

Infectious and parasitic diseases

1

A patient ill with tuberculosis died from progressing cardiopulmonary decompensation.

Autopsy in the area of the right lung apex revealed a cavity 5 cm in diameter

communicating with lumen of a segmental bronchus. On the inside cavity walls are covered

with caseous masses with epithelioid and Langhans cells beneath them. What

morphological form of tuberculosis is it?

A Acute cavernous tuberculosis

B Tuberculoma

C Caseous pneumonia

D Infiltrative tuberculosis

E Acute focal tuberculosis

2

A patient had been suffering from profuse diarrhea and vomiting for 2 days. He died from

acute dehydration. Autopsy revealed that the intestinal wall was edematous and hyperemic,

with multiple haemorrhages in the mucous membrane. Intestine lumen contains whitish fluid

resembling of rice water. What disease caused death?

A Cholera

B Dysentery

C Salmonellosis

D Typhoid fever

E Enterocolitis

3

A 20 year old patient died from intoxication 8 days after artificial illegal abortion performed

in her 14-15th week of pregnancy. Autopsy of the corpse revealed yellowish colour of eye

sclera and of skin, necrotic suppurative endometritis, multiple pulmonary abscesses,

spleen hyperplasia with a big number of neutrophils in its sinuses. What complication after

abortion was developed?

- A** Septicopyemia
- B** Septicemia
- C** Hemorrhagic shock
- D** Chroniosepsis
- E** Viral hepatitis type A

4

A section of the left lung was found to have an area of dense red tissue. The area was cone-shaped, stood out distinctly from the healthy tissue, with its base directed to the pleura. The dissected tissue was granular, dark-red. What is the most likely diagnosis?

- A** Haemorrhagic infarction
- B** Lung abscess
- C** Lung gangrene
- D** Primary tuberculous affection
- E** Croupous pneumonia

5

A 46 year old patient who had been suffering from tuberculosis for 6 years died from massive pulmonary haemorrhage. Autopsy revealed different-sized foci of sclerosis and caseous necrosis in lungs, in the upper part of the right lung there was a cavity 5 cm in diameter with dense grey walls, the cavity contained liquid blood and blood clots. What type of tuberculosis is it?

- A** Fibrocavernous
- B** Acute cavernous
- C** Infiltrative
- D** Fibrous focal
- E** Acute focal

6

A boy is 7 y.o. Objectively: against the background of hyperemic skin there is knobby bright-pink rash on his forehead, neck, at the bottom of abdomen, in the popliteal spaces; nasolabial triangle is pale. Examination of oropharyngeal surface revealed localized

bright-red hyperemia; tonsils are swollen, soft, lacunas contain pus, tongue is crimson. Cervical lymph nodes are enlarged, dense and painful. What is the most probable diagnosis?

- A** Scarlet fever
- B** Rubella
- C** Whooping cough
- D** Diphtheria
- E** Infectious mononucleosis

7

Colonoscopy of a patient ill with dysentery revealed that mucous membrane of his large intestine is hyperemic, edematic, its surface was covered with grey-and-green coats. Name the morphological form of dysenteric colitis:

- A** Fibrinous
- B** Catarrhal
- C** Ulcerous
- D** Purulent
- E** Necrotic

8

A patient has been suffering from diarrhea for 5 days. On the fifth day colonoscopy revealed that membrane of rectum was inflamed, there were greyish-green films closely adhering to the subjacent tissue. What is the most probable diagnosis?

- A** Dysentery
- B** Typhoid fever
- C** Nonspecific ulcerous colitis
- D** Salmonellosis
- E** Crohn's disease

9

Autopsy of a 48 y.o. man revealed a round formation 5 cm in diameter with clear-cut outlines in the region of the 1st segment of his right lung. This formation was encircled with a thin layer of connective tissue full of white brittle masses. Make a diagnosis of the

secondary tuberculosis form:

- A** Tuberculoma
- B** Caseous pneumonia
- C** Acute cavernous tuberculosis
- D** Acute focal tuberculosis
- E** Fibrous cavernous tuberculosis

10

Skin of a man who died from cardiac insufficiency has an eruption in form of spots and specks. There are also bedsores in the area of sacrum and spinous vertebral processes. Microscopical examination of CNS, skin, adrenal glands revealed in the vessels of microcirculatory bed and in small arteries destructive-proliferative endoarteritis with Popov's granulomas; interstitial myocarditis. What diagnosis corresponds with the described picture?

- A** Spotted fever
- B** Q fever
- C** Enteric fever
- D** Nodular periarteritis
- E** HIV

11

Autopsy of a 17 year old girl who died from pulmonary failure revealed a small area of caseous necrosis in the inferior lobe of the right lung, and occurrences of caseous necrosis in the bronchopulmonary, bronchial and bifurcational lymph nodes. What is the most probable postmortem diagnosis?

- A** Primary tuberculosis
- B** Hematogenous progression of primary tuberculosis
- C** Hematogenous tuberculosis with predominant lung affection
- D** Tuberculoma
- E** Caseous pneumonia under secondary tuberculosis

12

Autopsy of a man who died from the sepsis in his femoral bone revealed phlegmonous inflammation that affected the marrow, haversian canals and periosteum. Under the periosteum there are multiple abscesses, adjoining soft tissues of thigh also have signs of phlegmonous inflammation. What pathological process was described?

- A** Acute hematogenous osteomyelitis
- B** Osteoporosis
- C** Chronic hematogenous osteomyelitis
- D** Osteopetrosis
- E** -

13

Autopsy of a 1,5-year-old child revealed haemorrhagic skin rash, moderate hyperaemia and edema of nasopharyngeal mucous membrane, small haemorrhages in the mucous membranes and internal organs; dramatic dystrophic alterations in liver and myocardium; acute necrotic nephrosis; massive haemorrhages in the adrenal glands. What disease are these alterations the most typical for?

- A** Meningococcal infection
- B** Scarlet fever
- C** Diphtheria
- D** Measles
- E** Epidemic typhus

14

Mucous membrane of the right palatine tonsil has a painless ulcer with smooth lacquer fundus and regular cartilagenous edges. Microscopically: inflammatory infiltration that consists of lymphocytes, plasmocytes, a small number of neutrophils and epithelioid cells; endovasculitis and perivasculitis. What disease is it?

- A** Syphilis
- B** Actinomycosis
- C** Tuberculosis
- D** Pharyngeal diphtheria

E Ulcerous necrotic Vincent's angina

15

A 30 year old man had been suffering from acute respiratory disease and died from cardiopulmonary decompensation. Autopsy revealed fibrinous-haemorrhagic inflammation in the mucous membrane of larynx and trachea, destructive panbronchitis, enlarged lungs that look black due to the multiple abscesses, haemorrhages, necrosis. What is the most probable postmortem diagnosis?

A Influenza

B Parainfluenza

C Respiratory syncytial infection

D Measles

E Adenoviral infection

16

A man with a wound of his limb that had been suppurating for a long time died from intoxication. Autopsy revealed extreme emaciation, dehydration, brown atrophy of liver, myocardium, spleen and cross-striated muscles as well as renal amyloidosis. What diagnosis corresponds with the described picture?

A Chroniosepsis

B Septicopyemia

C Septicemia

D Chernogubov's syndrome

E Brucellosis

17

A worker of a cattle farm fell acutely ill and then died from the progressing intoxication. Autopsy revealed enlarged, hyposthenic spleen of dark-cherry colour when dissected; excessive pulp scraping. At the base and fornix of brain pia maters are edematous, soaked with blood, dark-red ("scarlet hat"). Microscopic examination revealed serous haemorrhagic inflammation of brain tissues and tunics along with destruction of small vessel walls. What is the most likely diagnosis?

A Anthrax

B Tularemia

C Brucellosis

D Plaque

E Cholera

18

Histological examination of a skin tissue sampling revealed granulomas consisting of macrophagal nodules with lymphocytes and plasmatic cells. There are also some big macrophages with fatty vacuoles containing causative agents of a disease packed up in form of spheres (Virchow's cells). Granulation tissue is well vascularized. What disease is this granuloma typical for?

A Lepra

B Tuberculosis

C Syphilis

D Rhinoscleroma

E Glanders

19

Purulent endometritis with fatal outcome was progressing in the woman after abortion performed not at the hospital. On autopsy multiple lung abscesses, subcapsule ulcers in the kidneys, spleen hyperplasia were revealed. What form of sepsis developed in the patient?

A Septopyemia

B Septicemia

C Chroniosepsis

D Lung sepsis

E Urosepsis

20

A 30-year-old patient with bacteriologically proved dysentery developed the signs of

paraproctitis. What is the stage of local changes in this patient?

- A** Ulceration stage
- B** Fibrinous colitis
- C** Follicular colitis
- D** Catarrhal colitis
- E** Healing of the ulcers stage

21

Multiple oval ulcers along the intestine were revealed on autopsy of the person, who died from diffuse of peritonitis in the distant part of the small intestine. Bottom parts of the ulcers are clear, smooth, formed with muscular or serous covering, edges of ulcers are flat, rounded. There are perforations up to 0,5 cm in diameter in two ulcers. What disease can be diagnosed?

- A** Typhoid fever
- B** Dysentery
- C** Cholera
- D** Tuberculosis
- E** Typhus

22

A man died 8 days after the beginning of the disease. He was diagnosed with dysentery. At the autopsy it was found out a thickened wall of the sigma and rectum, fibrinous membrane on the surface of mucous membrane. Histologically: there is a deep necrosis of mucous membrane with infiltration of necrotic masses with fibrin. What kind of colitis does correspond to the changes?

- A** Diphtheritic
- B** Catarrhal
- C** Ulcerative
- D** Chronic
- E** Gangrenous

23

A sick man with high temperature and a lot of tiny wounds on the body has been admitted to the hospital. Lice have been found in the folds of his clothing. What disease can be suspected in the patient?

- A** Epidemic typhus
- B** Tularemia
- C** Scabies
- D** Malaria
- E** Plague

Neoplasia

1

A patient who has been abusing tobacco smoking for a long time has got cough accompanied by excretion of viscous mucus; weakness after minor physical stress, pale skin. The patient has also lost 12,0 kg of body weight. Endoscopic examination of biopsy material his illness was diagnosed as squamous cell carcinoma. Name a pathological process that preceded formation of the tumour:

- A** Metaplasia
- B** Hypoplasia
- C** Hyperplasia
- D** Necrosis
- E** Sclerosis

2

Chronic inflammation and transformation of the one-layer ciliated epithelium into multiple-layers flat epithelium was revealed in the thickened mucous membrane of the bronchus biopate of the patient with smoke abuse. Which of the processes is the most likely?

- A** Metaplasia
- B** Hyperplasia of the epithelium

C Squamous cancer

D Leucoplacia

E Epithelium hypertrophy

3

Examination of a young woman revealed a node-like, soft and elastic homogenous tumour of pinkish-white colour along the acoustic nerve. The tumour contains cell bundles with oval nuclei. Cellular fibrous bundles form rhythmic structures made up by parallel rows of regularly oriented cells arranged in form of a palisade with cell-free homogenous zone (Verocay bodies) between them. What tumour is it?

A Neurinoma

B Malignant neurinoma

C Ganglioneurinoma

D Neuroblastoma

E Ganglioneuroblastoma

4

A patient has a cluster of matted together dense lymph nodes on his neck. Histological examination of a removed lymph node revealed proliferation of reticular cells, presense of Reed-Sternberg cells. What disease is meant?

A Lymphogranulomatosis

B Lymphoblastic leukosis

C Myeloblastic leukosis

D Myelocytic leukosis

E Lymphocytic leukosis

5

Examination of a 66 year old patient revealed a lytic tumour in the locus of pathological rib fracture. Histologically this tumour consists of atypical plasmoblasts. Further examination revealed osteoporosis in the bones of vertebral column and pelvis. These changes are typical for:

- A** Myelomatosis
- B** Tuberculous osteomyelitis
- C** Ewing's osteosarcoma
- D** Neuroblastoma
- E** Metastatic lung cancer

6

A 50 year old patient underwent resection of tumour of large intestine wall. Microscopically it presents itself as fascicles of divergent collagen fibers of different thickness and form and some monomorphous fusiform cells that are irregularly distributed among the fibers.

Cellular atypia is not evident. What tumour is it?

- A** Hard fibroma
- B** Fibromyoma
- C** Soft fibroma
- D** Desmoma
- E** Fibrosarcoma

7

Autopsy of a 5 year old child revealed in the area of vermis of cerebellum a soft greyish-pink node 2 cm in diameter with areas of haemorrhage. Histologically this tumour consisted of atypical monomorphous small roundish cells with big polymorphous nuclei.

What tumour is it?

- A** Medulloblastoma
- B** Meningioma
- C** Glioblastoma
- D** Astrocytoma
- E** Oligodendroglioma

8

Examination of a 55 year old woman revealed under the skin of submandibular area a movable slowly growing pasty formation with distinct borders 1,0x0,7 cm large. Histological examination revealed lipocytes that form segments of different forms and sizes separated from each other by thin layers of connective tissue with vessels. What is the most probable

diagnosis?

- A** Lipoma
- B** Fibroma
- C** Angioma
- D** Liposarcoma
- E** Fibrosarcoma

9

6 months after delivery a woman had uterine bleeding. Gynecological examination revealed in the uterine cavity a dark-red tissue with multiple cavities that resembled of "sponge". Microscopic examination of the tumour revealed some atypic light epithelial Langhans cells and giant cells of cyncytiotrophoblast in blood lacunas. What tumour is it?

- A** Chorioepithelioma
- B** Squamous cell nonkeratinous carcinoma
- C** Adenocarcinoma
- D** Fibromyoma
- E** Vesicular mole

10

On microscopic examination of the enlarged neck gland of a 14-year-old girl it was revealed destruction of the tissue structure of the node, absence of the lymph follicles, sclerotic and necrosis parts, cell constitution of the node is polymorphous, lymphocytes, eosinophiles, atypical cells of the large size with multiple-lobule nuclei (Beresovsky-Shternberg cells) and onenucleus cells of the large size are present. What is the most likely diagnosis?

- A** Lymphogranulomatous
- B** Acute lympholeucosis
- C** Chronic lympholeucosis
- D** Berkitt's lymphoma
- E** Fungous mycosis

11

Microscopical examination of an enlarged cervical lymph node revealed blurring of its

structure, absence of lymphoid follicles; all the microscopic fields showed cells with roundish nuclei and thin rim of basophil cytoplasm. It is known from the clinical data that other groups of lymph nodes are also enlarged as well as spleen and liver. What disease might be suspected?

- A** Lymphoid leukosis
- B** Lymphogranulomatosis
- C** Lymphosarcoma
- D** Myeloid leukosis
- E** Multiple myeloma

12

Examination of a patient revealed a dense, movable skin tumour that is standing out distinctly from the surrounding tissues. Its section is found to be white and composed of fibrous tissue. Microscopic examination revealed interlacing collagen fibers and few cells. What tumour is it?

- A** Fibroma
- B** Myoma
- C** Histiocytoma
- D** Dermatofibroma
- E** Desmoid

13

A 50-year-old man has felt vague abdominal discomfort within past 4 months. Physical examination revealed no lymphadenopathy, and no abdominal masses or organomegaly at palpation. Bowel sounds are heard. An abdominal CT scan shows a 20 cm retroperitoneal soft tissue mass obscuring the left psoas muscle. A stool specimen tested for occult blood is negative. Which of the following neoplasms is this man most likely to have?

- A** Lipoma
- B** Melanoma
- C** Hamartoma
- D** Adenocarcinoma

E Lymphoma

14

A 40-year-old woman has had a feeling of abdominal discomfort for the past 8 months. On pelvic examination, there is the right adnexal mass. Abdominal CT scan demonstrates a 7 cm cystic mass involving the right ovary with small areas of calcification. The uterus is normal in size. The right fallopian tube and ovary have been removed surgically. Grossly, the mass on sectioning is filled with abundant hair and sebum. Microscopically, the mass has glandular spaces lined by columnar epithelium, squamous epithelium with hair follicles, cartilage, and dense connective tissue. What type of tumour is it?

A Teratoma

B Squamous cell carcinoma of ovary

C Melanoma

D Sarcoma of ovary

E Metastase of cervical carcinoma

15

During surgery in a 17-year-old patient it was revealed the tumour of 4,5x5,0x3,5 sm in size on the lower surface of the liver with subserose localization, of dark-red color. On the section tumour has cavities with marked amount of blood. What is preliminary diagnosis?

A Cavernous hemangioma

B Capillar hemangioma

C Hemangiopericytoma

D Hemangioendothelioma

E Lymphangioma

16

The intraoperational biopsy of mammal gland has revealed the signs of atypical tissue with disorder of parenchyma stroma proportion with domination of the last, gland structures of the different size and shape, lined with single-layer proliferative epithelium. What is the most appropriate diagnosis?

A Fibroadenoma

B Papilloma

C Noninfiltrative cancer

D Infiltrative cancer

E Mastitis

17

A 22 y.o. woman has enlarged lymph nodes. Histologically: a lymph node contains lymphocytes, histiocytes, reticular cells, small and big Hodgkin's cells, multinucleated Sternberg cells, isolated foci of caseous necrosis. What disease are these changes typical for?

A Lymphogranulomatosis

B Lymphosarcoma

C Chronic leukosis

D Acute leukosis

E Lung cancer metastasis

18

Unpainfull formation without marked borders appeared in the soft tissues of the thigh in the young man. On the tissue bioptate the formation lookes like a meat of a fish, consisting of the immature fibroblast-like cells with multiple mitosis, which grow through the muscles.

What is the most likely diagnosis?

A Fibrosarcoma

B Myosarcoma

C Fibroma

D Cancer

E Myoma

19

A 45 y.o. patient consulted a doctor about plaque-shaped formation on his neck.

Histological examination of biopsy skin material revealed tumourous cells of round and oval form with thin ring of basophilic cytoplasm that resemble of cells of basal epidermal layer.

What tumour is it?

A Basalioma

- B** Epidermal cancer
- C** Hydradenoma
- D** Trichoepithelioma
- E** Syringoadenoma

The female and male reproductive system

1

Gynecological examination of the uterine cervix in a 30-year-old woman revealed some bright-red lustrous spots that easily bleed when touched. Biopsy showed that a part of the uterine cervix was covered with cylindrical epithelium with papillary outgrowths; in the depth of tissue the growth of glands was present. What pathology of the uterine cervix was revealed?

- A** Pseudoerosion
- B** True erosion
- C** Endocervicitis
- D** Glandular hyperplasia
- E** Leukoplakia

2

Diagnostic scraping was performed to the woman with dysfunctional uterine bleeding. Multiple convoluted glands, ganglially dilated cavities of some glands were revealed histologically in the scrape. Name the type of general pathological process.

- A** Glandulo-gangliac hyperplasia
- B** Atrophy
- C** Metaplasia
- D** Displasia
- E** Hypertrophic excrescence

3

A 39 y.o. woman went through an operation in course of which surgeons removed her uterine tube that was enlarged and a part of an ovary with a big cyst. Histological

examination of a tube wall revealed decidual cells, chorion villi. What was the most probable diagnosis made after examination of the uterine tube?

- A** Tubal pregnancy
- B** Placental polyp
- C** Choriocarcinoma
- D** Papyraceous fetus
- E** Lithopedion

4

A woman suffering from dysfunctional metrorrhagia was made a diagnostic abortion. Histologically in the scrape there were a lot of small stamped glandulars covered with multirowed epithelium. The lumens of some glandulars were cystically extended. Choose the variant of general pathologic process in the endometrium.

- A** Glandular-cystic hyperplasia of endometrium
- B** Atrophy of endometrium
- C** Metaplasia of endometrium
- D** Neoplasm of endometrium
- E** Hypertrophic growth

Inflammation

1

A 4 year old child complained of pain during deglutition, indisposition. Objectively: palatine arches and tonsils are moderately edematic and hyperemic, there are greyish-white films up to 1 mm thick closely adhering to the subjacent tissues. What pathological process are these changes typical for?

- A** Inflammation
- B** Dystrophy
- C** Necrosis
- D** Metaplasia
- E** Organization

2

A 40 year old man noticed a reddening and an edema of skin in the area of his neck that later developed into a small abscess. The incised focus is dense, yellowish-green. The pus contains white granules. Histological examination revealed drusen of a fungus, plasmatic and xanthome cells, macrophages. What type of mycosis is the most probable?

- A** Actinomycosis
- B** Aspergillosis
- C** Candidosis
- D** Sporotrichosis
- E** Coccidioidomycosis

3

A 22 year old patient from the West Ukraine complains of laboured nasal breathing. Morphological examination of biopsy material of nasal mucous membrane revealed lymphoid, epithelioid, plasma cells as well as Mikulicz's cells. What is the most probable diagnosis?

- A** Rhinoscleroma
- B** Glanders
- C** Tuberculosis
- D** Leprosy
- E** Syphilis

4

A 46 year-old man complains of difficult nose breathing. Mikulich cells, storage of epithelioid cells, plasmocytes, lymphocytes, hyaline balls are discovered in the biopsy material of the nose thickening. What is the most likely diagnosis?

- A** Scleroma
- B** Virus rhinitis
- C** Allergic rhinitis
- D** Rhinovirus infection

E Meningococcal nasopharyngitis

5

An 8-year-old child was admitted to the infectious department with fever (up to 38°C) and punctuate bright-red skin rash. The child was diagnosed as having scarlet fever.

Objectively: mucous membrane of pharynx is apparently hyperaemic and edematic, the tonsils are enlarged and have dull yellowish-grey foci with some black areas. What inflammation is the reason for the pharynx alterations?

A Purulent necrotic

B Fibrinous

C Haemorrhagic

D Serous

E Catarrhal

Cardiovascular diseases and derangements of haemodynamics

1

Autopsy of a 73-year-old man who had been suffering from the coronary heart disease along with cardiac insufficiency for a long time revealed: nutmeg liver, brown induration of lungs, cyanotic induration of kidneys and spleen. What kind of circulation disorder was the cause of such effects?

A General chronic venous congestion

B Arterial hyperaemia

C General acute venous congestion

D Acute anaemia

E Chronic anaemia

2

A patient died under conditions of cardiovascular insufficiency. Autopsy results: postinfarction cardiosclerosis, myocardium hypertrophy and dilatation of its cavities, especially of its right ventricle. Liver is enlarged, its surface is smooth, incision revealed that it was plethoric, with dark-red specks against the background of brownish tissue. Histologically: plethora of central parts of lobules; peritheral parts around portal tracts

contain hepatocytes in a state of adipose degeneration. How are these liver changes called?

- A** Nutmeg liver
- B** Pseudonutmeg liver
- C** Amyloidosis
- D** Liver cirrhosis
- E** Liver steatosis

3

Patient suffering from thrombophlebitis of the deep veins suddenly died. Autopsy has shown freely lying red friable masses with dim crimped surface in the trunk and bifurcation of the pulmonary artery. What pathologic process was revealed by morbid anatomist?

- A** Tromboembolism
- B** Thrombosis
- C** Tissue embolism
- D** Embolism with foreign body
- E** Fat embolism

4

2 hours after a skeletal extension was performed to a 27 year old patient with multiple traumas (closed injury of chest, closed fracture of right thigh) his condition abruptly became worse and the patient died from acute cardiopulmonary decompensation.

Histological examination of pulmonary and cerebral vessels stained with Sudan III revealed orange drops occluding the vessel lumen. What complication of polytrauma was developed?

- A** Fat embolism
- B** Gaseous embolism
- C** Microbial embolism
- D** Thromboembolism
- E** Air embolism

5

In course of severe respiratory viral infection there appeared clinical signs of progressing cardiac insufficiency that caused death of a patient in the 2nd week of disease. Autopsy revealed that the heart was sluggish, with significant cavity dilatation. Histological examination of myocardium revealed plethora of microvessels and diffuse infiltration of stroma by lymphocytes and histiocytes. What disease corresponds with the described picture?

- A** Myocarditis
- B** Stenocardia
- C** Acute coronary insufficiency
- D** Myocardium infarction
- E** Cardiomyopathy

6

Autopsy of a 49-year-old woman who died from chronic renal insufficiency, revealed: kidneys were dense, reduced, multicoloured, with haemorrhagic areas. Microscopic examination revealed some hematoxylin bodies in the nuclei of the renal tubule epithelium; "wire-loop" thickening of the glomerular capillary basement membrane; here and there in the capillaries some hyaline thrombi and foci of fibrinoid necrosis were present. What is the most likely diagnosis?

- A** Systemic lupus erythematosus
- B** Rheumatism
- C** Arteriosclerotic pneumosclerosis
- D** Amyloidosis
- E** Atherosclerotic nephrosclerosis

7

Autopsy of a man who died from influenza revealed that his heart was slightly enlarged, pastous, myocardium was dull and had specks. Microscopical examination of myocardium revealed signs of parenchymatous adipose and hydropic dystrophy; stroma was edematous with poor macrophagal and lymphocytic infiltration, vessels were plethoric; perivascular analysis revealed petechial hemorrhages. What type of myocarditis was developed in this case?

- A** Serous diffuse
- B** Interstitial proliferative
- C** Serous focal
- D** Purulent
- E** Granulomatous

8

Examination of coronary arteries revealed atherosclerotic calcific plaques that close vessel lumen by 1/3. The muscle has multiple whitish layers of connective tissue. What process was revealed in myocardium?

- A** Diffuse cardiosclerosis
- B** Tiger heart
- C** Postinfarction cardiosclerosis
- D** Myocarditis
- E** Myocardium infarction

9

A 63 year old male patient who had been suffering from chronic diffuse obstructive disease, pulmonary emphysema, for 15 years died from cardiac insufficiency. Autopsy revealed nutmeg liver cirrhosis, cyanotic induration of kidneys and spleen, ascites, edemata of lower limbs. These changes of internal organs are typical for the following disease:

- A** Chronic right-ventricular insufficiency
- B** Acute right-ventricular insufficiency
- C** Chronic left-ventricular insufficiency
- D** Acute left-ventricular insufficiency
- E** General cardiac insufficiency

10

A patient died under conditions of cardiovascular insufficiency. Autopsy results: postinfarction cardiosclerosis, myocardium hypertrophy and dilatation of its cavities, especially of its right ventricle. Liver is enlarged, its surface is smooth, incision revealed that it was plethoric, with dark-red specks against the background of brownish tissue.

Histologically: plethora of central parts of lobules; peritheral parts around portal tracts contain hepatocytes in a state of adipose degeneration. How are these liver changes called?

- A** Nutmeg liver
- B** Pseudonutmeg liver
- C** Amyloidosis
- D** Liver cirrhosis
- E** Liver steatosis

11

Extensive thromboembolic infarction of the left cerebral hemispheres, large septic spleen, immunocomplex glomerulonephritis, ulcers on the edges of the aortic valves, covered with polypous thrombus with colonies of staphylococcus were revealed on autopsy of the young man who died in coma. What disease caused cerebral thromboemboly?

- A** Septic bacterial endocarditis
- B** Septicemia
- C** Acute rheumatic valvulitis
- D** Septicopyemia
- E** Rheumatic thromboendocarditis

12

On autopsy of the 58-year-old man it is revealed: mitral valve is deformed, thickened, not totally closed. Microscopically: centers of collagen fibers are eosinophilic, have positive fibrin reaction. The most likely it is:

- A** Fibrinoid swelling
- B** Fibrinoid inflammation
- C** Mucoid swelling
- D** Hyalinosis
- E** Amyloidosis

13

On autopsy it was revealed: large (1-2 cm) brownish-red, easy crumbling formations

covering ulcerative defects on the external surface of the aortic valve. What is the most likely diagnosis?

- A** Polypus-ulcerative endocarditis
- B** Recurrent warty endocarditis
- C** Acute warty endocarditis
- D** Fibroplastic endocarditis
- E** Diffusive endocarditis

14

Autopsy of a 56 y.o. man revealed in the right temporal part of brain a big focus of softened grey matter that was semi-liquid and light grey. Arteries of cerebral tela contain multiple whitish-yellow thickenings of intima that abruptly narrow the lumen. What is your diagnosis?

- A** Ischemic stroke
- B** Brain abscess
- C** Hemorrhage
- D** Hemorrhagic infarction
- E** Brain edema

15

On autopsy it is revealed: soft arachnoid membrane of the upper parts of cerebral hemisphere is plethoric, it is of yellowish-green color, soaked with purulent and fibrose exudate, it looks like cap. For what disease is it characteristic picture

- A** Meningococcal meningitis
- B** Tuberculous meningitis
- C** Influenza meningitis
- D** Meningitis at anthrax
- E** Meningitis at typhus

Necrosis. Dystrophy

1

A patient ill with diabetes mellitus felt acute pain in his right foot. Objectively: foot thumb is black, foot tissues are edematous, there are foci of epidermis desquamation, stinking discharges. What clinicopathological form of necrosis is it?

- A** Moist gangrene
- B** Bedsore
- C** Sequestrum
- D** Dry gangrene
- E** Infarction

2

Autopsy of a man ill with severe hypothyroidism revealed that connective tissue, organ stroma, adipose and cartilaginous tissues were swollen, semitransparent, mucus-like. Microscopic examination of tissues revealed stellate cells having processes with mucus between them. What type of dystrophy is it?

- A** Stromal-vascular carbohydrate
- B** Stromal-vascular adipose
- C** Stromal-vascular proteinaceous
- D** Parenchymatous proteinaceous
- E** Parenchymatous adipose

3

A stillborn child was found to have thickened skin resembling of the tortoise shell, underdeveloped auricles. Histological examination of skin revealed hyperkeratosis, atrophy of the granular epidermis layer; inflammatory changes were not present. What is the most likely diagnosis?

- A** Ichthyosis
- B** Leukoplakia
- C** Xerodermia
- D** Erythroplakia

E Dermatomyositis

4

Autopsy of a man, who had been suffering from the multiple bronchiectasis for 5 years and died from chronic renal insufficiency, revealed that kidneys were dense and enlarged, with thickened cortical layer of white colour with greasy lustre. What renal disease might be suspected?

A Secondary amyloidosis

B Glomerulonephritis

C Chronic pyelonephritis

D Necrotic nephrosis

E -

5

On autopsy of the 40-year-old woman suffering from rheumatic arthritis, the enlarged solid spleen was revealed. On section its tissue is of the mahogany color with enlarged follicles, which look like semi-transparent grayish-whitish grains. What pathological process is the most likely?

A Sago spleen

B Glaze spleen

C Waxy spleen

D Hyaline spleen

E Porphyric spleen

6

A denaturation of proteins can be found in some substances. Specify the substance that is used for the incomplete denaturation of hemoglobin:

A Urea

B Toluene

C Sulfuric acid

D Nitric acid

E Sodium hydroxide

Diseases of kidney

1

A 33 year old man died from uraemia. Autopsy revealed enlarged kidneys weighing 500,0 each and consisting of multiple cavities 0,5-2 cm in diameter. The cavities were full of light-yellow transparent liquid. Renal pelvis and ureters had no peculiarities. What renal disease caused uraemia?

- A** Bilateral polycystic renal disease
- B** Chronic pyelonephritis
- C** Renal tumour
- D** Renal tuberculosis
- E** Rapidly progressing glomerulonephritis

2

Microscopical renal examination of a 36 y.o. woman who died from renal insufficiency revealed in the glomerules proliferation of capsule nephrothelium as well as of podocytes and phagocytes accompanied by formation of "crescents", capillary loop necrosis, fibrinous thrombs in their lumens; sclerosis and hyalinosis of glomerules, atrophy of tubules and fibrosis of renal stroma. What is the most probable diagnosis?

- A** Subacute glomerulonephritis
- B** Acute glomerulonephritis
- C** Chronic glomerulonephritis
- D** Focal segmentary sclerosis
- E** Membranous nephropathy

3

Autopsy of a man who died from burn disease revealed brain edema, liver enlargement as well as enlargement of kidneys with wide light-grey cortical layer and plethoric medullary area. Microscopic examination revealed necrosis of tubules of main segments along with destruction of basal membranes, intersticium edema with leukocytic infiltration and haemorrhages. What is the most probable postmortem diagnosis?

- A** Necrotic nephrosis
- B** Tubulointerstitial nephritis

C Pyelonephritis

D Gouty kidney

E Myeloma kidney

4

On autopsy it is revealed that kidneys are enlarged, surface is large-granular because of multiple cavities with smooth wall, which are filled with clear fluid. What kidney disease did the patient have?

A Polycystic kidney

B Necrotic nephrosis

C Pyelonephritis

D Glomerulonephritis

E Infarction

5

For a long time a 49-year-old woman was suffering from glomerulonephritis which caused death. On autopsy it was revealed that kidneys size was 7x3x2.5 cm, weight is 65,0 g, they are dense and small-grained. Microscopically: fibrinogenous inflammation of serous and mucous capsules, dystrophic changes of parenchymatous organs, brain edema. What complication can cause such changes of serous capsules and inner organs?

A Uraemia

B Anemia

C Sepsis

D DIC-syndrome

E Thrombopenia

6

A 28 year old patient had high arterial pressure, hematuria and facial edemata. In spite of treatment renal insufficiency was progressing. 6 months later the patient died from uremia. Microscopic examination of his kidneys and their glomerules revealed proliferation of capsule nephrothelium and of podocytes with "demilune" formation, sclerosis and hyalinosis of glomerules. What disease corresponds with the described picture?

A Subacute glomerulonephritis

- B** Acute pyelonephritis
- C** Nephrotic syndrome
- D** Chronic glomerulonephritis
- E** Acute glomerulonephritis

The respiratory system

1

A 2 year old child had acute respiratory viral infection and died from cardiopulmonary decompensation. Autopsy revealed that his right lung was hyperemic; in the 2nd, 6th and 10th segments and on the incision there were airless yellowish foci of irregular form, from several mm up to 1 cm large. Microscopical examination revealed exudate consisting mainly of neutrophils in the given areas of pulmonary tissue in the alveoles, bronchioles and bronchial tubes. What is the most probable diagnosis?

- A** Focal pneumonia
- B** Interstitial pneumonia
- C** Croupous pneumonia
- D** Acute bronchitis
- E** Pulmonary abscess

2

The upper lobe of the right lung is enlarged, grey and airless, the incision surface is dripping with turbid liquid, the pleura has many fibrinogenous films; microscopical examination of alveoles revealed exudate containing neutrophils, desquamated alveolocytes and fibrin fibers. The bronchus wall is intact. What is the most probable diagnosis?

- A** Croupous pneumonia
- B** Interstitial pneumonia
- C** Pulmonary abscess
- D** Focal pneumonia
- E** Influenzal pneumonia

3

A patient died from cardiopulmonary decompensation. Histological examination revealed diffused pulmonary lesion together with interstitial edema, infiltration of tissue by lymphocytes, macrophages, plasmocytes; pulmonary fibrosis, panacinar emphysema. What disease corresponds with the described picture?

- A** Fibrosing alveolitis
- B** Chronic bronchitis
- C** Bronchopneumonia
- D** Pulmonary atelectasis
- E** Bronchial asthma

4

A 63 y.o. man fell ill with acute tracheitis and bronchitis accompanied by bronchial pneumonia. On the 10th day the patient died from cardiopulmonary insufficiency. Autopsy revealed fibrinous hemorrhagic laryngotracheobronchitis; lungs were enlarged, their incision revealed the "coal-miner's" effect caused by interlacing of sections of bronchial pneumonia, hemorrhages into the pulmonary parenchyma, acute abscesses and atelectases. Internal organs have discirculatory and dystrophic changes. What is the most probable diagnosis?

- A** Influenza, severe form
- B** Moderately severe influenza
- C** Parainfluenza
- D** Respiratory syncytial infection
- E** Adenoviral infection

5

A forensic medical expert examines the body of a 58 y.o. man who had been consuming large amounts of alcohol for a long time and died at home. Microscopically: the right lung is dense and enlarged, its incision revealed that the tissue is greyish and homogenous, pleura is covered with greyish layers. Microscopically - alveolar cavities contain fibrin, hemolyzed erythrocytes. Make a diagnosis:

- A** Croupous pneumonia

- B** Focal pneumonia
- C** Interstitial pneumonia
- D** Primary pulmonary tuberculosis
- E** Caseous pneumonia

6

Autopsy of a 50-year-old man revealed the following changes: his right lung was moderately compact in all parts, the dissected tissue was found to be airless, fine-grained, dryish. Visceral pleura had greyish-brown layers of fibrin. What is the most likely diagnosis?

- A** Croupous pneumonia
- B** Tuberculosis
- C** Bronchopneumonia
- D** Interstitial pneumonia
- E** Pneumofibrosis

7

Autopsy of a man with a malignant stomach tumour who had died from cancer intoxication revealed in the posteroinferior lung fields some dense, grayish-red irregular foci protruding above the section surface. Microscopic examination revealed exudate containing a large amount of neutrophils in the lumen and walls of small bronchi and alveoles. Such pulmonary alterations indicate the following disease:

- A** Acute purulent bronchopneumonia
- B** Acute bronchitis
- C** Croupous pneumonia
- D** Intermittent pneumonia
- E** Acute serous bronchopneumonia

8

A 63 year old male patient who had been suffering from chronic diffuse obstructive disease, pulmonary emphysema, for 15 years died from cardiac insufficiency. Autopsy revealed nutmeg liver cirrhosis, cyanotic induration of kidneys and spleen, ascites, edemata of lower limbs. These changes of internal organs are typical for the following

disease:

- A** Chronic right-ventricular insufficiency
- B** Acute right-ventricular insufficiency
- C** Chronic left-ventricular insufficiency
- D** Acute left-ventricular insufficiency
- E** General cardiac insufficiency

9

On autopsy it is revealed enlarged dense right lung, fibrin layers on the pleura. Lung tissue is light green color on incision with muddy liqued exudates. What lung disease are these symptoms typical for?

- A** Lung-fever
- B** Bronchopneumonia,
- C** Interstitial pneumonia
- D** Pulmonary gangrene
- E** Fibrosing alveolitis

The gastrointestinal tract

1

A patient died from acute cardiac insufficiency, among clinical presentations there was gastrointestinal haemorrhage. Examination of mucous membrane of stomach revealed some defects reaching myenteron; their edges and bottom were mostly even and loose, some of them contained dark-red blood. What pathological process was revealed?

- A** Acute ulcers
- B** Chronic ulcers
- C** Erosions
- D** Thrombosis
- E** Inflammation

2

A 38 year old patient with full-blown jaundice, small cutaneous hemorrhages, general weakness and loss of appetite underwent puncture biopsy of liver. Histological examination revealed disseminated dystrophy, hepatocyte necrosis, Councilman's bodies. Lobule periphery has signs of significant infiltration by lymphocytes, there are also individual multinuclear hepatocytes. What is the most probable diagnosis?

- A** Acute viral hepatitis
- B** Acute alcoholic hepatitis
- C** Miliary hepatic cirrhosis
- D** Toxic degeneration of liver
- E** Chronic hepatitis

3

A pathology-histology laboratory received a vermiform appendix up to 2,0 cm thick. Its serous membrane was pale, thick and covered with yellowish-green films. The wall was flaccid, of grayish-red colour. The appendix lumen was dilated and filled with yellowish-green substance. Histological examination revealed that the appendix wall was infiltrated with neutrophils. Specify the appendix disease:

- A** Acute phlegmonous appendicitis
- B** Acute gangrenous appendicitis
- C** Acute superficial appendicitis
- D** Acute simple appendicitis
- E** Chronic appendicitis

4

Analysis of a puncture biopsy material of liver revealed hepatocyte dystrophy with necroses as well as sclerosis with disorder of beam and lobulous structure, with formation of pseudolobules and regenerative nodes. What is the most probable diagnosis:

- A** Liver cirrhosis
- B** Chronic hepatosis
- C** Chronic hepatitis
- D** Progressive massive liver necrosis

E Acute hepatitis

5

Microscopical examination of a removed appendix revealed an edema, diffuse neutrophilic infiltration of appendix wall along with necrosis and defect of mucous membrane with affection of its muscle plate. What appendicitis form was developed?

A Ulcerophlegmonous

B Phlegmonous

C Gangrenous

D Superficial

E Apostematous

6

A 59-year-old man has signs of the parenchymatous jaundice and portal hypertension. On histological examination of the puncture of the liver biopate, it was revealed: beam-lobule structure is affected, part of hepatocytes has signs of fat dystrophy, port-portal connective tissue septa with formation of pseudo-lobules, with periportal lympho-macrophage infiltrations. What is the most probable diagnosis?

A Liver cirrhosis

B Alcohol hepatitis

C Chronic hepatosis

D Viral hepatitis

E Toxic dystrophy

7

On autopsy of the man with alcohol abuse for a long time it was revealed: dense, small-knobby, small size liver. Microscopically: small pseudo-lobules, divided with thin layers of connective tissue with lymphomacrophagial infiltrates; hepatocytes in the state of globular fatty dystrophy. What is the most likely diagnosis?

A Alcohol cirrhosis

B Chronic active alcohol hepatitis

C Chronic persistent alcohol hepatitis

D Toxic liver dystrophy

E Fatty hepatosis

Immunopathology

1

48 hours after performing tuberculin test (Mantoux test) to a child a 10 mm papule appeared on the spot of tuberculin introduction. What hypersensitivity mechanism underlies these changes?

- A** Cellular cytotoxicity
- B** Anaphylaxis
- C** Antibody-dependent cytotoxicity
- D** Immune complex cytotoxicity
- E** Granulomatosis

2

A female patient suffering from bronchial asthma had got a viral infection that provoked status asthmaticus with fatal outcome. Histological examination of lungs revealed spasm and edema of bronchioles, apparent infiltration of their walls with lymphocytes, eosinophils and other leukocytes; labrocyte degranulation. What mechanism of hypersensitivity underlies the described alterations?

- A** Reagin reaction
- B** Inflammatory
- C** Autoimmune
- D** Immune complex
- E** Immune cytolysis

3

Local lymphonodules enlarged near the infected wound. Increased amount of macrophages, lymphocytes, lymphatic follicles in the cortical layer and large amount of plasma cells were revealed on histological examination. What process in the lymphatic nodules represent these histological changes?

- A** Antigen stimulation

- B** Acquired insufficiency of the lymphoid tissue
- C** Innate insufficiency of the lymphoid tissue
- D** Tumour transformation
- E** Hypersensitivity reaction

4

Tuberculin was injected intracutaneously to the child for tuberculin test. Marked hyperemia, tissue infiltration developed on the place of injection in 24 hours. What mechanism caused these modifications?

- A** Cells cytotoxicity
- B** Reagin type cytotoxicity
- C** Antibody cytotoxicity
- D** Granuloma formation
- E** Immunocomplex cytotoxicity

5

An experimental animal was first sensitized whereupon an antigen dose was introduced subcutaneously. This injection resulted in the development of a fibrinous inflammation with alteration of vessel walls, basal substance and fibrous structures of connective tissue in form of mucoid and fibrinoid swelling and necrosis. What immunological reaction took place?

- A** Immediate hypersensitivity
- B** Delayed-type hypersensitivity
- C** Reaction of transplantation immunity
- D** Normergic reaction
- E** Granulomatosis

6

A 30 year old woman has applied a lipstick with a fluorescent substance for a long time. Then she got a limited erythema and slight peeling on her lip border, later there appeared transversal striae and cracks. Special methods of microscopic examination of the affected area helped to reveal sensitized lymphocytes and macrophages in the connective tissue; cytolysis. What type of immunological hypersensitivity was developed?

- A** IV type (cellular cytotoxicity)
- B** I type (reaginic)
- C** II type (antibody cytotoxicity)
- D** III type (immune complex cytotoxicity)
- E** Granulomatosis

7

A 50 year old man who was referred to the hospital for treatment of cervical lymphadenitis underwent test for individual sensitivity to penicillin. 30 seconds after he went hot all over, AP dropped down to 0 mm Hg that led to cardiac arrest. Resuscitation was unsuccessful. Autopsy results: acute venous plethora of internal organs; histological examination of skin (from the site of injection) revealed degranulation of mast cells (tissue basophils). Degranulation was also revealed in myocardium and lungs. What type of hypersensitivity reaction is it?

- A** Anaphylactic
- B** Delayed-type hypersensitivity
- C** Complement-mediated cytotoxic
- D** Immunocomplex-mediated
- E** -

The endocrine system

1

A 50 year old patient has been taking treatment thrice for the last 6 months because of fractures caused by domestic accidents. Microscopical examination of bony tissue revealed foci of lacunar resorption, giant-cell granulomas in the tumour-like formations, cysts. Bony tissue was substituted by fibrous connective tissue. Examination revealed also adenoma of parathyroid gland and hypercalcemia. What is the most probable diagnosis?

- A** Parathyroid osteodystrophy

- B** Myelomatosis
- C** Osteomyelitis
- D** Osteopetrosis
- E** Paget's disease

2

Arterial hypertension, hyperglycemia, glucosuria were observed clinically for a long time in the patient with upper type of obesity. Death was due to the cerebral haemorrhage.

Basophilic hypophysis adenoma, hyperplasia of adrenal gland cortex were revealed on pathomorphological examination. What is the likely diagnosis?

- A** Cushing disease
- B** Diabetes mellitus
- C** Acromegaly
- D** Hypophysis nanism
- E** Adiposogenitalis dystrophy

3

A patient with android-type obesity had been suffering from arterial hypertension, hyperglycemia, glycosuria for a long time and died from the cerebral haemorrhage.

Pathologic examination revealed pituitary basophil adenoma, adrenal cortex hyperplasia.

What is the most likely diagnosis?

- A** Itsenko-Cushing's syndrome
- B** Diabetes mellitus
- C** Acromegalia
- D** Pituitary nanism
- E** Adiposogenital dystrophy