of cavities is carry out with a syringe, or a tampon after cutting out their walls in sterile syringe. Contents of intestines is taking away by cutting off the whole separately not cutting sites of a gut, preliminary having tied up them from both ends.

Small cavity formations in tissue and cavity organs (a bilious bubble after bandaging of bubble channel) get entirely.

13. For carrying out bacteriological, cytologic and immunologic researches from the same places, when have taken away tests for bacteriological (virologic) researches, smears from defeated subject are gathered which after drying at once carry out and fixing in acetone (8 min), ethanol (5

min) or in Nickiforov mix (10-15 min).

14. The tests which intended for removal anaerobic flora, except for observance of rules of asepsis, contact of a material to atmospheric air is as much as possible limited. Slices of tissues in volume of 2-3cm<sup>3</sup> after disinfecting a surface by a flame quickly place in sterile utensils with dense covers and direct to bacteriologic laboratory. A taking out of liquids is carried out by means of a syringe, when it is possible from depth of tissues or from cavities of abscesses with the intact walls. The received liquid at once is injected in a hermetic bottle (by a puncture of a rubber cover); penetration of air into the middle of a bottle is not supposed.

15. The time between a taking out of a material and its research should be maximum short. A taken material or put on corresponding environments directly in a section hall, near a section table, or immediately deliver to laboratory. To keep a material for bacteriological researches it is allowed only in a thermostat (refrigerator) at temperature +4°C or in a 50 % solution of glycerin during one day.

16. A direction to a laboratory should have the basic sheets, necessary for carrying out of research: the name of a material, time and a place of a cutting out and marks of tests, a surname, a name and a patronymic of the died, number of the report of dissection, clinical and pathologic-anatomical diagnoses, duration of disease, the sheet about what antibiotics were applied to treatment, a specific goal of research, a surname of the doctor, his position, the address of establishment, which has directed a material.

The purpose of research is formulated according to a question which is solved during dissection. More often it can be limited the identification of pathogenic agent of infectious disease and definition of its sensitivity to antibiotics.

18. Before sending of a material to laboratory, edges of utensils in places close with a cover fill in them sealing wax or

paraffin. The utensils put in a polyethylene package in which the label put also then the package is fastened. During packing a material in containers, boxes it is necessary to adhere to safety measures, including an opportunity of breaking of glass things at transportation. Virologic tests are placed in containers (thermostats) with dry ice.

19. A delivery of an infected material is carried out by a messenger.

20. An estimation of results of bacteriological (virologic) research is carried out with the account of the pathologic-anatomical data, lifetime clinical-laboratory researches, features of a clinical picture of disease and epidemiological circumstances.

## **8. Study the contents of the addition X under the order № 81 MO3 Ukraine**

### ***THE INSTRUCTION on a capture of cadaveric blood and a spinal liquid for biochemical researches***

1. Biochemical and biophysical research of blood, a spinal liquid and other elements of a corpse is applied at died in a uncertain coma for revealing etiology and kind of coma, an estimation of tanatogeneis and adequacy of patient treatment. Such researches also are necessary for revealing the reasons of sudden death of patients during a narcosis, an operation, an infusion therapy, a hemodialysis, an angiography and after reanimation.

2. The most important information is received at simultaneous research of cadaveric blood and a spinal liquid of osmotic parameters, concentration of ions of sodium, calcium, potassium, concentration of glucose, urine, creatinin, bilirubin.

3. In case of occurrence at the died of sharp increasing of osmotic parameters of blood and spinal liquid simultaneous

research of concentration in the same elements of glucose, urine, potassium it is possible to reveal different types of hyperosmic comas, hyperglycemia. Researches of concentration of glucose and potassium enables to distinguish hypo and hyperglycemic coma at the died from a diabetes. Researches of concentration of urine, potassium and sodium helps to reveal sharp kidney insufficiency.

4. Fatal consequences for patients one can end fast and deep change of osmotic parameters, concentration of sodium, potassium, glucose, only in blood, or only in a spinal liquid, separately from one from another. Therefore the great value has simultaneous comparison of the parameters of blood and a spinal liquid at urgent dissection of the deceased during a hemodialysis, angiography, narcosis or after reanimation.

5. The list of parameters of cadaveric blood and a spinal liquid and their pathological changes at the deceased are stated in methodical instructions: "Features of pathologic-anatomical diagnostics of somatic complications of intensive therapy and reanimation" - Moscow, 1982, and also "Biochemical researches of cadaveric blood in pathologic-anatomic diagnostics" - Moscow, 1977.

6. In case of death of the patient in a uncertain coma, after clinical death, and also at sudden unforeseen death of the patient during a hemodialysis, angiography, a narcosis it is recommended urgent (during the first two hours after death) carrying out of pathologic-anatomical dissection of died by biophysical research of blood and a spinal liquid.

7. The most simple and fast way of extraction of 10ml of a spinal liquid is suboccipital puncture by means of a clean needle for spinal punctures with mandrin (not necessarily sterile) in position of a corpse on one side. A spinal liquid is possible to collect also with 10ml syringe with a long needle, or from under basal surfaces of a brain near a stalk of a hypophysis before crossing middle arteries of brain, or a

puncture of ventricles of the brain, or a puncture of space under soft environments of a brain. It is necessary to take into account, that the impurity of blood is raised in a spinal liquid concentration of ions potassium. An impurity of blood it is the easiest to avoid at suboccipital puncture.

8. In connection with that parameters of blood of died differ in different parts of vascular ring, and also for standardization with already investigated parameters of a corpse, it is desirable to extract during dissection of 10ml of blood from a femoral vein. Simultaneously it allows to take in the beginning of dissection the blood from heart for bacteriological researches, and then blood from a femoral vein for biochemical and biophysical research.

9. Are most expedient quantitative biochemical and biophysical researches of cadaveric blood and a spinal liquid to carry out in that clinical laboratory in which patients were observed. On such researches the contact between the chief of a pathologic-anatomical bureau and hospital is made or the order of the head physician for pathologic-anatomical branch is given out.

10. Cadaveric blood and spinal liquid without a delay is delivered by the pathologic-anatomical personnel to clinical laboratory in marked test tubes. Time between cutting out of material and its research should be maximum short. An order to laboratory must have such lists: a surname, a name and a patronymic of deceased, the name of a material in the marked test tube, time of cutting out of a material, specific goals of research, clinical and pathologic-anatomical diagnoses, a surname of the pathologist and the address of establishment which has directed a material. If in the blood and spinal liquid there are unequal parameters, fill in separate directions on each marked test tube are investigated. Forms with results of researches get from clinical laboratory by the personnel of a pathologic-anatomical bureau or branch and should be pasted

in the report of dissection.

11. Results of researches of blood and spinal liquid, in view of posthumous changes are compared to similar parameters in the case record (last parameters before death are especially important). Taking into account, that sudden death during medical manipulations or dissection is not always connected to medical mistakes (for example, unforeseen individual allergy reactions for medicines, during granting emergency medical help not compatible with a life on last clinical-biological parameters before reanimation), tanatogenesis is expedient to stipulate a condition of the patient with anaesthesiologists, reanimatologists, surgeons and other experts who gave emergency medical aid to the patient or carried out surgical manipulations.

### **9 Study the structure of the report of dissection.**

#### **10 Study the structure of clinical-anatomic conclusion**

In clinical pathologic-anatomical conclusion should find the display the following moments:

1. What was ill died?
2. How disease proceeded?
3. In what measure (in part or completely) have found the display in the clinical diagnosis the pathologic-anatomical changes revealed on section?
4. The reasons of a divergence of clinical and pathologic-anatomical diagnoses.
5. With the inaccuracy of lifetime diagnostics (if it took place) on a consequence of disease?
6. What it is possible to count the direct reason of death?

### **THE CIRCUIT**

#### **of clinical-pathologic-anatomical conclusion**

Clinical pathologic-anatomical conclusion consists of two parts: clinical and pathologic anatomical. In the beginning of

conclusion must be the surname, a name and a patronymic of the deceased, sex and age of deceased are underlined. Further time of stay in a hospital is underlined.

Petrenko N.I., a male, 55 years old which was in the second lung branch, has been hospitalized with an aggravation of a chronic pneumonia. He was ill last two years, periodically received treatment in conditions of a hospital. Last aggravation of disease was accompanied by significant insufficiency. In a hospital to the patient carried out symptomatic and pathogenetic treatment. However there was not any significant improvement of condition. 12.02.1979 the patient had developed a lung bleeding, during which there has come death.

Further the second part of conclusion in which the general estimation of the data of dissection in their comparison with the final clinical diagnosis follows. If the given dissection confirm last, a pathologic-anatomical part of conclusion is on the following example:

"... pathologic-anatomical dissection changes which have found the display in the clinical diagnosis are revealed... "

If other disease which has caused death so which it is considered as the basic disease in the diagnosis is revealed, the pathoanatomical part begins with ascertaining this mistake of lifetime diagnostics.

"Pathologic-anatomical dissection revealed changes which have not found the display in the clinical diagnosis. So, during lifetime of the patient has not been recognized bronchogenic cancer right lung. A sprouting of tumor of tissue of a wall of vessels have led to an erosion, bleeding, which began the process, that has led to death of the patient. Therefore between clinical and pathologic-anatomical diagnoses there are some divergence on the basic diseases. The reason of erroneous clinical diagnostics, most likely, is insufficient of X-ray research, and also the absence of cytologic research of spit on atypical cells. However a fatal outcome of suffering a mistake

of lifetime diagnostics has not affected, as the patient has addressed for the help at that stage of disease when carrying out of radical treatment was impracticable. It is necessary to count the direct reason of death a sharp anemia in consequence of an erosion bleeding. "

If pathologic anatomical dissection revealed complications of the basic disease, which at a life were not diagnosed, then in a pathologic-anatomical part of conclusion is underlined:

"Pathologic-anatomical dissection revealed changes which have found basically the reflection in the clinical diagnosis. Unrecognized, however at a life there was its complication. Therefore between clinical and pathological diagnoses is the divergence of complications.

### **11 To recollect complications and the reasons of death from the basic diseases of a therapeutic structure**

II Questions for self-checking by a theoretical part of study.

1. Rules and requirements to a spelling of the report of pathologic-anatomical dissection of a corpse.
2. Components of the report of dissection.
3. Features of registration of a passport part of the report of dissection.
4. Features of registration of a descriptive part of the report of dissection.
5. Features and technics of dissection of a corpse at a therapeutic and infectious pathology.
6. Features of writing out of the pathologic-anatomical diagnosis.
7. Compound components of the pathologic-anatomical diagnosis.
8. Rules of writing out of clinic-pathologic-anatomical conclusion.
9. Compound components of clinic pathologic-anatomical conclusion.

10. To name principal causes of death of patients at cardiovascular, rheumatic, cerebrovascular, nephrological, infectious diseases at a pathology of organs of breath, enteric path, iatrogenic diseases.

### *III Algorithm of a lecture-room work*

1. To take part in dissection of the dead man.
2. To discuss clinic-anatomic features of a concrete case of section on study.
3. To carry out the clinic-anatomical analysis of diseases which have ended lethally in consequence of erroneous lifetime diagnostics and wrong treatment.
4. Features of the clinic-anatomical analysis of diseases which fatal consequences is connected to the untimely diagnosis and ineffective treatment.
5. The clinic-anatomical analysis of diseases which have ended lethally because of wrong medical actions.
6. The clinic-anatomical analysis of diseases, which fatal consequences have been caused by a medical pathology.
7. The writing of pathologic-anatomical diagnosis, clinic-anatomical conclusion, filling out of the doctor certificate of death, and also in resulted below situational tasks.
8. To give answers to situational tasks.
- 9 Discussions of substantive provisions of a theme.

## **Theme 3**

### **Dissection of the deceased from surgical and obstetrics pathologies.**

#### **The clinic-anatomical analysis**

**Motivation:** in agreement with the order № 81 MO3 of Ukraine 1992 all patients which have died in hospitals of surgical and obstetrics-gynecologic departments, subject to pathologic-anatomical research. In case of death after operative interventions, section research of died is carried out without

delay.

**The purpose:** To study the features and a technique of carrying out of dissection and registration of the pathologic-anatomical documentations in case of the death connected to a surgical and obstetrics-gynecologic pathology.

**The task:** *To know* the features of section of a corpse after operational intervention.

*To learn and define* the morphological displays of complications of surgical, obstetrics, gynecologic diseases. *To be able* to carry out the clinic-anatomical analysis, to formulate the pathologic-anatomical diagnosis, to write out the doctor certificate, to cipher on MKX-X death rate which is connected with operative and reanimation manipulations.

### **The equipment of study**

- 1 The report of dissection.
- 2 The doctor certificate.
- 3 MKX-X.
- 4 The addition G (Regulations about the order of dissection of corpses in treatment-and-prophylactic establishments).
- 5 The addition H (Regulations about carrying out of the clinic pathologic-anatomical analysis of fatal consequences).
- 6 The addition P (Regulations about pathologic-anatomical research).
- 7 Section set.
- 8 Body of the dead man, case record of the patient which has died after a surgical or obstetrics-gynecologic pathology.
- 9 Educational reports of dissection.
- 10 Clinic-anatomical conclusion.

### **I The material for before room independent work**

- 1 **To repeat the contents of the addition B under the order № 81 MO3 of Ukraine**
- 2 **To repeat the structure of the report of dissection and**

### **clinic pathologic- anatomical conclusion.**

**3 To recollect postoperative complications, the reasons of death at surgical and obstetrics-gynecologic diseases.**

### **II Questions for self-checking work by a theoretical part of study**

1 Rules and requirements concerning writing of the report of pathologic-anatomical dissection of corpse.

2 Features of technique of dissection of the deceased after operational intervention.

3 Features of technique of dissection of the deceased after obstetrics pathologies.

4 Features of the clinic-anatomical analysis in case of death from a surgical and obstetrics -gynecologic pathology.

5 Features of an encryption surgical and obstetrics pathologies on international classification.

6 Features of an encryption of death rate after reanimation manipulations on international classification.

7 Features of registration of the pathologic-anatomical diagnosis at iatrogenic condition.

8 To name the principal causes of death because of operative intervention.

9 Mother death rate with agreement of the international classification.

### **III Algorithm of lecture-room work.**

1 To take part in dissection of a corpse.

2 To discuss clinic-anatomical features of a concrete case of section.

3 To example the clinic-anatomical comparisons at a surgical pathology.

4 To example clinic-anatomical comparison at obstetrics-gynecologic pathology.

5 To perform the clinic-anatomical analysis of diseases which have ended lethally because of mistaken lifetime diagnostics

and wrong treatment.

6 Clinic-anatomical analysis of diseases, which fatal consequences were connected with the diagnosis and ineffective treatment.

7 The clinic-anatomical analysis of diseases which have ended lethally because of wrong medical actions.

8 The clinic-atomic analysis of diseases which have ended lethally because of complications of surgical intervention.

9 The clinic-anatomical analysis of diseases, which fatal consequences it is caused by a medical pathology.

10 The writing of the pathologic-anatomical diagnosis, clinic-anatomical conclusion, filling of the doctor certificate at above mentioned cases of death, and also in resulted below situational tasks.

11 To give answers to situational tasks.

### **THE REPORT OF OPENING № 1**

The patient has been in a medical institution – 11m/day.

Settlement, medical establishment.

To whom it is directed – Terebovlianskiy CDH.

Department- neurosurgery.

The case record - № 2083.

Surname, name, patronymic died - П.В.М.

Age - 55 years.

Nationality - Ukrainian. Profession - the watchman.

Place of residing - the Ternopol region, Terebovlianskiy-region, v. Ostrovets.

Has arrived-12.05.1976.

Has died - 23.05.1976 at 9-15.

Short clinical, laboratory and other given researches. Has arrived in a heavy condition with complaints to the general weakness, weakness in the left hand, a leg, periodically there are pains in the right frontal area. Was ill for two months before has arrived in hospital, connects illness with the

transferred craniocerebral trauma. A condition made worse, has appeared left-hand hemiparesis. It is sharply expressed cachexia. Pulse in arteries is not palpated. Blood pressure is not determined, paresis of the left hand. The condition of the patient is worsened, despite of treatment.

The diagnosis of a direction: suspicion on volumetric process of a brain. The diagnosis as soon as has arrived in a hospital - a tumour right frontoparietal areas.

The clinical diagnosis. The basic disease. Metastatic defeat of the right frontal-temporal area. Complications: clinical infringement of brain blood circulation peripheral vessels.

#### DESCRIPTIVE PART OF THE REPORT OF OPENING

Appearance. A corpse of the man of a normal structure of a body. The average growth, sharply lowered nourishment. Cadaveric stiffness it is expressed well in groups of muscles of hands and legs. Cadaveric stains of light violet colour drain. On a skin of elbow bends of forearm on the right hip there are plural traces from injections. Turgor of the skin is kept. Above the right ear, the right temporal area, has face-to-face cut 7sm long. In the left part of a head on border of parietal and occipital departments of a head, on a skin a cyanotic - crimson stain 6,5x5sm, which acts above a level of a skin. Hypodermic cells, accordingly with this area is impregnated with blood, the vascular grid is widen. On a skin of a forward department of a thorax it is visible numerous cyanotic traces of the round form in diameter 3 sm, it is obvious from jars.

Internal research. The abdominal cavity is free from a liquid, a surface of belly is smooth and brilliant. Pleural cavities are free, walls of atrium with the same qualities. The aorta with a little reduced elasticity. An intima is covered numerous atherosclerotic and atheromatous patches, a part from them with ulcers, a part in a belly department is petrificated. In an aorta and the general glomerular arteries there are blood clots. A mucous membrane of a trachea and

bronchial tubes is red with dirty grey masses. A tissue of lung is pasty in the back-bottom departments, fleshy on a cut. In the bottom department of right lung there is a condensation of 2,5sm, in a cut shows the center of caseous necrosis which is placed subpleural. Similar changes are found in lymph nodes of a gate right lung. The top of left lung is changed scar with the numerous centers of petrification. The back-bottom department of left lung is submitted with grey-red spots with purulent discharge on a surface of a cut. Adrenal glands are leaf forms, without features. Capsules of kidneys are removed easily. Kidneys are flabby. Border of layers is precise, a tissue is sanguineous. A mucous membrane of urinary excretion ways is smooth, equal. Heart in the sizes 12x12x6x2,5 sm. The thickness of a wall of right heart ventricle is 0,3 left-1,7sm; valves of heart and vessels thin, smooth and brilliant. A myocardium is with the phenomena of cardiosclerosis. The spleen is small, shrinkage; near a first line is a transmural ischemic heart attack of the triangular form. A pancreas is large parted, of grey - pink colour in a cut. The firm brain environment is a little strained. The soft brain environment is sharply swollen, jelly-like are changed. In the right parietal-occipital area there is indistinctly limited zone impregnated with blood. The tissue of a brain is sharply swollen. It is sharply exposed of hyperemia, hypostasis of a brain. A strangulation sulcus is visible which covers amygdala of cerebellum. In vessels of Vilis ring in the walls are placed atherosclerotic patches, revealed grey crumbled substances, mixed with blood. The right forward brain artery is obturated with grey substances similar to blood clots of an aorta.

Histologic research. A brain - areas of white tissue with granular layers of violet colour in the other preparation the area impregnated by erythrocytes.

Lungs – are limed by the centers of caseous necrosis, surrounded with zones of a pneumosclerosis; in the

subpleural center there is calcination.

Lymph nodes of a gate lung are limed by the center of caseous necrosis and a sclerotic periphocal areas.

## **THE REPORT OF dissection№ 2**

Medical establishment - city hospital.

Branch - vascular.

The case record - № 1036.

Surname, name, a patronymic - B.3.A.

Age - 45 years.

Occupation- the housewife.

Has arrived in hospital - 24.01.1994г.

Has Died - 28.01.1994.

Date of dissection- 28.01.1994p.

Brief extract from the case record. The patient is delivered in vascular branch of surgical clinic by a brigade of first aid with attributes of a thrombosis to a right iliac artery. In this connection in urgent order she was operated. The postoperative period proceeded difficultly, attributes of insufficiency was grown: hypostasis, general weakness. Treatment has not given effect and the patient has died.

The clinical diagnosis: rheumatism in active phase, myocarditis. Cirrhosis of liver, sharp embolism of the right femoral artery. The ischemia of the IV degree. Sharp glomerulonephritis.

The GIVEN Dissection. A corpse of the woman of a normal structure of a body, a satisfactory nourishment. The skin and seen mucous membranes are pale, with a cyanotic shade. Cadaveric stiffness is expressed well. Cadaveric stains are of cyanotic - crimson color are placed on a back surface of a trunk. In right iliac areas of the skin there is a postoperative stich. Pleural cavities contains up 1,5lit of serous liquid from

both sides. The surface of pleura is smooth, brilliant, without commissures, with a cyanotic shade. The abdominal cavity contains up 4lit of serous liquid. Serous environments are smooth, brilliant. A mucous membrane of a throat, trachea, bronchial tubes are swollen, light pink color. Lugs tissue is pink color. Parenchyma is sanguineous, swollen. Bronchial tubes are without pathological changes. In lungs arteries on a place of a branching there are clots.

On a forward surface of the top part of right lung is an area of dark-red colour with precise borders. A cavity of a pericardium is completely obliterated by spreading grey tissue. Analogical spreading is found in a thickness of myocardium ventricles and auricles where they are submitted by units in diameter up to 1sm of moderate density. In the general the heart is of high density, heavy, the sizes up to 21x14x8sm.

A cardiac musle is of brown color, flabby. Endocardium is without pathological changes. A liver size is 30x26x16sm, a dense consistence, dry, a surface is smooth. Biliary ways are checkpoints. A pancreas is without seen changes. A spleen is in the sizes 18x11x8sm, dense, a capsule is smooth, a pulp is juicy, dark-red. Kidneys are of the usual sizes, weight 320gr, capsules are removed easily. A surface of kidneys is smooth, border of layers is precise; a parenchyma of kidneys is sanguineous. A mucous membrane of urinary excretion ways is without changes. A stomach of the usual sizes, mucous membrane is with numerous hemorrhages and erosions.

Results of histologic research: heart - dystrophic changes in cardiomyocytes, a spreading mesothelium cells of the polygonal form, diffuse cardiosclerosis.

Pericardium – a spreading of mesothelium with attributes of pathological mitosis, the polygonal form, without precise borders, and germination in the next bodies mediastinum.

Lungs are plethorical, diapedesis in the alveoli, necrotic changes in parenchyma.

The stomach with areas of necrosis, mucous membranes with formation of erosion, cellular infiltration of mucous membranes, veins are full-blooded.

Lung artery – is in an enlightenment of thrombosis.

Liver – is full-blood, with adipose dystrophy of hepatocytes, spreading on adjacent tissues.

### **THE REPORT OF dissection №3**

Medical establishment - city hospital.

It is directed to a hospital – by ambulance.

Surgical department. The case record - № 243/44536.

The attending physician - O.O.II.

Surname, name, patronymic - B.C.

Age - 57 years old. Sex - female.

Occupation– a pensioner.

Has arrived in hospital - 27.07.1994.

Has died - 1.08.1994. Has stayed in hospital - 5 days.

Date of dissection- 2.08.1994.

Brief extract from the case record. The Patient has arrived in a bad condition, complaints to vomiting, weight lost, the common weakness. From the anamnesis it is known, that 42 days ago has drunk an acetic acid was on hospitalization in enterogical branch with a hurt gullet and stomach.

The clinical diagnosis: a cancer of a body of a stomach. The scar stenosis of the pyloric department of the stomach. Cachexia. Embolism of lung arteries. THE GIVEN dissection OF THE CORPSE. The corpse of the woman of a normal structure of a body. The skin and seen mucous membranes are pale. Turgor of the skin is normal. Hypodermic tissue is almost absent. Cadaveric stiffness is expressed well in muscles of hands and legs. The abdominal cavity is free from a liquid. The surface of belly is smooth, brilliant. Pleural cavities are without pathological changes. Heart is in the sizes 9x10x5x3sm, weight 240gr, cavities of it is not widen. Valves

of heart and the large vessels are not changed. The myocardium is of brown color. The thickness of the wall of right heart ventricle is 0.3sm, left-1,2sm. The intima of aorta and other large vessels is smooth, with separate yellowish patches and spots. A mucous environment of a trachea, bronchial tubes is light pink. In the gleam of breathing ways it is visible mucus-like substances. Lungs are fluffy on all extent, grey – pink on colour, from a surface of a cut flows down a foamy hemorrhagic liquid. The mucous membrane of a gullet with scarred changes is atrophied. The mucous membrane of a stomach is atrophied, in a pyloric department there is rough deforming scar which almost completely closes an outlet from a stomach. On a surface of mucous a stomach there are areas necrotic changes. A liver is in weight of 1500gr of flabby consistence, yellow-brown on colour of a usual structure. A pancreas is small parted, grey - pink on color, dense. A spleen is in the sizes 12x8x3sm, it is flabby, a pulp of dark-red colour. Adrenal glands are leaf-like forms. Kidneys are pale, a flabby consistence, on cut borders cortex and brain substances are precise. A mucous membrane of bowls and of urinary excretion ways is smooth, brilliant, pale. The uterus is dense, small, mucous light pink of color.

Results of histologic research: The stomach – a mucous membrane is atrophied, areas of necrotic changes of mucous, the diffuse sclerosis and fibrosis of a stomach wall, spreading of adjacent tissues in mucous and submucous environments, cellular infiltration.

Gullet - spreading of fibrous tissues in a mucous membrane, an atrophy of mucous.

Liver – the adipose dystrophy in hepatocytes, atrophy changes in parenchyma.

Kidneys - dystrophic changes in nephrothelium, plethoric and atrophy changes.

Heart – the dystrophic changes in heart cells, attributes of

brown atrophy of a cardiac muscle.

## **The REPORT**

of dissection № 4

from 24.12.1994.

Medical establishment « regional hospital »

Surgical department.

The case record - № 33/5445.

The attending physician

Surname, name, patronymic of the deceased.

Age - 85 years old.

occupation- the collective farmer (pensioner).

Has arrived - 23.12.1994 at 8-00.

Has died - 23.12.1994 about 23-00.

Has stayed in hospital - 15 hours.

Date of dissection- 24.12.1994p.

Brief extract from the case record. The patient has arrived in urgent order with complaints on bleeding from rectum, there are the attributes of a stomach-intestinal bleeding, ischemia, sharp cardiovascular and respiratory insufficiency. Disease began suddenly, with the phenomenon of a hypostasis and insufficiency that has come to death.

The clinical diagnosis 23.12.1994p.: a cancer of a direct gut. The bleeding from a direct gut, chronic heart disease. Atherosclerotic cardiosclerosis, pneumosclerosis.

The GIVEN dissection of the CORPSE. A corpse of the old person of a normal structure of a body. Integuments and seen mucous membrane are pale. Cadaveric stiffness is expressed poorly. Bones of a skull are the whole. The dura mater is a little strained, sinuses of it are free. The pia mater is transparent, thin, moderately sanguineous. Substance of a brain is pale, brilliant. Pleural cavities are free. Peritoneum is grey on colour in a cavity is present up to 200 ml serous exudate. A mucous membrane of a throat, a trachea, head bronchial tubes

is smooth, brilliant, there is mucous spit. Lungs are a little bit increased, grey - pink colour, on cut fluffy, sanguineous, from a surface the serous-hemorrhagic liquids flows down. The lumen of an aorta is narrowed due to atherosclerotic patches with ulcers and petrification, it is especial in abdominal part. Coronary arteries are clear, very dense, thickened on all extent due to atherosclerotic patches. Epicardium is brilliant, with moderate adjournment of fat under it. Heart is in the size 11x10x6x8sm. Thickness of a wall of left ventricle is 2sm, right - 0,5sm. The cavity of a pericardium contains 150ml of a transparent yellowish liquid. Surface of a pericardium is smooth. There is pink-yellow coagulation of blood in cavities of heart. Valves of heart are thin, brilliant and smooth. A muscle of heart is brown-red, dense, penetrated with grey-white layers of connective tissue. A gullet is not narrowed. A mucous membrane is in longitudinal folds. Under mucous it is visible the expanded veins of a gullet. The stomach is not expanded, in a lumen- small quantity of liquids which look like a coffee mix, there are defects of a mucous membrane - 0,1-0,3sm. A duodenum is without features of pathology. In the lumen of thin and thick guts there are a bloody liquid. Veins of a rectum are sharply expanded. A bile bubble is of the usual form and the sizes, in a cavity - dark-olive bile. A liver is in the sizes 24x18x8x4sm. A surface is small humped, edges are round, at palpation is firm. On cut - granular, dry, grey-brown on color, a picture reminds a nutmeg. A pancreas is 21x3x5x2sm, it is not deformed, middle parted, with layers of a fatty fabric, grey - pink. A capsule is not strained. A spleen is in the sizes 14x8x4sm, a pulp is flabby, dark-red on colour. A scrape from a surface is moderate. Lymph nodes are not enlarged. Kidneys are in the size of 11x5x4sm. Fibrous capsules are removed easily and open a small humped surface of kidneys of grey - pink colour. A parenchyma is pale and deficient on blood. On cut the cortex layers are precisely

differentiated. In the left kidney in a cortex layer the cavity is in the sizes of 2x1,5sm filled with a transparent liquid. A mucous membrane of kidneys and ureter is pale - grey.

A bladder is empty. Adrenal glands are of the triangular form, the size is 4x1,5x0,5sm. Border of cortex and brain layers is precise, a thyroid gland is of the usual sizes, pale - red, of colloid kind on a cut.

Results of histologic research: a liver - with adipose dystrophy of hepatocytes, expansion of portal vein, spreading of connective tissue, formation of atypical particles. The gullet - in mucous there is expansion of veins. The stomach –there is expansion of veins, hemorrhages, erosion of a mucous membrane. Lungs - venous stagnation, there is the serous liquid, hemorrhages, spreading of connective tissue.

The heart –there are a diffuse cardiosclerosis, atherosclerotic changes in coronary vessels.

Wall of the aorta –there are atheromatous changes of intima, cellular infiltration.

Rectum-there is varicose expansion of veins of a mucous membrane, a hemorrhage.

### **THE REPORT OF dissection №5**

Medical institution - the city hospital.

It is directed to a hospital – by brigade of ambulance to a surgical department.

The case record - № 39/4564.

The surname, name, patronymic of the deceased.

Age - 80 years.

Has arrived - 29.11.1994. Has died-7.12.1994.

Has stayed in clinic - 9 days.

Date of dissection- 7.12.1994.

Brief extract from the case record. The patient has arrived in urgent order in surgical branch of city hospital with complaints to sharp pains in the right ribs. There is the

suspicion of gangrenous cholecystitis concerning what operation - cholecystotomy was made in 29.11.1994. The postoperative period proceeded hardly and the patient has died because of peritonitis.

The clinical diagnosis: sharp gangrenous cholecystitis.

Complication: a diffuse peritonitis.

Concomitant illnesses: secondary sharp pancreatitis, chronic heart disease. Atherosclerotic cardiosclerosis. The cerebral atherosclerosis, pneumosclerosis.

THE GIVEN dissection OF THE CORPSE. The corpse of the old woman of a normal structure of a body. Integuments and seen mucous membranes are pale, with a yellowish shade. In right iliac areas - a postoperative cut 12sm, through which a tubular drainage is taken out, in left iliac area there is a drainage, at the right subcostal area there is drainage, in the left subcostal area there is a similar drainage. Right clavicular vein is catheterized. Cadaveric stiffness is expressed poorly. Bones of a skull are whole. Pleural cavities are free. Abdomen is of grey colour, with numerous fibrinous-purulent stratifications. There is about 100 ml of fibrinous-purulent liquid in the abdominal cavity. Loops of guts are covered with fibrinous-purulent substances. In a stomach approximately 400ml of liquids which reminds a coffee mix, in a lumen of a thin gut there is a bloody contents. On a back wall of a duodenum in a descending department is ulcer of a wall in diameter of 3sm, with dense cylinder-like edges. At the bottom of ulcer there is defect and erosional vessels. A liver is in the sizes of 21x14x6x3sm, a surface is smooth, on a cut there are numerous fields of grey - yellow areas without precise borders. A surface of a liver is dry, of brown colour. A pancreas is 20x3x1,5sm, not deformed with layers of adipose tissue. A capsule is not strained. A spleen is in the sizes of 13x6x4sm; a pulp is flabby, of dark red colour. A scrape from a surface is moderate. Lymph nodes are not

enlarged. Kidney adipose body is developed moderately. Kidneys are in the size of 10x5x4cm. Fibrous capsules are removed easily and open a smooth surface of kidneys of grey - pink color. A parenchyma is pale. Borders between cortex and brain layers is differentiated precise. A mucous membrane of bowels and ureter is light pink. A bladder is empty. The wall of the aorta with atherosclerotic patches on all expansion. Coronary veins twisted, dense, the lumen is narrowed due to atherosclerotic patches. Epicardium is brilliant, with excessive adjournment of fat. Heart is in the size of 11x10x6cm. Chambers of heart are little stretched. Thickness of a wall left ventricle is 1,6cm, right - 0,4cm. The surface of a pericardium is smooth. Valves of heart are not changed. A cardiac muscle is of brown colour, flabby, with layers of grey colour. Lungs are sanguineous, of pink colour, of the usual sizes, from a surface of a cut at compression flows a hemorrhagic liquid in a small amount. Adrenal glands are macroscopic within the limits of norm.

Results of histologic research: a wall of a duodenum -there is a chronic ulcer with attributes of aggravation and inflammation, with erosion vessels.

Wall of a bile bubble –there is gangrenous and necrotic changes with the phenomena of a sharp inflammation.

Liver – the necrobiotic changes in hepatocytes, inflammatory infiltration.

Pancreas – a sclerosis and lipomatosis of parenchyma.

Heart – a diffuse sclerosis, dystrophic changes in cardiomyocytes.

Wall of peritoneum – is purulent with fibrinous infiltration.

## **THE REPORT OF dissection № 6**

Medical establishment – the 1-st city hospital.

It is directed to in a hospital - ambulance.

Therapeutic branch. The case record - № 34456.

A surname, a name a patronymic.

Has arrived - 20.09. 94.

Has died - 27.09.94.

Date of dissection 27.09.94.

Brief extract from the case record: the patient has acted with the phenomena of exudativ pleuritis, attacks of asthma, high temperature of a body. Attributes of cardiovascular insufficiency and despite of treatment death has come.

The clinical diagnosis: chronic heart disease, atherosclerotic cardiosclerosis. Attacks of asthma. Bilateral exudative pleuritis. Chronic lung insufficiency. A hypostasis of lungs.

#### THE GIVEN dissection OF THE CORPSE

Corpse of the woman of a normal structure of a body, with a good nutritional state. A skin and seen mucous membranes are pale, with a cyanotic shade. Cadaveric stiffness is expressed poorly. Cadaveric stains are of cyanotic colour, are placed on a back surface of a trunk. The abdominal cavity contains up to 1 litre of yellowish liquid with a hemorrhagic shade. There are numerous grey nodules in diameter from 0,2sm up to 0,7sm on a surface of peritoneum. Pleural cavity contain up to 800ml of a similar liquid. The surface of pleura is also in grayish nodules. Heart is in the sizes 10x7x4x2sm. A myocardium is of dark brown colour on a cut, flabby, with grey layers. Valves of heart and the big vessels are not changed. The aorta and coronary vessels are with numerous atherosclerotic patches which narrow a lumen of vessels. A mucous membrane of a throat, trachea, bronchial tubes is swollen, of light pink colour. Lungs are of fluffy, light pink colour, from a surface of a cut the hemorrhagic liquids flows down. A mucous membrane of a gullet, stomach, intestines is without seen macroscopic changes. A liver is in the sizes of 24x11x10x8sm, with a flabby consistence, of brown colour on a cut. The bile bubble contains moderate quantity of bile of dark - olive

colour. Its mucous is velvety. A pancreas is parted, of grey - pink colour on a cut. The spleen is increased, on a cut of dark - cherry colour, of a flabby consistence. Kidneys are of the usual sizes, capsules are removed easily. A surface of kidneys is smooth, border of layers is precise parenchyma is sanguineous, of a flabby consistence. A mucous membrane of ureter ways is smooth, pale. The uterus is not increased, in the lumen there is a dark-red substance, endometrium is hypertrophic. Both ovary glands are increased in diameter up to 8sm, on cut of red colour, with hemorrhages, grey areas and the centers of necrosis. Adrenal glands are leaf-like form with a characteristic structure. Bones of a skull are whole. Brain environments are without seen macroscopic changes. Substance of a brain is of light pink colour with precise borders between white and grey substance.

The given of histologic research: lungs -is sanguineous in vessels, serous substance is in alveoli.

Heart - dystrophic changes in cardiomyocytes, sclerosis.

Ovaries – spreading of atypical structures with pathologic mitosis, infiltrative growth, hemorrhages, necrotic changes.

Liver - a adipose dystrophy in hepatocytes.

Kidneys - a granular dystrophy in nephrotellium.

Wall of peritoneum–there are spreading of atypical structures, infiltration of connective tissue.

### **THE REPORT OF dissection№7**

Medical establishment -the regional children hospital.

He was delivered by first aid brigade.

Surname, name, patronymic of the deceased.

Age - 5 years old.

Place of residing - Ternopol.

Has acted - 20.03.1990 about 20-50.

Has died - 22. 03.1990 about 19-45.

Brief extract from the case record. The boy has had a fit of

coughing during reception of food (ate a cherry plums). He is delivered by first aid brigade with suspicion of aspiration of extraneous subject. During bronchoscopy the left bronchial tube with development of left-hand pneumothorax has been injured. It is immediately lead to drainage of a pleural cavity. Hypodermic emphysema was grown. It was lead to drainage of retrosternal spaces. 21.03.90 about 15-00 the operation of the left main bronchial tube is carried out. During operation is stop of vital activity. After operation the consciousness did not come. 22.03.1990 at 19-45 death has come.

THE DIAGNOSIS AS SOON AS THE PATIENT HAS ACTED IN HOSPITAL: aspiration by extraneous subject.

The CLINICAL DIAGNOSIS: the basic disease is an extraneous subject of bronchial tubes. Complication is the bilateral aspiration pneumonia. The hypostasis of lung and brain.

Concomitant diseases. Left-hand pneumothorax. Hypodermic mediastinal emphysema.

Deep hypoxic encephalopathy. Cerebral coma.

DESCRIPTIVE PART of the REPORT of SECTION

Appearance of a corpse: a corpse of the boy of a normal structure of a body, and satisfactory nutritional state. The skin and visible mucous membranes are pale. On the anterior surface of a thorax at the left on a skin it is visible a cross-section operational cut at a level of 5 intercostal space. On the back axillary lines at the left, below an operational cut, the tube of diameter of 0,5sm in a pleural cavity; a drainage tube is fixated by three seams. At palpation of skin in the field of a thorax is appeared crepitation. During dissecting of tissues by knife the crunch is audible.

Internal research. There is about 20-30 ml of transparent pink liquid in the left pleural cavity. Left lung is submitted only by the top part. On the medial pleura there are the three seams around of which there are congestions of blood. Tongue

is without visible changes. A mucous membrane of pharynx is moderately congested, clean. A mucous membrane of a gullet in longitudinal folds is pale. A mucous membrane of a trachea and large bronchial tubes is moderately congested, clean, damages by extraneous subjects it is not revealed. Seams of stump of the left bottom of bronchial tube are well hold in the tissue. The mucous membrane of bronchial tubes of right lung is congested, is covered with pus. Right lung on all expansion is of dark-red on colour. From a surface of a cut flows down the dark bloody liquid, tissue of right lung is condensed.

At compression from the bronchial tubes there are droplets of yellow pus. Adrenal glands are of the usual sizes, with precise border between layers. Kidneys are in the sizes of 8x4x2,5sm, capsules are removed easily, a tissue of kidneys is flabby, borders of layers are precise. The cavity of heart contains some quantity of a transparent liquid of yellowish colour. Epicardium and a pericardium are smooth, brilliant. Heart is in the sizes of 7x6x4sm. On revision of coronary arteries hemorrhages are revealed. Cavities of heart contain the mixed congestions of blood. Thickness of a wall of right heart ventricle the right is 0,3sm, the left is 1sm. Endocardium and valves are clean, thin, and transparent. A myocardium is strained, of red - brown colour. An intima of the aorta and the big vessels is without visible changes. A stomach is of the usual sizes and form, its mucous membrane is folded. In a cavity of a stomach the small amount of a liquid of dark-brown colour is visible. A mucous membrane of a gut is without visible changes; in a lumen of a gut there are usual contents. Pancreas is of pale - pink colour, large parted, of the usual sizes. The liver is in the sizes of 15x11x9x7sm, its capsule is smooth, the tissue is flabby, of pale - brown colour. A bile bubble is without visible changes. A spleen is in the sizes of 7x6x3sm, a pulp is of dark-red on colour with a moderate scrape. A dura mater is strained, vessels of pia mater

–are congested. A tissue of a brain is pasty, swollen. In area of amygdala of cerebellum is precisely visible strangular sulcus from squeezing of an oblong brain in big occipital aperture. On a cut of a brain borders of layers are precise. Ependima of brain ventricles is a clean, smooth, damp, and pale.

### **THE REPORT OF dissection №8**

Age: 29 years.

Place of residing: the Sumy region. L.- Pisarivca; October street., 36.

Place of death: branch of detoxication of Sumy city hospital 15.

Date of death: 30.09.99.

Date of dissection: 1.10.99.

Descriptive part.

The corpse of the female of 29 years old has the normal structure of a body with satisfactory nutritional state. Thickness of a hypodermic adipose layer is at a level of navel 1-2 sm, sternum is 1,0 sm. On a skin of forearm there are numerous linear scars, in elbow cavity there are the traces from injections. On a right shoulder there is the tattoo which is the international sign, in the field of right subclavian vein there is the puncture, through which catheter is inserted. The other integuments are clean. At removal of sternum at the left in a cavity of the joint there are the visible purulent contents.

#### Internal research:

There is 500ml a yellowish liquid with impurity of fibrin in pleural cavity. The left pleural cavity is completely obliterated. Visceral pleura of the right lung is covered by numerous films; the left lung with the dense fibrotic accretions. The abdominal cavity is free, peritoneum is smooth.

#### Organs of breath:

Mucous membrane of a throat, trachea and the main bronchial tubes are with hemorrhages, in a lumen is purulent sputum.

The right lung is condensed on all expansion, in the back bottom departments where is marked two concentrations of the triangular form in the sizes of 4x5sm and 3x2sm of red - brown colour in the center of which is obliterated vessels. On the other expansion the lungs are dim on a cut the muddy liquid flows out, a surface of grey colour. Left lung is condensed on all expansion on a cut is the muddy liquid. The main lungs columns contain dark-red thrombotic substances.

#### Cardiovascular system:

In a lumen of aorta and the main vessels are wide, the intima is smooth. Kidneys arteries are without features of pathology. Heart is a little bit increased in sizes, basically due to the left departments. Thickness of walls left ventricle is 1,5sm, right is 0,3sm. There is 50ml of a transparent liquid in a cavity of a pericardium. The pericardium is smooth, brilliant. In a cavity of right ventricle there are the congestions of blood. On the tricuspid valve there are polyposis layers of grey - yellow colour which are placed in form of conglomerates. Other valves are smooth, brilliant. A myocardium is flabby, dim, brownish - cyanotic.

#### Organs of digestion:

The gullet is not narrowed a mucous membrane is longitudinal-folded in the bottom departments is cyanotic. A stomach contents a small amount of liquid coloured by bile, the mucous is smooth. There is liquid in the intestine, mucous is grey - cyanotic, folded. The liver is sharply enlarged, the sizes are 29,0x27,0x11,0sm, a surface is smooth with rounding edges. On a cut is flabby, of yellowish-brown colour. A bile bubble is of the usual form and sizes, in a lumen there is dark - olive bile. The pancreas is not deformed, of greyish-pink colour.

#### Organs of blood creation:

The spleen is sharply enlarged, the sizes 18.0x11, 0x4,0 sm a capsule is strained, a pulp is flabby of dark red colour. A

scrape from a surface is significant. Lymph nodes of all groups are a little bit enlarged, soft and pink.

Organs of urogenital system:

Kidney adipose tissue is developed moderately. Kidneys are of the usual sizes, the fibrous capsule is removed easily. A surface is red - cyanotic, dim, the parenchyma is pale, with a muddy hypostasis, the borders of layers are not precise. In a lumen of bowls the rests of muddy contents, mucous with hemorrhages. The bladder is without features of pathology. A uterus is of the sizes 12.0x14,0x5,0 sm. In a cavity of endometrium on the back walls there are the friable red – brown substances. Ovaries are in the sizes of 2,5x1,5sm with a yellow body, uterine pipes are without features of pathology.

Organs of endocrine system:

Adrenal glands are the leaf-like forms, without visible changes. Thyroid gland is a little bit enlarged, pink-cyanotic.

Organs of the central nervous system:

Bones of the skull are the whole. A dura mater is a little strained, moderately sanguineous. The pia mater is swollen, transparent. Sinuses of a dura mater are free. Convolution of brain is smoothed, the border between grey and white substance is precise. Substance of a brain is flabby, sanguineous. Lateral ventricles contain a small amount of transparent liquid. Arteries of a brain are thin-walled.

**Results of histologic research**

Lungs: parenchyma is not full of air there is purulent hemorrhagic exudate, colonies of microbes in a lumen of the most part of alveoli. Vessels are expanded, with blood clots, the purulent destroyed the walls. Bronchial epithelium is destroyed. In alveoli there is hemosiderin. On pleura there is accumulation of fibrin.

Heart: valves of right ventricle (tricuspid) in a condition of necrosis, with thrombus clots which contain colonies

of microbes. Cardiomyocytes are in a condition of a granular dystrophy. Diffuse lymph infiltration of a myocardium.

Spleen: in a pulp of accumulation segment are nucleus leukocytes which are destroyed, proliferation of reticular endothelium.

Lymph nodes: catarrh of sinuses with separation of reticular cells, plethoric changes.

Liver: a granular adipose dystrophy of hepatocytes, lymph infiltration of stroma.

Pancreas, adrenal glands: a usual structure.

Brain: perivascular, cellular hypostasis of substance of a brain, hemostasis in capillaries.

Uterus: endometrium in a condition of the organization, vessels are sanguineous, in area of attachment of placentae is fibrinoid necrosis.

Fallopian tubes: are sanguineous. Ovaries: a yellow body. The discussion of substantive provisions of a theme.

#### **Theme 4**

### **Dissection of the dead child, features of the clinic-anatomical analysis and the organization of dissection in pediatric practice.**

**Motivation:** Modern achievements and improvements of children pathologic-anatomical service in Ukraine testify about essential changes of a structure of children disease and death rate. It demands from doctor knowledge of morphological displays of the basic, nosologic forms of diseases which meet in perinatology and pediatrics. Besides at children the pathological processes are closely connected to age features which directly depend on constants height changes and development of the child which are frequently broken under influence of genetic factors. It causes development of pathological processes on a background of congenital lacks of

development.

**The purpose:** to study features and a technique of carrying out of dissection of the dead child, a fetus, newborn and registration of the pathologic-anatomical documentation in case of death connected with a perinatal pathology.

**The task: *To know*** the section features of a corpse of a died fetus, newborn, the child.

***To learn*** defining of morphological displays of complications of the basic diseases in pediatric practice. ***To be able*** to carry out the clinic-anatomical analysis, to formulate the pathologic-anatomical diagnosis, to write the doctor certificate, to cipher on MK X-X death rate in neonatal and pediatric practice.

**Equipment of studying:**

- 1 The report of dissection.
- 2 The doctor certificate.
- 3 MKX-X.
- 4 The addition I (Regulations about the order of dissection of fetus in weight of a body from 500,0 and more in terms from 22 weeks of pregnancy in the perinatal period).
- 5 The addition G (Regulations about the order of dissection of corpses in treatment-and-prophylactic institutions).
- 6 The addition H (Regulations about carrying out of the clinic pathologic-anatomical analysis of fatal consequences).
- 7 The addition P (Regulations about pathologic-anatomical research of the deceased).
- 8 The addition C (The instruction and the order of dissection of corpses of children of early age, newborns, deadborns)
- 9 The section set for dissection of the deceased.
  
- 10 Body of a dead fetus, newborn, the child.
- 11 Educational reports of dissection.
- 12 Clinic-anatomical conclusion.

***I The material for before room independent work***

**1 To repeat the contents of the addition G under the order**

**№ 81 MO3 of Ukraine**

**2 To repeat the contents of the addition P under the order №81**

**3 To repeat the contents of the addition H under the order №81.**

**4 To learn the contents of the addition I under the order №81.**

**REGULATIONS**

about the order of dissection of fetus in weight of a body from 500,0 and more in terms from 22 weeks of pregnancy or deadborn which died in the perinatal period.

The dissection and registration in the report of pathologic-anatomical researches are subjected all died newborns in medical institutions despite of body weight and long, time after a birth, and also deadborn in weight of a body 1000gr and more and long of a body more than 30 sm, fetus in weight of a body from 500 gr and more in terms more than 22 weeks of pregnancy. In case of dissection of fetus it is registered in the report of pathologic-anatomical research, the certificate about perinatal death on them is not made out. Results of research are referred to medical establishment.

The head physician of a maternity hospital provides 100 % dissection of corpses of deadborns and died newborns, their delivery into pathologic-anatomical bureau (branch) not later than 12 hours after a birth of deadborn or a death of newborn. Deadborn is directed with a history of development newborn and clinical conclusion. Deadborn is sent into pathologic-anatomical branch together with afterbirth. On pathologic-anatomical research afterbirths from newborns are referred also if they have attributes of intrauterine diseases, especially if there is a suspicion on an intrauterine infection. In all cases afterbirth is registered as biopsy material.

Managing of pathologic-anatomical branch provides 100 %

microscopic research of materials of dissection of corpses of newborns and afterbirths.

The head physician and the manager of pathologic-anatomical branch organize necessary virologic and bacteriological researches of a material of dissection of deadborn, died newborns and afterbirths, using for this purpose corresponding laboratories at the given medical establishment.

In case of sudden death of children which were not on the dispensary account, outside of a medical institution, their corpses are subjected to judicial – medical dissection. The pathologist can be attached for the advisory help under the arrangement with the chief of a bureau of judicial - medical examinations. In case of sudden death of children which were on the dispensary account, their corpses are dissected by pathologists.

For unification of registration of the pathologic-anatomical diagnosis, results of dissection of corpses of newborns and pathologic-anatomical research of afterbirths are used only. The clinical data about parent pathology during pregnancy and childbirth in the pathologic-anatomical diagnosis are not brought. They are necessarily fixed in pathologic-anatomical conclusion and the certificate of death.

The certificate about perinatal death or preliminary perinatal certificate on death, the pathologic-anatomical diagnosis and the report (card) of pathologic-anatomical research are made out by the pathologist in day of dissection.

## **5 To study the contents of the addition C under the order №81.**

### **THE INSTRUCTION**

about features and the order of dissection of corpses of children of early age, deadborns and afterbirth .

At anatomic research of corpses of children of early age,

newborns, deadborns at dissecting of skull it is necessary to keep undamaged sinuses of dura mater, separate a skin of a head in the sharp way, scissors which ends are bent under a corner, the aperture in area of a lambdoid suture is made and on a horizontal line the cut of parietal and frontal bones together with a dura mater is carried out. Come up to the middle of a frontal bone, the ends of scissors turn back both cutting frontal and parietal bones along frontal and sagittal suture on distance of 1sm from the last.

Then a cut conduct on a lambdoid suture up to the aperture made earlier in it. The same cut is made and from another side then in the middle of a skull there is a bone plate in width about 1,5-2sm length of frontal and sagittal suture with a crescent shoot of a dura mater. Cautiously removing each hemisphere of the brain attentively look round the tentorium of a cerebellum and a crescent shoot, because in these places most frequently meet hemorrhages in consequence of a patrimonial trauma. Distinguishing separately each hemisphere is cut tentorium of cerebellum near edge of a pyramid of a temporal bone and extracted a trunk part of a brain together with a cerebellum and oblong brain. Different methods of dissecting of skull are possible, which guarantee from artificial damages of its contents.

The ribs are investigated in all cases for definition measures of their stretching. It is shown by extraordinary mobility of ribs in cervical and chest departments along an axis of ribs, and also hemorrhages in a forward sheaf of the intervertebral disk. The channel of the ribs cuts not sideways backs, as at adults, and in front after removal complex of organs. For this purpose separate bodies of III and IV ribs, enter in spine channel and cut arches of ribs from one and other side. After removal of bodies of ribs examine epidural space, spinal roots and intervertebral units, then extend a spinal cord and investigate it on all length.

At dissection a forward wall of the abdomen for preservation of the integrity of umbilical vessels, average the middle cutting comes to an end on 1-1,5sm above umbilical rings. Whence two cuttings are conducted in the direction of the internal third inguinal folds. It cuts by a lengthways cutting up to a gate of a liver. Umbilical arteries which lay on each side, examine on cross-cuttings. At suspicion of opportunity of the umbilical sepsis from contents of each vessel or from a scrape from a surface of intima smears are made for bacterial researches. Umbilical vessels for histologic research undertake in all cases. The bottom epiphysis of hip is necessarily researched on longitudinal cuttings where nuclei of ossification are marked and the condition of the line ossification of a cartilage between epiphysis and diaphysis is defined.

Corpses of fetuses in weight of a body from 500 gr and more, newborns, deadborn and children which have died directly after sorts are delivered in a pathologic-anatomical bureau (branch) together with afterbirth. At research of afterbirth its integrity, weight, the form, a place of moving umbilical cords is marked, its diameter and length. Histologic researches of environments is necessarily carried out, umbilical cords and placentae (an environment - 1-2 slices, a umbilical cord - 2-3 slices, a placenta - 6-12 slices from different zones).

**6 Repeat the structure of the report of dissection and clinical-anatomical conclusion.**

**7 Recollect complications, the reasons of death in the perinatal period and at the basic diseases in pediatric practice.**

***II Questions for self-checking by a theoretical part of study.***

1 Rules and requirements concerning writing of the report of pathologic-anatomical dissection of the died child and a fetus.

2 Features of technics of dissection of a died fetus, newborn, a child.

3 Features of the clinic-anatomical analysis in case of death of

fetus, newborn, a child.

4 Features of ciphering of a children pathology and death rate on the international classification.

5 Features of registration of the pathology-anatomical diagnosis and the doctor certificate in case of perinatal death of fetus and newborn.

### ***III Algorithm of a lecture-room work***

1 To take part in dissection of a corpse.

2 To discuss clinical-anatomic features of a concrete case of section on study.

3 To carry out clinical-anatomic compare of perinatal and a children pathology.

4 To carry out the clinical-anatomic analysis of diseases which have ended lethally because of erroneous lifetime diagnostics and wrong treatment.

5 The clinical-anatomic analysis of diseases, which fatal consequences are connected with the untimely diagnosis and ineffective treatment.

6 The clinical-anatomic analysis of diseases which have ended lethally because of wrong medical actions.

7 The clinical-anatomic analysis of diseases which have ended lethally because of complications of surgical treatment.

8 The clinical-anatomic analysis of diseases, which by fatal consequences were caused a medical pathology.

9 Writing of the pathologic-anatomical diagnosis, clinical-anatomic conclusion, fillings of the doctor certificate at all above mentioned cases of death, and also in mentioned below situational tasks.

10 To give answers to situational tasks.

11 A discussion of substantive provisions of a theme.

## Theme 5

### **The role of pathologic-anatomical service in the control over quality of treatment-and-prophylactic work. The organization of work of medical - control commission (mcc) and clinic-pathologic-anatomical conferences**

**Motivation:** clinic pathologic-anatomical conference is one of the basic methods of scientific - practical work of doctor collective. It plays the most important role in the improvement of diagnostics and medical work in medical establishments.

**The purpose:** To acquire substantive provisions of carrying out MCC and clinic-anatomic conferences.

**The task:** *To know* basic tasks MCC and clinical pathologic-anatomical conferences.

**To learn** the basic rules and principles of the organization of carrying out of clinical pathologic-anatomical conferences. **To be able** to assess divergences of clinical and pathologic-anatomical diagnoses.

#### **The equipment of study.**

- 1 The addition K (Regulations about the order of the organization and carrying out of clinical pathologic-anatomical conferences in treatment-and-prophylactic institutions).
- 2 The addition H, item 2 (the Organization and the order of work of medical - control commission (MCC)).
- 3 Educational reports of dissection.

#### **I The material for before room independent work**

**1 To learn the contents of the addition K under the order №81.**

### **POSITIONS**

#### **about the order of the organization and carrying out of clinical pathologic-anatomical conferences in treatment-and-prophylactic establishments**

The basic tasks of clinical pathologic-anatomical conferences:

The improvement of professional skills of doctors of treatment-and-prophylactic establishments, improvement of quality of clinical diagnostics and treatment of patients by the general discussion and the analysis of clinical pathologic-anatomical data;

Revealing of the reasons and sources of mistakes in diagnostics and treatment at all stages of medical aid, lacks of organizational character, timeliness of hospitalization in the work of auxiliary services (radiological, laboratory, functional diagnostics, etc.).

On clinical pathologic-anatomical conference is discussed:

all cases of divergences of clinical and pathologic-anatomical diagnoses;

all supervision which have scientific - practical interest;

unusual currents of disease;

cases of diseases caused by drugs and pathomorphosis of diseases;

cases of death of patients after surgical, diagnostic and therapeutic interventions, especially those patients which were hospitalized urgently;

sharp infectious diseases;

cases of late diagnostics, heavy diseases for diagnostics, not clear cases which demand the general discussion.

On one of conferences the report of work for the last year the chief of the pathologic-anatomical bureau managing of pathologic-anatomical branch (the manager by children pathologic-anatomical branch) in which should be submitted the report about death in hospital and the analysis of quality of diagnostics and lacks of medical help at all stages of treatment of the patient is discussed.

Clinical pathologic-anatomical conference should establish a category of divergences of clinical and pathologic-anatomical diagnoses, being guided thus positions:

1 Disease has not been recognized at the previous stages

because in the given medical establishment the putting of the correct diagnosis was impossible because of condition of the patient, prevalence of pathological process, short duration of his stay in the given institution.

2 Disease has not been recognized in the given medical institution in connection with lacks of inspection of the patient, absence of necessary and accessible researches; thus it is necessary to take into account, that correct diagnostics has unessential finally affected the end of disease, but the correct diagnosis could be and should be established.

3 Wrong diagnostics has caused erroneous medical actions which appeared deciding (solving) in lethal end of disease.

Only the 1-st and the 2-nd categories of a divergence of clinical and pathologic-anatomical diagnoses have the direct attitude to a medical institution, where the patient has died. The 1-st category of a divergence of diagnoses concerns to those treatment-and-prophylactic institutions which gave medical aid to the patient in early terms of disease and before his hospitalization in treatment-and-prophylactic establishment in which he has died. Discussion of this group of divergences should be transferred in these medical establishments or the medical personnel of the last should be present at conference at medical establishment where the patient has died.

All doctors of the given treatment-and-prophylactic institution, and also doctors of those treatment-and-prophylactic institutions which took part at inspection and treatment of the patient on previous stages are obliged to be present at clinical pathologic-anatomical conferences.

Clinical pathologic-anatomical conferences are carried out according to plan, in working hours, not less often than one month.

In the large hospitals should be carried out clinical pathologic-anatomical conferences on groups of respective profile branches.

The agenda of the next pathologic-anatomical conference is held to all doctors of medical establishment not later than in 7 days before the conference. The preparation of clinical pathologic-anatomical conference is made by the assistant of the head physician of a medical part and the manager of branch of pathologic-anatomical bureau.

To cancel the discussions of case which has been offered by the chief of a pathologic-anatomical bureau, the manager of pathologic-anatomical branch, the administration of medical establishment has no right.

For carrying out of clinical pathologic-anatomical conference by the head of a medical institution two chairmen (the clinical physician and the chief of a pathologic-anatomical bureau, the managing of pathologic-anatomical branch), and also the opponent from number of the most qualified doctors (the therapist or the pediatrician, the surgeon, the pathologist and others) are appointed.

For performing the report of conference two constant secretaries from structure of medical collective are appointed.

It is expedient to limit the agenda of conference for discussion of one supervision.

Cases which are subjects to discussion are reported by attending physicians, the pathologist which carried out dissection of died which analyzed according to a case record of the inpatient (for maternity hospitals - a history of sorts, a history of development of newborn) the quality of inspection, conducting medical documentations, and then by the participants of the conference are discussed, including doctors of other specialization who participated in diagnostics of disease.

The administration of a treatment-and-prophylactic institution on the basis of materials, conclusions and offers of clinical pathologic-anatomical conference develops and carries out measures under the prevention and liquidations of the lack,

admitted in the organization and granting of medical aid to the patient.

By comparison of diagnoses the diagnosis which is written down on the first page of the case record is taken into account only; in the clinical and pathologic-anatomical diagnosis the basic disease, complications and concomitant disease should be precisely allocated. Necessarily on the title page and in conclusion of case record a date of an establishment of the diagnosis of each disease and their complications are designated.

It is considered that disease which is direct or through complications it is closely connected to it has caused death of the patient. According to international classification in clinical and pathologic-anatomical diagnoses as the basic disease should appear only nosologic unit. The clinical diagnosis cannot be changed for transferring of syndromes or symptoms of disease. In the pathologic-anatomical diagnosis there should be an anatomic essence of disease.

At carrying out of clinical pathologic-anatomical conferences it is necessary to take into account, that in modern conditions, it is especial at persons of old age, frequently there are two or more diseases which develop independently one from another, or are in difficult pathogenetic mutual relations.

Among these diseases is difficultly, and enough frequently is impossible to allocate the basic. Such situation has caused to introduce into diagnostic definitions of concept and terms - concomitant, complex, background disease, combine the basic disease. Accommodation in the diagnosis and conclusion of revealed diseases according to these concepts allows to present more precisely their interdependence and influences of one on another, and also value of each disease and their complications in genesis of death; thus it is possible to reflect and on expediency, full value and timeliness of medical - diagnostic measures.

Those pathological processes concern to complications of diseases, which are directly connected with the basic disease by pathogenesis, though in some cases can have another etiology (for example: a purulent meningitis at a purulent otitis, a peritonitis at perforated stomach ulcer, etc.).

In cases when the death has come not from the basic disease or complications, and from application of medical or even diagnostic procedures and manipulations, in especial headings are stipulated. For example, headings MK3 E936 (accidents and complications which arise in surgical and other kinds of treatment), № 960-979 (the adverse complications connected to administration of medicines and other substances), № 997 (the specific complications connected to some surgical interventions), № 998 (other complications because of medical interventions).

At discussion of such cases at conference such variants of their analysis are possible:

Medical action which has caused death of the patient has been used under the erroneous diagnosis.

In similar cases this action (operative, diagnostic intervention, reactions on medicines, radiation energy and others.) in the diagnosis it is put on the place of the basic diseases in conformity with headings MK3 E930-E936.

Medical action which has caused death of the patient, has been accomplished according to the certain indications, but executed incorrectly, as has led to death of the patient (for example, the transfusion blood of another group, over cooled or hemolyzed blood; overdosed of strong medicine, a blunder at operative intervention, carrying out a narcosis, etc.).

Similar cases usually become a subject of judicial - medical examinations. As well as in the previous category, action which has led to death of the patient, in the diagnosis should appear on a place of the basic disease.

Medical action which has caused death of the patient, was

"adequate", applied on a basis of correctly established indications and is accomplished correctly. Its adverse influence has been connected to individual intolerance or hard conditions of the patient and neglecting of disease which could not be defined before. However, complications of such character should be allocated from a lump of the revealed diseases which have developed as a result of natural current of disease. Thus, at the analysis it is necessary to distinguish two categories of complications - « complications of illness» and « complications from treatment ». The processes connected to medical actions if they have led to death of the patient should be include in the last group also.

The task of clinical pathologic-anatomical conference also includes revealing the reasons of divergences of clinical and pathologic-anatomical diagnoses. The divergence under the basic clinical and pathologic-anatomical diagnoses is considered discrepancy of diagnoses:

on a nosology principle, for example, the diagnosis of a tuberculosis easy instead of a cancer of lungs;

on etiology, for example, the diagnosis of a tuberculous meningitis instead of meningococcus meningitis;

on localization of pathological process, for example, the diagnosis of a cancer of a stomach, instead of a cancer of a pancreas.

At the combined basic disease the absence or the erroneous diagnosis of one of diseases is considered a divergence of clinical and pathologic-anatomical diagnoses.

Taking into account, that the clinical diagnosis should be not only correct, but also duly, all section supervision at a divergence of clinical and pathologic-anatomical diagnoses are analyzed concerning timeliness of their establishment: materials of this analysis are discussed at clinical pathologic-anatomical conferences, resulted in reports of pathologic-anatomical branch.

Sources and the reasons of divergences of diagnoses can be objective and subjective. The objective reasons of the erroneous diagnosis are caused by short duration of stay of the patient in medical establishment, difficulties and impossibility of its inspection in connection with a hard condition, atypical developments and currents of process or insufficiently investigated disease. The subjective reasons of erroneous diagnostics are caused by a level of preparation and qualification of the doctor. At the analysis of these two categories of mistakes in each case specify and allocate the concrete reasons of their occurrence (a hard condition of the patient which does not allow to carry out his inspection, atypical or asymptomatic current of disease, rareness of the disease, insufficient laboratory researches, attention to the anamnesis, etc.). Short-term stay of the patient conditionally considers his stay in medical establishment of less than 24 hours.

Analyzing cases in which concurrence of two diagnoses took place is necessary to allocate those from them when the basic disease and fatal complications have been recognized late, that has caused not timeliness of carrying out of irrational treatment and the lethal end.

Thus, proceeding from tasks which face to clinic pathologic-anatomical conferences, it is necessary, that the analysis of assumed mistakes was basic, statements on them were not characterized by charge to address of concrete persons who have admitted those or another mistakes. The benefit for the patient and increase of doctor qualification should be the basic purpose of carrying out of clinic pathologic-anatomical comparison.

## **2 To study the contents of item 2 of the addition H under**

**the order № 81.**

**POSITION**  
**about carrying out of the clinic-anatomical analysis of fatal**  
**consequences**

2. The organization and the order of work of medical - control commission. The medical - supervisory commission ( in further the commission) is appointed for all-round and qualifying finding-out circumstances and features of current disease that is direct reason and the mechanism of approaching of death, lack of granting of medical help to patient who have died in the given medical institution, and also in a polyclinic, houses, in area which is served by the given medical establishment.

The responsibility for the organization and condition of commission's work is also the head physician of a medical institution which annual order determines the commission's structure. The head of the commission, as a rule, appoints the assistant to the head physician on medical part constant members are the main medical experts, the managing branch of a pathologic-anatomical bureau or pathologic-anatomical branch and one of interns - clinical physicians as the secretary. Last structure of the commission is established in the operative order depending on character of disease or the doctor who made dissection. Doctors which participated in treatment of the patients, do not follow to appoint members of the commission. The head of the commission is obliged to learn all necessary documentation which concerns to the given case of death (the case record, an extract from the report of pathologic-anatomical research of the deceased and other materials), and to appoint a reviewer from the most qualified doctors of a treatment-and-prophylactic institution. Materials from other medical institutions where the patient was earlier treated are if necessary requested.

The sitting of the commission is appointed not later than 15 days after death of the patient.

At session of the commission the brief messages of the attending physician, the pathologist and the reviewer if there were lacks of the pre-hospital period are heard. The report of session of the commission is conducted by the secretary.

The attending physician is obliged to prove putted to the patient diagnosis, using for this purpose results of his inspection to report, how disease developed, when and for what reason there were complications what in this connection were carried out concrete measures and their results.

The pathologist reports, the commission pathologic-anatomical diagnosis and conclusion carries out comparison of clinical and pathologic-anatomical diagnoses on all headings, submits sheets about revealed lacks of granting medical help and their reason.

The reviewer on a basis of learning medical documentation reports and represented by commission a written conclusion about timeliness of hospitalization of the patient, completeness of his inspection, correctness of treatment at a pre-hospital stage and at hospital period.

Compare the clinical and pathologic-anatomical data, the reviewer establishes the concrete reasons of admitted mistakes, offers measures under their prevention in the future. In a divergence of ideas of the pathologist and the attending physician the reviewer proves one of them or offers his own, using for this purpose the data of the scientific literature. He defines dependence of mistakes of the attending physician on all system of the organization of medical - diagnostic work in medical establishment, branch.

The commission is obliged to find out circumstances of occurrence of disease (trauma), feature of its current, tanatogenesis, to establish quality of granting of medical help, to develop concrete practical measures on elimination and

warning of revealed lacks.

At the analysis of medical help at a pre-hospital stage the commission establishes:

- a condition of active revealing of patients and timeliness of the primary reference of the patient for medical help;

- a full value of inspection in a polyclinic, quality and timeliness of diagnostics, correctness of treatment;

- timeliness of hospitalization;

- a correctness of transportation of the patient to medical establishment;

- a quality of profound medical inspections and dispensary supervision.

At analysis of medical help during the hospital period the commission establishes:

- a completeness and timeliness of inspection of the patient in medical establishment;

- a timeliness of the made diagnosis of disease, its completeness and correctness;

- a medical assignments and operative interventions;

- a correctness of execution of medical procedures and surgical operations;

- an adequacy of postoperative period;

- an observance of sequence in diagnostics and treatment of the patient at all stages of hospitalization.

The quality of conducting of medical documentations is estimated by the commission according to stage of hospitalization. Thus it is paid attention to professional literacy of medical records, completeness of display of complaints, anamnestic sheets, given objective inspection, preoperative conclusion, postoperative diagnoses, a condition of conducting of narcotic cards and cards of intensive therapy.

At the ending of work the commission makes the act which all structure of the commission sign.

In case of revealing by the commission of lacks of granting

medical help in the act it is necessarily underlined: the essence and character of lacks where they are admitted, surnames and names of doctors who have admitted lacks, of what lacks of medical help have caused fatal consequences, and also concrete practical recommendations of the commission on elimination and the prevention of the revealed lacks of medical - prophylactic work of hospital.

At revealing by the commission of lacks of granting of medical help which are admitted by doctors of other medical institutions, head of the commission without fail move to the address of corresponding the head physician an extract from the act of the commission.

In case of a divergence of ideas of members of the commission repeated consideration of a fatal case by the commission with participation of the main experts of regional, city branches of health protection is appointed.

#### **4 Acquaint with situational tasks (educational reports of dissection) and preparing for participation in business game as one of participants of clinic-pathologic-anatomical conference**

##### ***II Questions for self-checking of theoretical part***

- 1 The history of carrying out of clinic-anatomic conferences.
- 2 Who organizes and carries out clinic-anatomic conferences?
- 3 Tasks of clinic-anatomic conferences.
- 4 Principles and the order of the organization of clinic-anatomic conferences.
- 5 What cases are considered at clinic-anatomic conferences?
- 6 The basic lecturers at clinic-anatomic conferences.
- 7 What categories of a divergence of clinical and pathologic-anatomical diagnoses are established with clinic-anatomic conference?
- 8 The value of clinic-anatomic conferences in work of medical

institutions.

9 Main principles of organization of commission and its tasks.

### ***III Algorithm of a lecture-room work***

1 Carrying out of business game « clinic pathologic-anatomical conference ». The note: the theme of conference and participants is defined by the teacher.

2 The discussion of the basic results of carrying out of business game.

## **Theme 6**

### **Biopsy investigations**

**MOTIVATION:** Biopsy investigations take an important place in life-time diagnosis of various diseases. Any pathologically changed tissue excised during the operation must be histologically investigated. Biopsy study is especially urgent in oncological practice.

**AIM :** To learn the principal rules of biopsy investigation carrying out in medical institutions.

**TASK :** To know the order of biopsy investigation in medical institutions. To learn the principal rules of preparing of biopsy and operative materials for histologic and cytologic investigations. To know how to evaluate the results of biopsy investigation in various pathologic processes.

## **LESSON EQUIPMENT**

1. Appendix 2[Regulations on the order of biopsy and operative material investigation (pathologic investigations).
2. A set of micropreparations with various pathologic processes.
3. Operative materials for biopsy investigation.

## MATERIAL FOR PRE-AUDITORIUM INDEPENDENT WORK.

1. TO LEARN THE CONTENTS OF THE APPENDIX.
2. THE ORDER 81.

### **REGULATIONS**

#### **on the order of biopsy and operative material investigations (histologic investigation).**

Diagnostic biopsy of all organs and tissues is performed during the operation, and afterbirths, abortion scrapings as well performed in the department of certain medical-prophylactic institution.

Histologic investigations are performed to define more clear and confirm clinic diagnosis, to make diagnosis in subclinical cases, to diagnose the initial stages of a disease, inflammatory, hyperplastic and tumor processes of various form and origin. Biopsy and operative investigations allow to estimate the efficacy of operation, dynamics of pathologic process, neoplasm as a result of treatment etc.

Objects to be investigated are delivered to the anatomic bureau (department) immediately to ensure the timeliness of conclusions. It is not allowed to accumulate biopsy and operative material (scraping as well) in operating rooms. The operative material should be thoroughly marked: patient's surname, his or her initials, case report, number of label is attached on the pot with the specimens. If several specimens of different patients are placed in one pot each

of them is placed into gauze and tied. The label from the dense paper, which is not sodden in liquid, is attached to the gauze. The surname and initials of a patient are written on the label with the pencil. If the specimen delivered from the department is unfit for investigation (dried off, rotted, frozen) it is not taken and the head of the department is informed about this fact immediately.

A special blank-order is filled in for the investigation of every specimen and is delivered to the anatomic department. All columns of the blank should be filled by anatomist, who will perform out the investigation, has enough clinic information to evaluate the morphological changes.

Besides clinical picture of a disease, there must be short information on anamnesis and treatment (common number of injected hypostatic, and hormonal preparations, the character of radiation therapy etc) and macroscopic description of the preparation on the blank.

If the blank-order is not filled in proper way, the head department of the anatomic bureau informs the head of the clinical department, where the specimen was delivered from about it. In such cases are repeated, he informs the head doctor of the hospital (the director of the institute), assistant director of medical work.

It is strongly prohibited to divide the biopsy and operative material into parts and send to different anatomic laboratories. In these cases morphological changes of typical process (cancer, tuberculosis and other diseases) may be revealed only in one part of the specimen, and correspondingly the results will be different. This may confuse the physician and do harm to the patient.

The physician who prescribes the investigation is responsible for delivering of the materials. It is delivered

to the pathologic bureau (department) by somebody of the hospital staff. If the material cannot be sent at once after the operation for some reason or other, the surgeon who has performed the operation must ensure its in proper fixation (in 10% formalin solution) and preservation. If the patient died during the operation or just after it, the removed organs together with the dead body are delivered to the anatomic bureau (department).

The personnel of the anatomic bureau (department) has the responsibility for the proper reception and preservation registration of the taken and treated material.

A laboratory assistant of the anatomic bureau (department) receives the material delivered to the laboratory together with the blank-order. He check-up whether all columns are filled in completely and in a proper way and the correspondence of the received material indicated in the blank.

Registration of biopsy and operative material is done by the laboratory assistant.

The variant of registration: the registration book is introduced for every coming year. There are such columns in it: index number (number of investigations is begun every year from the beginning), the numbers of the quantity of removed specimens from the object, data of receiving and data of investigation of the material, patient's full name, age the number of his/her case report, the object of studying, approximate clinic diagnosis, necessary clinic information about a patient, histologist description of the preparation and clinic diagnosis, the receipt.

2 variant of registration: patient's passport data and corresponding number of investigation are written on the clean blank. The results of macroscopic and microscopic investigations are written using carbon-paper. The copy of conclusion is sent to the medical institution and the original of the blank is stitched and preserved in the

archive, ensuring of more efficient documentation, gives the possibility to generalize the results of biopsy work, to fill in all columns of the form in the anatomic department expeditiously.

A pathologist carries out macroscopic investigation of the material, chooses the methods of its treatment, the ways of investigation. To employ a laboratory assistant for this work is strictly forbidden.

The regular ordinal number is given to every investigation, which is written on the label. The label is put into the pot with studied material before adding of paraffin. On the microscopic slides under the investigation number two last figures of the investigation year painted out as a decimal fraction.

The investigation of delivered specimens of tissue must be done in the following time :

a) the urgent biopsy is not later than in 20-25min. from the moment of material receipt ;

b) the diagnostic biopsy and operative material is for 4-5 days. The time of bone tissue treatment and biopsy, which requires additional methods of staining or consultations of highly skilled specialists, may be extended.

The copies of forms with the results of histological investigation are sent to the clinic departments (make them sign the document) and must be placed into the case reports.

Archive histological preparations and registration books are recommended to preserve for all time into the anatomic department.

Depending on local conditions, histological preparations of vermiform processes, hernia sacs, tonsils, scraping from uterine cavity after incomplete abortion are preserved for a year. When the term is over these preparations of malignant tumors, tumor-like processes with

suspicion of tumor growth and specific inflammation are preserved constantly. There must be labels with the indicated numbers and the year of investigation. For a long-term preservation the material flood with running paraffin, the latter is taken out of blocks, threaded together with the labels, on which the number and year of investigation is indicated, and put into 70% alcoholic solution. Paraffin blocks with corresponding marking are preserved in conditions, which prevent them from drying out. Macro preparations or their pieces are preserved in 10% formalin solution for a year, then they can be destroyed.

It is recommended to preserve brain tumor specimens, malignant tumors of soft tissue and tumors, which are seldom met in 10% formalin solution for all time of the laboratory existence, if there are conditions for it.

Histological preparations or, if it is necessary the archives of micropreparations, may be given to a patient or his\ her relatives or medical institution, there is official inquiry of this institution. The corresponding application with quire is written down in the registration book of histological investigations (in accordance with the preparation number), and after return of these preparations, the record is crossed out. The medical institution, which the preparations were given must return them to the anatomic bureau(department).

At carrying out of histological investigation it is recommended the following:

Amount of investigated material:

-uterine body cancer (uterine sarcoma etc):tumor1-4;  
tumor border with unchanged tissues-2; uterine cervix-1;  
liver-2; two tubes-2; lymphatic nodes of parametric fat-3;  
momentous nodes-2; in average of10-14 specimens;

-uterine cervix cancer: cervix tumor-1; from uterine body-1; two ovaries-2; two tubes-2; lymphatic nodes of parametric fat-3; momentous nodes-2; in average of 11-15 specimens;

-benign processes in uterus : uterus of 2; tubes-2-4; ovaries-2; Paraovarian cysts-1; in average-3-12 samples.

-tumor of stomach: tumors-1-4; tumor with unchanged tissues-1-2; regional lymphatic nodes-1-3; in average of 8-14 samples.

-ulcer of stomach: fundus-1-3; stomach wall-3; regional lymphatic nodes-3; in average of 5-9.

-mammary gland: tumor-1-4; tumor border with unchanged tissues-1-2;tissue of mammary gland and -2-3; lymphatic nodes(by groups)-3; in average of 7-4 specimens.

-tumors of soft tissues: tumor-2-6; tumor border with -1-3; in average of 3-9 specimens.

-lungs: tumor 1-5; tumor border with unchanged tissues-3; lung tissue with attached regions-2-3; regional lymphatic nodes-3; in average -8-15 specimens.

-lungs (purulent process):3-9 specimens.

-intestine with lymphatic nodes: 3-6 specimens.

-gullet: specimens removed by oesophagoscopy.

-removed gullet with lymphatic nodes: 3-5 specimens.

-thyroid gland : from every lobe-1-2 specimens, in the case of nodular goiter-1-2 specimens from each node; lymphatic nodes-1-3 specimens in average of 6-10 specimens.

-tumors of ovaries (in the case of extirpation of the uterus with tubes)- tumor specimens-2-3; uterine tube-1-2; from endometrial-2-3; momentous nodes (if there are some)-2-3; in all 8-13 specimens.

-larynx (tumor)-2;lymphatic nodes-2; in average of 2-5 specimens.

-prostate :from every node-1-2 or all specimens as scraping when the material is removed by the method of transurethral section.

-vermiform process is investigated the whole by means of preparing or 1-3 specimens are removed from the most changed places and from the region, which is remote from the pathologic zone.

-tonsils and lymphatic nodes, polyps and other tissues –every specimen is investigated separately.

-uterine tubes in the case of extra uterine pregnancy-1-3 specimens or more.

-gallbladder : 2-3 specimens from the wall or tumor, if there are lymphatic nodes-3, in average of 2-6 specimens.

-as to other organs and tissues 2-3 specimens are taken from tumors or the region, affected by the pathologic process; in the case of simultaneous section of lymphatic nodes are investigated if there are no macroscopic signs of tumor in them.

-the material scrapings, including the gynecological investigations, aspiration and other kinds of biopsy, trepan biopsy is completely investigated.

Preparation order of biopsy, operative and sectional material for histological investigation:

1. Tumors of skin are incised in the way to give the possibility to evaluate changes in the centre and periphery of tumor and attached regions.

2. Before investigation the lungs are fixed for a day by fixatives info bronchi under pressure at the height of 25sm above the level of the table. The lung is run with fixative and covered with gauze or cotton wool. If there are tumors, incision are made along into the bronchi. Not only the regions of tumor but attached walls of bronchi and lung parenchyma and lymphatic nodes of the root of the lung are subjected to histological investigation as well.

3. The fixation of the larynx is done in the open state. The plates along the larynx with pathologic focus and adjacent mucous membrane are excised.
4. The organs of digestive tract are incised along and straightened on the pasteboard and then they are fixed. Pathologic changes and condition of adjacent mucous membrane are described. In the specimens of gastric ulcer the search of its malignancy is purposefully carried on, that's why it is necessary to investigate more quantity of histological sections the research of malignancy regions as indurations ulcers is carried out. When stomach resection is done to exclude duodenum ulcer, delivered preparation there may be the margin of this ulcer, than it is necessary to investigate the places of surgical intervention.
5. Vermiform processes are incised along or across in changed places. The contents and changed regions of wall are investigated.
6. Operatively excised testes are cut along and boxed.
7. Prostate is cut along and specimens, which clued the walls of urethra and gland capsules are taken for investigation. If there are tumor nodes (hyperplasia), then specimens together with the regions of attached gland tissue are excised out of them.
8. The regions of resection of mammary glands after maceration are incised and examined. The size, density of nodes, contents and state of walls are described. The regions of nodes with mottled pattern and walls are histologically investigated. In every case some specimens with pathologic focus are excised.

In the case of mammary gland the total resection, it is prepared from muscles, incised in parallel incisions, perpendicularly to the skin many times. Subcutaneous fat, in which are lymphatic nodes are incised too.

9. In extirpation of uterus with uterine appendages all excised organs including ovaries, tubes, uterine ligaments are investigated irrespective of presence or absence of pathologic changes in them. Uterine is incised in T-like incision at the front. The uterus size, cervical length, thickness of mucous membrane and muscular layer are measured. Uterine cervix is incised and investigated parallel to the cervical canal. In case of leiomyoma all revealed nodes are investigated. The material of uterine cervix is investigated.

Cystic tumors are incised, the ovaries are remained.

Démodé cyst is fixed without solution. After revealing of cyst contents this one is investigated. In dermatomes no less than 4-5 specimens are investigated to determine the character of possible tissue differentiation.

10. For the fixation of the hypothesis the cyst is incised along capital line into two halves. One of them is histologically investigated, if hypothesis is fundable enter the sections. The second half is incised into two equal parts along frontal line. Sections for microscopic investigation are prepared along this line.

11. Thyroid gland is incised into plates of 0,5sm of thickness with preservation of connection between them. For histological investigation are taken:

a) in diffuse goiter and specimens from every lobe and isthmus, and from any fibrosis focus and mosaic structure;  
b) in nodular gaiter from all nodes obligatory with capsule and attached tissue, all zones of density are incised separately.

12. Adrenal glands are incised into plates of 0,2-0,3sm of thickness with the preservation of connection between them. For investigation the samples in the region of hills are excised. They must obligatory have renal and medullar substance. If there is tumor the samples are excised together with attached tissue.

13. Prostate is incised into plates of 0,5sm of thickness with the preservation of connection between them and fixed. For histological investigation the specimens from the center and found with attached tissue are taken.

14. For liver and spleen investigation the tissue is excised along an organ and after fixation the specimens from the region of hills and nearby capsule are taken if there are pathologic with attached tissue.

15. Before the fixation the lymphatic nodes are incised along major curvature.

Material for investigation is taken from hills, the centre of node and periphery with capsule.

16. Excised specimens of brain are incised into plates of 0,5sm of thickness. After fixation the specimens are excised from pathologically changed regions. 17. For bone investigation the plates of 0,5-0,7sm of thickness are sawn. In some time these plates become desalinated. It is necessary to saw bones taking into account pathologic focus (tumor nodes) and attached bone tissue. Soft tissue component is investigated without declination.

2. Review of morphologic (histological) manifestations of principal pathologic processes.

2) Questions for self-control of theoretical part of the lesson.

1. Determination of biopsy conception.

2. Kinds of biopsy.....

3. Techniques of taking of biopsy material.

4. The rules of biopsy material delivery to histological laboratory.

5. The term of biopsy preparations and answer.

6. For biopsy answer.

7. The rules of taking the material for biopsy investigation in various diseases:

- mammary gland pathology;
- stomach pathology;
- intestine pathology;
- ovary pathology;
- 8. Investigations of usual biopsy.
- 9. Investigation of urgent biopsy.
- 10. The rules and term of preservation of biopsy material.
- 11. Documentation of biopsy material.
- 12. Conservation and processing of investigated material.
- 13. Algorithm and the rules of carrying out biopsy.
- 14. The biopsy importance in clinic diagnosis.
- 15. The stages of procession of biopsy material.

### **3. ALGORITHM OF AUDITORIUM WORK**

1. Take part in excision and preparation of operative and biopsy material for histological investigation.
2. Evaluate morphologic manifestations of pathology in educational biopsy micro preparations.
3. Give answers to situational tasks.

#### **TASK 1**

Carry out the morphologic biopsy analysis using the following data of E., 45-years old, menstrual cycle is normal, with chronic salpingitis, infertility. The objective examination shows a focal formation of 5\*2sm under the nipple of the left mammary gland.

The results of puncture biopsy: fibrocystic adenomatosis. The patient refused from operation. In 3 mouths she consulted a doctor again about the enlargement of lymphatic nodes in the left supraclavicular region. The results of histological investigation of lymphatic nodes: vegetation of atypical glandular structures with pathologic mitosis in epithelial cells.

## **TASK 2**

Carry out the clinical morphological biopsy analysis according to all available data: N., 48 years old, on normal delivery, 6 abortions. For 7 years she has suffered from cervical erosion. Biopsy investigation wasn't carried out before.

The results of cytological investigations: the smear from posterior vault of vagina has superficial cells of stratified squamous epithelium, a great number of leucocytes.

The results of histological investigation of biopsy material of uterine cervix: squamous epithelium with pathologic mitosis, atypical cells, infiltration growth.

Carry out the clinical morphological biopsy analysis according to all available data: S., 38-years old with conjunctivitis. The treatment doesn't give positive result. Clinical diagnosis: chronic conjunctivitis, blepharitis.

The results of histological investigation: there is leukocyte infiltration in conjunctiva, formation of inflammatory granule as with necrosis in the centre, giant macrophages - Lange Hans cells are met among lymphocytes, epithelium cells.

## **TASK 3**

Carry out clinic morphological biopsy analysis according to all available data: K., 24-years old, felt herself sick for 5 months after delivery, she felt worse, her temperature elevated to 38C, she had cough with blood sputum. The patient expectorated a piece of dark-red tissue. Clinical diagnosis: bilateral focal pneumonia. The result of histological investigation of blood sputum, a

great number of trophoblast cells with numerous atypical mitosis, absence of growth of boundaries, absence of vessels, of polygonal form and size.

#### **TASK 4**

Carry out clinical morphological biopsy analysis according to all available data F., 34-years old, has chronic tonsillitis in anamnesis. In the patient is observed the enlargement of cervical lymph nodes, asthenia, sub-febrile temperature. Clinic diagnosis: chronic tonsillitis, non-specific lymphadenitis.

The results of histological investigation: the palter of lymph nodes is poorly defined, proliferation of young lymphoblast, large multinucleate cells, focal sclerosis and halitosis.

#### **TASK 5**

Carry out the morphological biopsy analysis according to all available data: on examination of the patient D., 33-years old, the fibrous displaces of mammary glands were made to make the diagnosis more exact. The results of histological investigations. Vegetation of light atypical glandular major cells with numerous pathologic mitosis, inner duct growth without well-defined of line boundary.

#### **TASK 6**

Carry out the morphological biopsy analysis according to all available data: U., 58-years old, with ulcerative disease of the stomach. It is known that ulcer is in the pyloric department of stomach. The patient has lost his weight considerably for the last two months, he often vomited, the spasms appeared recently. The skin is dry, grey. Clinic diagnosis: chronic stomach ulcer with malignancy.

During the operation the tissue specimen from the fungus of the ulcer was taken for histological investigation.

The results of histological investigation: diffuse vegetation of fibrous tissue in the ulcer fundus and surrounding regions of stomach wall.

### **TASK 7**

Carry out the morphological biopsy analysis according to all available data: the patient C., 48-years old, consulted a gynecologist about uterine bleeding, which is not connected with menstruation. To make the diagnosis and method of treatment, curettage from the uterine was sent for histological investigation.

The results of histological investigation: vegetation of endometrial glands, change of their forms and size, regions of proliferation of epithelial cells, active reaction of stroma. In some places of glands there are cysts.

### **TASK 8**

Carry out the morphological biopsy analysis according to all available data: the patient G., 46 – years old, suffered from ulcerative disease of the stomach for 12 years.

He has recently complained about pain in the region of stomach, much weight loss. Clinic diagnosis: chronic stomach ulcer in the stage of exacerbation.

The results of histological investigation: on the ulcer fundus there are regions of fibrinoid necrosis, zone of cellular infiltration. Vegetation of atypical glandular epithelium with numerous pathologic mitosis near the margins of the ulcer and mucous membrane.

### **TASK 9**

Carry out the morphological biopsy analysis according to all available data: during the preventive examination the gynecologist revealed the signs of cervical erosion. The material was send to the laboratory.

The results of histological investigation: vegetation of glandular epithelium in the vaginal part of uterine cervix. Defects on the mucous surface are not revealed.

### **TASK 10**

Carry out the morphological biopsy analysis according to all available data: the patient A., 52 –years old, suffered from ovarian-menstrual cycle disturbance for 4 years. A year ago she palpated the tumor in the left mammary gland. Clinic investigation revealed: the tumor was dense, its size was 3-8 sm. For the last two months the patient noted hemorrhagic fluid discharge in small quantity from the nipple. Clinic diagnosis: fibrous cyst mastophaty.

The results of histologic investigation: atypical epithelial cells and blood elements were found.

Histologic express-diagnosis showed the fibrous-cystic fibroadenomatosis with proliferation: vegetation of atypical glandular epithelial structures with numerous pathologic mitosis, infiltration growth of the nipple.

### **TASK 11**

Carry out the morphological biopsy analysis according to all available data: the patient N., 25-years old, was admitted to the gynecological department on suspicion of extra uterine pregnancy. Before the operation the patient was made diagnostic scraping from the uterine cavity.

The result of histologic investigation: endometrium hyperplasia, blood clots of decidual tissue, chorion villi.

### **TASK 12**

Carry out the morphological biopsy analysis according to all available data: patient A., 68-years old, was admitted to the surgical department with the diagnosis of numerous polyposis of rectum, one polyp was excised during the operation and the material was send for histologic investigation.

The results of pathologic investigation: glandular polyp. In 10 months the patient was admitted to the surgical department again. He complained of difficult evacuation of bowel, abdominal pain, weight loss, blood in feces.

Clinic diagnosis: rectum cancer with vegetation into adjacent organs.

The results of histological investigation: vegetation of glandular epithelium with numerous pathologic mitosis, infiltration growth.

### **TASK 13**

Carry out the morphological biopsy analysis according to all available data: the patient 48- years old, was treated with lung lesion, X – ray investigation showed lung shadow with distained foundries.

The results of cytological investigation of sputum: neutrophil leukocytes, solitary macrophages; atypical cells are not found.

The results of pathologic-anatomic investigation of material from the main left bronchus: squamous epithelium vegetation without signs of keratinazation with numerous pathologic mitosis, epithelial cells of polygonal from and size with infiltration growth.

### **TASK 14**

Carry out the morphological biopsy analysis according to all available data: the patient N., 26- years old, was operated with acute appendicitis. Clinic diagnosis: acute phlegmonous appendicitis.

The results of histological investigation: vegetation of basophilic structures with the signs of active proliferation, solitary pathologic mitosis, infiltration growth.

### **TASK 15**

Carry out the morphological biopsy analysis according to all available data: the patient C., 49- years old, with ulcerative disease of stomach. The specimen of stomach was taken from the fundus of ulcer for histologic investigation.

Clinic diagnosis: ulcerative disease of stomach. The results of histological investigation: vegetation of atypical glandular sells with numerous pathologic mitosis, infiltration growth into the stomach wall.

### **TASK 16**

Carry out the morphological biopsy analysis according to all available data: the patient N., 22-years old, was admitted to the in-patient department with the complaints of fever, weight loss, asthenia, enlargement of lymph cervical nodes.

Blood test showed no deviation from the norm ESR – 49 mm/h.

X – ray- study of lungs revealed expansion of their gate as a result of enlargement of lymph nodes. One of the cervical lymph nodes was taken for histologic investigation.

The results of histological investigation in the lymph nodes tissue: granulomatous inflammation were found. This inflammation is manifested with epithelial cells, lymphocytes, Pirogov – Langerhans cells.

### **TASK 17**

Carry out the morphological biopsy analysis according to all available data: the patient N., 34-years old, was admitted to the hospital with complaints of fever, weight loss, asthenia, enlargement of lymph cervical nodes.

Blood test showed no deviation from the norm ESR – 58 mm/h.

X – ray- study of thoracic organs revealed enlargement of mediastinum lymph nodes. The cervical lymph nodes were sent for histologic investigation.

The result of histological investigation of lymph nodes is not clear as a result of vegetation of atypical cells.

### **TASK 18**

Carry out the morphological biopsy analysis according to all available data: the patient N., 46-years old, was admitted to the in-patient department. He complained of asthenia, weight loss, enlargement of cervical and subclavicular lymph nodes.

Blood test revealed mild anemia, ESR – 39 mm/h. Subclavicular lymph node was sent for histological investigation.

The result of histological investigation lymph nodes pattern is not clear, there is defuse vegetation of atypical glandular structures in tissue with pathologic mitosis in epithelial cells.

#### 4. Discussion of main conceptions of the theme