

## 2011

1. 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
2. Autopsy of a patient who suffered from croupous pneumonia and died from pneumococcal sepsis revealed 900 ml of turbid greenish-yellow liquid in the right pleural cavity. Pleural leaves are dull, plephoric. Name the clinicopathological form of inflammation in the pleural cavity:
  - A. Empyema
  - B. Fibrinous inflammation
  - C. Phlegmon
  - D. Chronic abscess
  - E. Acute abscess
3. Autopsy of a man who died from chronic cardiovascular collapse revealed "tiger heart". Sideways of endocardium a yellowish-white banding can be seen; myocardium is dull, dark-yellow. What process caused this pathology?
  - A. Fatty parenchymatous degeneration
  - B. Carbohydrate degeneration
  - C. Hyaline degeneration
  - D. Fatty vascular-stromal degeneration
  - E. Amyloidosis
4. During examination of a 6-yearold child a doctor revealed greyish films on the pharyngeal tonsils. Their removal provoked moderate haemorrhage. Bacterioscopy revealed gram-positive clublike bacteria. What symptoms will develop in this child within the next few days if no specific treatment is provided?
  - A. Toxic lesions of myocard, liver and kidney
  - B. Pulmonary edema
  - C. Strong paroxysmal cough
  - D. Papulousskinrash
  - E. Intermittent fever
5. A 38-year-old man died in the attempt of lifting weight. He had collaptoid state. Autopsy revealed an extensive aneurism rupture of thoracic aorta. He suffered from visceral syphilis during his lifetime. What pathological process caused weakness of aortic wall, its dilatation and rupture?
  - A. Vanishing of elastic fibers
  - B. Vanishing of collagen fibers
  - C. Muscle layer atrophy
  - D. Intima changes by shagreen leather type
  - E. Vascularization
6. 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

7. 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 limbus 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?
- Lymphoid leukosis
  - Lymphogranulomatosis
  - Lymphosarcoma
  - Myeloid leukosis
  - Multiple myeloma
8. 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 mater 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?
- Anthrax
  - Tularemia
  - Brucellosis
  - Plaque
  - Cholera
9. 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 presentations?
- Chronic sepsis
  - Septicopyemia
  - Septicemia
  - Chernogubov's syndrome
  - Brucellosis
10. Pulmonary examination of a patient who has worked as a stone grinder for 9 years revealed small dense roundish nodules consisting of connective tissue. The nodules were found to have peripheral macrophages. Such pulmonary alterations are indicative of the following disease:
- Silicosis
  - Acute pneumonia
  - Multiple bronchiectasis
  - Chronic bronchitis
  - Bronchial asthma
11. 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:
- Acute purulent bronchopneumonia
  - Acute bronchitis
  - Croupous pneumonia
  - Intermittent pneumonia
  - Acute serous bronchopneumonia
12. 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?
- Meningococcal infection
  - Scarlet fever
  - Diphtheria
  - Measles

## E. Epidemic typhus

13. Examination of a pregnant woman having Rh-negative blood revealed high level of antierythrocytic antibodies. For its reduction she was implanted with her husband's Rh-positive skin graft. The graft was rejected in two weeks. Its microscopic examination revealed circulatory disturbance, edema and cellular infiltration with lymphocytes, neutrophils and macrophages predominance. What is the most likely pathology?

- A. Graft immunity
- B. Immediate hypersensitivity
- C. Delayed-type hypersensitivity
- D. Granulomatous inflammation
- E. Interstitial inflammation

14. A 46-year-old man had a bulging dark macula on skin that caused no discomfort. With time it began to increase in size and became painful. It turned dark brown and there was a nodule on palpation. Histological examination of tissues revealed spindle and polymorphous cells with multiple mitoses. Their cytoplasm contained brown pigment. What tumour is it?

- A. Melanoma
- B. Basalioma
- C. Hemangioma
- D. Nevus
- E. –

15. Medical examination of a 20-yearold woman revealed a dense encapsulated node 1 cm in diameter that was palpated in the mammary gland. The postoperative biopsy revealed connective tissue overgrowth around the mammary ducts and glandular components of different diameter that didn't make lobules and bore no signs of cellular abnormality. What diagnosis will be made?

- A. Fibroadenoma
- B. Fibroma
- C. Metastatic cancer
- D. Adenoma
- E. Fibrocarcinoma

16. A patient died from cardiopulmonary decompensation. Histological examination revealed diffused pulmonary affection along with interstitial edema, infiltration of tissue by lymphocytes, macrophages, plasmocytes; pulmonary fibrosis, panacinar emphysema. What is the most likely diagnosis?

- A. Fibrosingalveolitis
- B. Chronic bronchitis
- C. Bronchopneumonia
- D. Pulmonary atelectasis
- E. Bronchial asthma

17. A 49-year-old patient with croupous pneumonia died from pneumococcal septicemia. Autopsy revealed up to 700 ml of turbid greenish-yellow foul-smelling liquid in the left pleural cavity. The pleural leaflets were dull and plethoric. What form of pleural inflammation is it?

- A. Empyema
- B. Chronic abscess
- C. Acute abscess
- D. Phlegmon
- E. Fibrinous inflammation

18. A 70-year-old male patient died from acute coronary insufficiency. He had knee joint swelling, gonalgia and gonalgia during his lifetime. Pathomorphologic examination of the deformed joints and synovial membranes revealed membrane hyperaemia with multiple perivascular inflammatory infiltrations made by lymphocytes, plasmocytes and macrophagocytes. There was an accumulation of organized fibrin covering some areas of synovium membrane and looking like rice grains in the articular liquid. What is the most likely diagnosis?

- A. Atrophic arthritis
- B. Periarteritisnodosa

- C. Ankylosing spondylitis
- D. Tuberculous arthritis
- E. Deforming arthrosis

19. A patient with tuberculosis died from progressing cardiopulmonary decompensation. Autopsy in the region 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

20. The liver puncture biopsy of a patient with hepatocellular insufficiency revealed hydropic and ballooning degeneration of hepatocytes, necrosis of certain cells, presence of Kussmaul's bodies. Portal and lobular stroma were infiltrated mostly with lymphocytes and macrophages as well as with a small number of polymorphonuclear lymphocytes. What is the most likely diagnosis?

- A. Acute viral hepatitis
- B. Chronic persistent hepatitis
- C. Chronic aggressive hepatitis
- D. Autoimmune hepatitis
- E. Alcoholic hepatitis

21. Examination of the anterior abdominal wall of a pregnant woman revealed a tumour-like formation that arose on the spot of a tumour that was removed two years ago. The neoplasm was well defined, dense, 2x1 cm large. Histological examination revealed that the tumour was composed of differentiated connective tissue with prevailing collagen fibres. What tumour might be suspected?

- A. Desmoid
- B. Lipoma
- C. Fibrosarcoma
- D. Hibernoma
- E. Leiomyoma

## 2012

1. Autopsy of a 58 year old man revealed that bicuspid valve was deformed, thickened and unclosed. Microscopically: foci of collagen fibrilla are eosinophilic, react positively to fibrin. The most probably it is:

- A. Fibrinoid swelling
- B. Fibrinous inflammation
- C. Muroid swelling
- D. Hyalinosis
- E. Amyloidosis

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. Microscopic examination of the enlarged neck gland of a 14 year old girl revealed destruction of the tissue structure of the node, absence of the lymph follicles, sclerotic areas and necrosis foci, cell constitution of the node is polymorphous, lymphocytes, eosinophiles, big atypical cells with multilobular nuclei (Beresovsky-Sternberg cells) and mononuclear cells of the large size are present. What is the most likely diagnosis?

- A. Lymphogranulomatosis

- B. Acute lympholeucosis
- C. Chronic lympholeucosis
- D. Berkitt's lymphoma
- E. Fungoid mycosis

4. Autopsy of a woman with cerebral atherosclerosis revealed in the left cerebral hemisphere a certain focus that is presented by flabby, anhistic, greyish and yellowish tissue with indistinct edges. What pathological process is the case?

- A. Ischemic stroke
- B. Multifocal tumor growth with cystic degeneration
- C. Multiple foci of fresh and old cerebral hemorrhage
- D. Focal encephalitis
- E. Senile encephalopathy

5. Autopsy of a man who died from ethylene glycol poisoning revealed that his kidneys are a little bit enlarged, edematic; their capsule can be easily removed. Cortical substance is broad and light-grey. Medullary substance is darkred. What pathology had this man?

- A. Necrotic nephrosis
- B. Acute pyelonephritis
- C. Acute glomerulonephritis
- D. Acute tubular-interstitial nephritis
- E. Lipoid nephrosis

6. A man with a long-term history of bronchial asthma died from asphyxia. Histological examination of his lungs revealed that the lumens of bronchioles and minor bronchi contained a lot of mucus with some eosinophils. There was also sclerosis of interalveolar septa, dilatation of alveole lumens. What mechanism accounts for the development of hypersensitivity reaction?

- A. Reagine reaction
- B. Cytotoxic reaction
- C. Immune complex reaction
- D. Lymphocyte-mediated cytolysis
- E. Granulomatosis

7. Histologic analysis of uterus mucous membrane revealed twisting glands, serrated and spined, they were extended by stroma growth with proliferation of its cells. Formulate a diagnosis:

- A. Glandular hyperplasia of endometrium
- B. Acute endometritis
- C. Leiomyoma
- D. Cystic mole
- E. Placental polyp

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. A 38 year old man died all of a sudden. Autopsy revealed myocardial infarction in the posterior wall of the left ventricle. What are the most likely alterations in myocardiocyte structure that can be revealed microscopically in the infarction focus?

- A. Karyolysis
- B. Adipose degeneration
- C. Carbohydrate degeneration

- D. Calcification
- E. Protein degeneration

10. A 42 year old patient complains of pain in the epigastral area, vomiting; vomit masses have the colour of "coffee-grounds", the patient has also melena. Anamnesis records gastric ulcer. Blood formula: erythrocytes -  $2,8 \cdot 10^{12}/l$ , leukocytes -  $8 \cdot 10^9/l$ , Hb- 90 g/l. What complication is it?

- A. Haemorrhage
- B. Penetration
- C. Perforation
- D. Canceration
- E. Pyloric stenosis

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. 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

13. A 45 year old man consulted a doctor about a plaque-like formation on his neck. Histological examination of a skin biopate revealed clusters of round and oval tumour cells with a narrow border of basophilic cytoplasm resembling of cells of basal epidermal layer. What tumour is it?

- A. Basal cell carcinoma
- B. Epidermal cancer
- C. Hydroadenoma
- D. Trichoepithelioma
- E. Syringoadenoma

14. A 71 year old man had been presenting with diarrhea for 10 days. The feces had admixtures of blood and mucus. He was delivered to a hospital in grave condition and died 2 days later. Autopsy of the body revealed the following: diphtheritic colitis with multiple irregularly-shaped ulcers of different depth in both sigmoid colon and rectus. Bacteriological analysis revealed Shigella. What was the main disease?

- A. Dysentery
- B. Typhoid fever
- C. Salmonellosis
- D. Nonspecific ulcerous colitis
- E. Yersiniosis

15. Autopsy of a 75 year old patient who had been suffering from disseminated atherosclerosis and died under chronic cardiac failure revealed constriction and deformation of coronary arteries, tuberous intima whose section appeared to be white and petrosal. Specify the stage of atherosclerosis morphogenesis:

- A. Atherocalcinosis
- B. Lipoidosis
- C. Liposclerosis
- D. Bilipid

## E. Atheromatosis

16. Examination of a bronchial tissue sample revealed atrophy of mucous membrane, cystic degeneration of glands, focal metaplastic changes of lining prismatic epithelial cells into multilayer squamous cells; increase in goblet cell number; in some parts of bronchial wall and especially in the mucous membrane there was marked cellular inflammatory infiltration and growth of granulation tissue bulging into the bronchial lumen in form of a polyp. What is the most likely diagnosis?

- A. Chronic bronchitis
- B. Lobar pneumonia
- C. Acute bronchitis
- D. Bronchopneumonia
- E. Interstitial pneumonia

17. Acute renal impairment caused death of a bleeding patient. Autopsy revealed enlarged kidneys with a broad pale pink cortical layer expressively demarcated from dark red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of convoluted tubules, tubulorrhexis, phlebostasis. The cell nuclei of choroid glomus and straight tubules were present. What pathology is it?

- A. Necronephrosis
- B. Infarction
- C. Glomerulonephritis
- D. Pyelonephritis
- E. Nephrosis

18. 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

19. A patient who abuses smoking has chronic bronchitis. Biopsy of his primary bronchus revealed multilayer pavement epithelium. What pathological process was revealed in the bronchus?

- A. Metaplasia
- B. Physiological regeneration
- C. Reparative regeneration
- D. Hyperplasia
- E. Dysplasia

20. 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

21. A 45 year old male died from disseminated tuberculosis. On autopsy the symptoms of tuberculosis were confirmed by both microscopical and histological analyses. All the affected organs had epithelioid cell granulomas with caseous necrosis in the centre. What kind of hypersensitivity reaction underlies the process of granuloma development?

- A. Delayed
- B. Antibody-dependent cytotoxicity
- C. Complement-dependent cytotoxicity

- D. Anaphylactic
- E. Immune complex

**2013**

1. Microscopy of the coronary artery of a dead 53-year-old patient revealed luminal occlusion due to a fibrous plaque with some lipids. The most likely form of atherosclerosis in this case is:
  - A. Liposclerosis
  - B. Lipidosis
  - C. Prelipid stage
  - D. Atheromatosis
  - E. Ulceration
  
2. Autopsy of the patient revealed bone marrow hyperplasia of tubular and flat bones (pyoid marrow), splenomegaly (6 kg) and hepatomegaly (5 kg), enlargement of all lymph node groups. What disease are the identified changes typical for?
  - A. Chronic myelogenous leukemia
  - B. Chronic lymphocytic leukemia
  - C. Multiple myeloma
  - D. Polycythemia vera
  - E. Hodgkin's disease
  
3. A 60-year-old patient with a long history of atherosclerosis and a previous myocardial infarction developed an attack of retrosternal pain. 3 days later the patient was hospitalized and then died of progressive cardiovascular insufficiency. At autopsy a white fibrous depressed area about 3 cm in diameter with clear boundaries was found in the posterior wall of the left ventricle and interventricular septum. The dissector evaluated these changes as:
  - A. Focal cardiosclerosis
  - B. Myocardial ischemia
  - C. Myocardial infarction
  - D. Myocarditis
  - E. Myocardial degeneration
  
4. At autopsy the occipital lobe of brain was found to have a cavity 2,5x1,5 cm large filled with a transparent liquid. The cavity had smooth brownish walls. What process had developed in the brain?
  - A. Cyst on the site of a hemorrhage
  - B. Softening of the cerebrocortical grey matter
  - C. Brain abscess
  - D. Paracephalia
  - E. A cyst on the site of the softening of the cerebrocortical grey matter
  
5. Study of the biopsy material revealed a granuloma consisting of lymphocytes, plasma cells, macrophages with foamy cytoplasm (Mikulicz cells), many hyaline globules. What disease can you think of?
  - A. Rhinoscleroma
  - B. Leprosy
  - C. Syphilis
  - D. Tuberculosis
  - E. Actinomycosis
  
6. Autopsy of a 78-year-old patient revealed that retroperitoneal tissue was soaked with blood, the abdominal aorta had a sacciform protrusion including a defect with irregular edges. The wall of the aorta was here and there of stone-like density. This is the complication of the following disease:
  - A. Atherosclerosis
  - B. Essential hypertension
  - C. Systemic vasculitis
  - D. Visceral syphilis
  - E. Marfan syndrome

7. 14 days after quinsy a 15-year-old child presented with morning facial swelling, high blood pressure, "meat slops" urine. Immunohistological study of a renal biopsy sample revealed deposition of immune complexes on the basement membranes of the capillaries and in the glomerular mesangium. What disease developed in the patient?
- A. Acute glomerulonephritis
  - B. Acute interstitial nephritis
  - C. Lipoid nephrosis
  - D. Acute pyelonephritis
  - E. Necrotizing nephrosis
8. A diseased child has a high fever, sore throat, swelling of submandibular lymph nodes. Objectively: pharyngeal mucosa is edematous, moderately hyperemic, the tonsils are enlarged, covered with grayish membrane tightly adhering to the tissues above. Attempts to remove the membrane produce the bleeding defects. What disease are these presentations typical for?
- A. Diphtheria
  - B. Catarrhal tonsillitis
  - C. Scarlet fever
  - D. Meningococcal disease
  - E. Measles
9. Examination of the removed stomach revealed a deep roundish defect with regular edges at the lesser curvature of the antrum. The defect reached the muscular tunic and was 1,5 cm in diameter. Within the defect floor there was a translucent dense area resembling of a hyaline cartilage. What process had developed in the floor of the stomach defect?
- A. Local hyalinosis
  - B. Amyloidosis
  - C. Muroid swelling
  - D. Fibrinoid alterations
  - E. General hyalinosis
10. A patient underwent biopsy of the soft palate arches for a suspected tumor (macroscopy revealed an ulcer with a dense floor). Study of the biopsy material revealed mucosal necrosis with infiltration of lymphocytes, epithelioid cells, plasma cells, single neutrophils in the submucosa. There were also apparent signs of endovasculitis and perivasculitis. The described changes are typical for:
- A. Primary syphilis
  - B. Aphthous stomatitis
  - C. Ulcerative stomatitis
  - D. Necrotizing ulcerative Vincent stomatitis
  - E. Pharyngeal diphtheria
11. A patient died from progressive heart failure. Autopsy revealed that the heart was enlarged in diameter, flabby. The muscle section exhibited irregular blood supply. Histological study of myocardium revealed hyperemia, the stroma was found to have lymphohistiocytic infiltrates with degeneration of cardiomyocytes. The revealed morphological changes are indicative of:
- A. Non-purulent interstitial myocarditis
  - B. Venous plethora
  - C. Cardiomyoliposis
  - D. Cardiosclerosis
  - E. Myocardial infarction
12. The cellular composition of exudate largely depends on the etiological factor of inflammation. What leukocytes are the first to get into the focus of inflammation caused by pyogenic bacteria?
- A. Neutrophil granulocytes
  - B. Monocytes
  - C. Myelocytes
  - D. Eosinophilic granulocytes
  - E. Basophils

13. Histological examination of the removed skin neoplasm revealed clusters and cords of atypical cells of stratified squamous epithelium, growing into the underlying tissue. What diagnosis can be assumed?

- A. Non-keratinizing squamous cell carcinoma
- B. Keratinizing squamous cell carcinoma
- C. Carcinoma in situ
- D. Papilloma
- E. Adenoma

14. Autopsy of a 62-year-old woman revealed a dense well-circumscribed node of 6 cm in diameter in the cranial cavity. The node was attached to the dura mater and histologically consisted of clusters and micro-concentric structures of endothelial cells, psammoma bodies. What kind of tumor was found at autopsy?

- A. Meningioma
- B. Glioblastoma
- C. Medulloblastoma
- D. Melanoma
- E. Cancer metastasis

15. During the intravenous transfusion of the saline the patient's condition deteriorated dramatically, and the patient died from asphyxiation. Autopsy revealed acute venous congestion of internal organs with the dramatic right heart dilatation. When the right ventricle was punctured underwater, the bubbles escaped. What pathological process occurred in the patient?

- A. Air embolism
- B. Gaseous embolism
- C. Adipose embolism
- D. Tissue embolism
- E. Thromboembolism

122. At the post-mortem examination the stomach of a patient with renal failure was found to have a yellow-brown coating on the thickened mucosa. The coating was firmly adhering to its surface and had significant thickness. Microscopy revealed congestion and necrosis of mucosal and submucosal layers, fibrin presence. What is the most likely diagnosis?

- A. Fibrinous gastritis
- B. Croupous gastritis
- C. Gastric abscess
- D. Esogastritis
- E. Corrosive gastritis

16. Microscopy of the myocardium of a patient who had died from heart failure revealed foci of fibrinoid necrosis located diffusely in the interstitial stroma, and often around the vessels. Such foci were surrounded by lymphocytes, macrophages, histiocytes. Pericardium was found to have signs of sero-fibrinous pericarditis. What is the most likely diagnosis?

- A. Rheumatic heart disease
- B. Myocardial infarction
- C. Cardiomyopathy
- D. Cardiosclerosis
- E.

17. Microscopy of the bronchial wall revealed atrophy of the mucosa, metaplastic change from columnar to squamous epithelium, an increase in the number of goblet cells, diffuse infiltration of the bronchial wall with lymphoplasmacytic elements with a large number of neutrophilic granulocytes, pronounced sclerosis. Specify the morphological form of bronchitis:

- A. Chronic purulent bronchitis
- B. Acute bronchitis
- C. Polypoid chronic bronchitis
- D. Acute purulent bronchitis
- E. Chronic bronchitis

18. Histological examination of the biopsy material obtained from the lower third of the esophagus of a 57-year-old male with the symptoms of continuous reflux revealed the change of the stratified squamous epithelium to the single layer columnar glandular epithelium with signs of mucus production. Specify the pathological process in the mucous membrane:

- A. Metaplasia
- B. Hyperplasia
- C. Hypertrophy
- D. Organization
- E. Regeneration

19. A female patient complains of vision impairment. On examination she was found to have obesity, fasting hyperglycemia. What complication of diabetes can cause vision impairment?

- A. Microangiopathy
- B. Macroangiopathy
- C. Atherosclerosis
- D. Neuropathy
- E. Glomerulopathy

### 2014

1. A patient has hoarseness of voice. During laryngoscopy a gray-white larynx tumor with papillary surface has been detected. Microscopic investigation has shown the following: growth of connective tissue covered with multilayer, strongly keratinized pavement epithelium, no cellular atypia. What is the most likely diagnosis?

- A. Papilloma
- B. Fibroma
- C. Polyp
- D. Angioma
- E. Angiofibroma

2. During autopsy approximately 2,0 liters of pus have been found in the abdominal cavity of the corpse. Peritoneum is lustreless and has grayish shade, serous tunic of intestines has grayish-colored coating that is easily removable. Specify the most likely type of peritonitis in the patient:

- A. Fibrinopurulent peritonitis
- B. Hemorrhagic peritonitis
- C. Serous peritonitis
- D. Tuberculous peritonitis
- E. –

3. Autopsy of a dead patient revealed bone marrow hyperplasia of tubular and flat bones (pyoid marrow), splenomegaly (6 kg) and hepatomegaly (5 kg), enlargement of all lymph node groups. What disease are the identified changes typical for?

- A. Chronic myelogenous leukemia
- B. Chronic lymphocytic leukemia
- C. Multiple myeloma
- D. Polycythemia vera
- E. Hodgkin's disease

4. Autopsy of the dead patient who died from pulmonary edema revealed a large yellow-grey nidus in the myocardium, and a fresh thrombus in the coronary artery. What is the most likely diagnosis?

- A. Myocardial infarction
- B. Cardiosclerosis
- C. Myocarditis
- D. Amyloidosis
- E. Cardiomyopathy

5. A 46-year-old female patient consulted a doctor about pain in the small joints of the upper and lower limbs. The joints are enlarged and shaped like thickened nodes. Serum test revealed an increase in urate concentration. This might be caused by a disorder in metabolism of:

- A. Purines
- B. Carbohydrates
- C. Lipids
- D. Pyrimidines
- E. Amino acids

6. A male patient is 28 years old. Histological study of a cervical lymph node revealed a change of its pattern due to the proliferation of epithelioid, lymphoid cells and macrophages having nuclei in form of a horseshoe. In the center of some cell clusters there were non-structured light-pink areas with fragments of nuclei. What disease are these changes typical for?

- A. Tuberculosis
- B. Hodgkin's disease
- C. Actinomycosis
- D. Tumor metastasis
- E. Syphilis

7. During autopsy the following has been revealed: the meninges of the upper cerebral hemispheres are extremely plethoric, of yellowgreen color and are soaked with purulent effluent. What kind of meningitis is characterised by such clinical presentations?

- A. Meningococcal meningitis
- B. Tuberculous meningitis
- C. Grippal meningitis
- D. Anthrax-induced
- E. Epidemic typhus-induced

8. As a result of careless handling of an iron, a 34-year-old female patient has got acute pain, redness, swelling of her right index finger. A few minutes later, there appeared a blister filled with a transparent liquid of strawyellow color. The described changes are a manifestation of the following pathological process:

- A. Exudative inflammation
- B. Traumatic edema
- C. Alternative inflammation
- D. Proliferative inflammation
- E. Vacuolar degeneration

9. A 40-year-old patient with the progressing staphylococcal purulent periodontitis developed purulent inflammation of bone marrow spaces of the alveolar process, and then of the body of mandible. Microscopy revealed thinning of bone trabeculae, foci of necrosis, bone sequestrs surrounded by the connective tissue capsule. What is the most likely diagnosis?

- A. Chronic osteomyelitis
- B. Acute osteomyelitis
- C. Parodontome
- D. Chronic fibrous periostitis
- E. Purulent abscess

10. A 40-year-old female patient has undergone thyroidectomy. Histological study of thyroid gland found the follicles to be of different size and contain foamy colloid, follicle epithelium is high and forms papillae, there is focal lymphocytic infiltration in stroma. Diagnose the thyroid gland disease:

- A. Basedow's disease
- B. Hashimoto's thyroiditis
- C. Riedel's thyroiditis
- D. De Quervain's disease
- E. Nodular goiter

11. A 10-year-old child has painful swallowing, neck edema, temperature rise up to 39, 0oC, the whole body is covered with bright-red petechial rash. Back of the throat and tonsils are hyperemic, the tongue is crimsoncolored. Tonsillar surface is covered with isolated grayish-colored necrosis nidi. What disease is it?

- A. Scarlet fever

- B. Meningococcal nasopharyngitis
- C. Diphtheria
- D. Influenza
- E. Measles

12. A 3-year-old child with meningeal symptoms died. Postmortem macroscopy of the pia matter revealed miliarynodules which were microscopically represented by a focus of caseous necrosis with masses of epithelioid and lymphoid cells with some crescent-shaped large cells inbetween having peripheral nuclei. Specify the type of meningitis in the child:

- A. Tuberculous
- B. Syphilitic
- C. Brucellar
- D. Grippal
- E. Meningococcal

13. A patient with homogentisuria has signs of arthritis, ochronosis. In this case, the pain in the joints is associated with the deposition of:

- A. Homogentisates
- B. Urates
- C. Phosphates
- D. Oxalates
- E. Carbonates

14. In the course of puncture biopsy of transplanted kidney the following has been revealed: diffuse infiltration of stroma by lymphocytes and plasmocytes and necrotic arteritis. What pathological process has developed in the transplant?

- A. Immune rejection
- B. Ischemic kidney failure
- C. Glomerulonephritis
- D. Tubular necrosis
- E. Pyelonephritis

15. Tissue sampling of a 37-year-old male patient with chronic renal disease has revealed the following: sclerosis, lymphocytic and plasmocytic infiltration of renal pelvis and calices walls, dystrophy and atrophy of tubules. Remaining tubules are enlarged and stretched with colloid masses, epithelium is flattened out ("scutiform" or "shield-shaped" kidney). What is the most likely diagnosis?

- A. Chronic pyelonephritis
- B. Tubular interstitial nephritis
- C. Acute pyelonephritis
- D. Glomerulonephritis
- E. Nephrosclerosis

16. Autopsy of a 50-year-old male who had tuberculosis revealed a dense gray-white nidus in form of a nodule 2 cm in diameter in the subpleural portion of the upper right lobe. The pleura in this region was thickened, in the pleural cavity there was a small amount of serous hemorrhagic fluid. Histological study of the region revealed some glandular structures with signs of cellular atypia and abnormal mitoses, which were found within the fibrous connective tissue. What other pathology had developed in the lungs?

- A. Adenocarcinoma
- B. Squamous cell carcinoma
- C. Adenoma
- D. Fibrosarcoma
- E. Fibroma

17. On the 24th day since the onset of disease, a male patient diagnosed with typhoid fever and undergoing treatment in an infectious diseases hospital has suddenly developed clinical presentations of acute abdomen leading to the death of the patient. During autopsy peritonitis has been revealed, with numerous ulcers covering the colon mucosa and reaching as deep as muscular and, in places, serous tunic. The ulcers have smooth edges and even floor. The intestinal wall is perforated. What stage of typhoid fever has the lethal complication arisen at?

- A. Clean ulcer
- B. Medullary swelling
- C. Necrosis
- D. Dirty ulcer
- E. Regeneration

18. Autopsy has revealed shrunken kidneys weighing 50 mg, with finegrained surface and uniformly thinned substance. Microscopic investigation has shown the thickening of arteriole walls due to accumulation of homogeneous anhistc pink-coloured masses in them. Glomerules were undersized, sclerotic, with atrophied tubules. What disease are these changes characteristic of?

- A. Essential hypertension
- B. Pyelonephritis with kidney shrinkage
- C. Renal amyloidosis
- D. Acute glomerulonephritis
- E. Membranous nephropathy

19. Histological examination of biopsy samples taken from the thickened edges of a gastric ulcer revealed small clusters of small, markedly atypical hyperchromatic epithelial cells that were localized in the overdeveloped stroma. Specify the tumor:

- A. Scirrhou undifferentiated carcinoma
- B. Medullary carcinoma
- C. Adenocarcinoma
- D. Undifferentiated sarcoma
- E. Adenoma

20. A 10-year-old child was found to have a congenital hypoplasia of the left kidney. Ultrasound examination revealed that the right kidney was markedly enlarged and had regular shape. No functional disorders were revealed. Specify the process that developed in the right kidney:

- A. Vicarious hypertrophy
- B. Working hypertrophy
- C. Hypertrophic growth
- D. Pseudohypertrophy
- E. Metaplasia

21. A 35-year-old female patient has undergone biopsy of the breast nodules. Histological examination has revealed enhanced proliferation of the small duct and acini epithelial cells, accompanied by the formation of glandular structures of various shapes and sizes, which were located in the fibrous stroma. What is the most likely diagnosis?

- A. Fibroadenoma
- B. Adenocarcinoma
- C. Cystic breast
- D. Invasive ductal carcinoma
- E. Mastitis

22. A patient underwent surgical removal of a cavitory liver lesion 2 cm in diameter. It was revealed that the cavity wall was formed by dense fibrous connective tissue; the cavity contained muddy, thick, yellowishgreenish fluid with an unpleasant odor. Microscopically, the fluid consisted mainly of polymorphonuclear leukocytes. What pathological process are these morphological changes typical for?

- A. Chronic abscess
- B. Acute abscess
- C. Phlegmon
- D. Empyema
- E. –

23. A 7-year-old boy got ill with diphtheria. On the third day he died of asphyxiation. At autopsy the mucosa of the larynx, trachea and bronchi had thickened, edematous, lustreless appearance and was covered with gray films which could be easily removed. Specify the type of laryngeal inflammation:

- A. Croupous

- B. Diphtheritic
- C. Purulent
- D. Catarrhal
- E. Intermediate

**2015**

1. Histologic specimen of a kidney demonstrates cells closely adjoined to the renal corpuscle in the distal convoluted tubule. Their basement membrane is extremely thin and has no folds. These cells sense the changes in sodium content of urine and influence renin secretion occurring in juxtaglomerular cells. Name these cells:

- A. Macula densa cells
- B. Juxtaglomerular cells
- C. Mesangial cells
- D. Podocytes
- E. Glomerular capillary endothelial cells

2. A 67-year-old patient with clinical diagnosis of chronic bronchitis, pneumosclerosis, and cardiopulmonary decompensation has the biopsy material taken from the suspicious area in his right bronchus mucosa. Cellular and tissue atypism along with pearly bodies can be histologically detected. What pathologic process is characterized by the described histological changes?

- A. Squamous cell carcinoma of bronchus with keratinization
- B. Polypoid chronic bronchitis
- C. Bronchiectasis
- D. Acute bronchitis
- E. Squamous cell metaplasia of bronchial mucosa

3. Autopsy of a man who had tuberculosis revealed a 3x2 cm large cavity in the superior lobe of the right lung. The cavity was interconnected with a bronchus, its wall was dense and consisted of three layers: the internal layer was pyogenic, the middle layer was made of tuberculous granulation tissue and the external one was made of connective tissue. What is the most likely diagnosis?

- A. Fibrous cavernous tuberculosis
- B. Fibrous focal tuberculosis
- C. Tuberculoma
- D. Acute focal tuberculosis
- E. Acute cavernous tuberculosis

4. A 7-year-old child has acute onset of disease: temperature rise up to 38°C, rhinitis, cough, lacrimation, and large-spot rash on the skin. Pharyngeal mucosa is edematous, hyperemic, with whitish spots in the buccal area. What kind of inflammation causes the changes in the buccal mucosa?

- A. Catarrhal inflammation
- B. Suppurative inflammation
- C. Fibrinous inflammation
- D. Hemorrhagic inflammation
- E. Serous inflammation

5. A 12-year-old child has developed nephritic syndrome (proteinuria, hematuria, cylindruria) 2 weeks after the case of tonsillitis, which is a sign of affected glomerular basement membrane in the kidneys. What mechanism is the most likely to cause the basement membrane damage?

- A. Immune complex
- B. Granulomatous
- C. Antibody-mediated
- D. Reaginic
- E. Cytotoxic

6. A child is 10 years old. The following presentations have developed: sharp pain during swallowing, swollen neck, body temperature rise up to 39.0°C, bright-red finely papular rash all over the body. Pharynx and tonsils are

sharply hyperemic ("flaming pharynx"), "crimson tongue". On the tonsils surface there are isolated greyish necrosis foci. What disease it might be?

- A. Scarlet fever
- B. Meningococcal nasopharyngitis
- C. Diphtheria
- D. Influenza
- E. Measles

7. During histological analysis of the lymph node situated in the posterior neck triangle of an 18-year-old patient a morphologist detected a cluster of cells including the following: isolated multinucleate Reed-Sternberg cells, large and small Hodgkin's cells and numerous lymphocytes, isolated plasma cells, eosinophils. What disease has developed in the patient?

- A. Lymphogranulomatosis
- B. Nodular lymphoma
- C. Burkitt's lymphoma
- D. Lymphocytic lymphoma
- E. Chronic lymphocytic leukemia

8. A 39-year-old man who had been operated for the stomach ulcer died 7 days after the surgery. Autopsy revealed that peritoneal leaves were dull, plephoric, covered with massive yellow-greenish films, the peritoneal cavity contained about 300 ml of thick yellow-greenish liquid. What pathologic process was revealed in the peritoneal cavity?

- A. Fibrinous suppurative peritonitis
- B. Serous peritonitis
- C. Fibrinous serous peritonitis
- D. Peritoneal adhesions
- E. Fibrinous haemorrhagic peritonitis

9. Acute renal impairment caused death of a patient with hemorrhage. Autopsy revealed enlarged kidneys with broad pale pink cortical layer expressively demarcated from dark-red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of convoluted tubules, tubular necrosis, hyaline casts. The cell nuclei of choroid glomerulus and straight tubules were present. What pathology is it?

- A. Necronephrosis
- B. Infarction
- C. Glomerulonephritis
- D. Pyelonephritis
- E. Nephrosis

10. A 3-year-old child with meningeal symptoms died. Postmortem macroscopy of the pia mater revealed miliary nodules which were microscopically represented by a focus of caseous necrosis with masses of epithelioid and lymphoid cells with large cells containing crescent-shaped peripheral nuclei situated between them. Specify the type of meningitis in the child:

- A. Tuberculous
- B. Syphilitic
- C. Brucellar
- D. Grippal
- E. Meningococcal

87. 2 days after labour a woman developed shock along with DIC syndrome that caused her death. Autopsy revealed purulent endomyometritis, regional purulent lymphangitis, lymphadenitis and purulent thrombophlebitis. There were also dystrophic alterations and interstitial inflammation of parenchymal organs. What is the most likely diagnosis?

- A. Septicemia
- B. Syphilis
- C. Tuberculosis of genital organs
- D. Chorioadenomastrius
- E. Hydatid mole

11. 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 blurred margins and areas of haemorrhage. Histologically this tumour consisted of atypical monomorphous small round cells with large polymorphous nuclei. What tumour is it?

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

12. A patient with high-titer antinuclear antibodies died from progressing renal impairment. Autopsy revealed mesangioproliferative glomerulonephritis and abacterial polypous endocarditis. Periarterial bulbar sclerosis was detected in spleen and productive proliferative vasculitis in skin. What is the most likely diagnosis?

- A. Systemic lupus erythematosus
- B. Nephrotic syndrome
- C. Rheumatism
- D. Dermatomyositis
- E. Periarteritis nodosa

13. During intravenous saline transfusion a patient's condition deteriorated drastically, and the patient died from asphyxiation. Autopsy revealed acute venous congestion of internal organs with sharp right heart dilatation. When the right ventricle was punctured underwater, the bubbles escaped. What pathological process occurred in the patient?

- A. Air embolism
- B. Gaseous embolism
- C. Adipose embolism
- D. Tissue embolism
- E. Thromboembolism

14. A 65-year-old man suddenly lost vision in one eye due to the retinal detachment. The patient underwent enucleation. Histological examination of the removed eye retina and choroid revealed clusters of atypical cells with marked polymorphism of cells and nuclei, with a moderate number of mitoses including the pathological ones. The cell cytoplasm and intercellular medium contained brown pigment resulting in positive DOPA reaction. Perls' reaction was negative. What is the most likely diagnosis?

- A. Melanoma
- B. Pigmented mole
- C. Hemorrhage
- D. Cysticercosis
- E. Wilson's disease

15. An HIV-positive patient's cause of death is acute pulmonary insufficiency resulting from pneumonia. Pathohistological investigation of lungs has revealed interstitial pneumonia, alveolocyte desquamation and metamorphoses: alveolocyte enlargement, large intranuclear inclusions surrounded by lightly-coloured areas. Transformed cells resemble owl's eye. Name the causative agent of pneumonia:

- A. Cytomegalovirus
- B. Pneumococcus
- C. Influenza virus
- D. Candida fungi
- E. Toxoplasma

16. A 54-year-old woman was brought to a casualty department after a car accident. A traumatologist diagnosed her with multiple fractures of the lower extremities. What kind of embolism is most likely to develop in this case?

- A. Adipose
- B. Tissue
- C. Thromboembolism
- D. Gaseous
- E. Air

17. A patient has undergone surgical removal of a cavitory liver lesion 2 cm in diameter. It was revealed that the cavity wall was formed by dense fibrous connective tissue; the cavity contained murky thick yellowish-green fluid with an unpleasant odor. Microscopically the fluid consisted mainly of polymorphonuclear leukocytes. What pathological process are these morphological changes typical for?
- A. Chronic abscess
  - B. Acute abscess
  - C. Phlegmon
  - D. Empyema
  - E. –
144. A 43-year-old patient suffers from acute pancreatitis with disrupted common bile duct patency. What condition can develop in this case?
- A. Mechanical jaundice
  - B. Hemolytic jaundice
  - C. Hepatocellular jaundice
  - D. Hepatic coma
  - E. Portal hypertension
18. A 25-year-old patient complains of increasing pain in his leg muscles occurring during walking and forcing him to make frequent stops. Objectively: skin of legs is pale, no hair-covering, toenails are with trophic changes, no pulsation of pedal arteries. The most probable cause of these changes is:
- A. Ischemia
  - B. Venous hyperemia
  - C. Arterial hyperemia
  - D. –
  - E. Embolism
19. A woman complains of visual impairment. Examination revealed obesity in the patient and her fasting plasma glucose level is hyperglycemic. What diabetes complication can cause visual impairment/blindness?
- A. Microangiopathy
  - B. Macroangiopathy
  - C. Atherosclerosis
  - D. Neuropathy
  - E. Glomerulopathy
20. A 53-year-old man suffering from diabetes mellitus has developed a painful conical induration, bluish-red with yellow center, on the skin of his neck. Such changes are characteristic of:
- A. Furuncle
  - B. Abscess
  - C. Carbuncle
  - D. Phlegmon
  - E. Empyema
21. During pathomorphological kidney investigation of a patient, who for a long time had been suffering from osteomyelitis and died from progressing renal failure, the following was revealed: deposits of homogeneous eosinophilic masses in glomerular mesangium, arterial and arteriolar walls, and stroma, which became red when stained with Congo red. What pathological process is this?
- A. Amyloidosis
  - B. Mucoïd swelling
  - C. Calcinosis
  - D. Carbohydrate degeneration
  - E. Hyalinosis
22. A 49-year-old man complains of pain in his metatarsophalangeal joints and joint deformation. In bloodhyperuricemia can be observed. X-ray has revealed metatarsophalangeal joint space narrowing, erosion, periarticular calcification of the both joints, osteoporosis. Microscopy has revealed inflammatory granulomatous

reaction surrounding necrotizing masses in the area of the first metatarsophalangeal joint. Choose the most likely diagnosis: A. Gout (podagra)

- B. Pyrophosphate arthropathy
- C. Rheumatoid arthritis
- D. Hyperparathyroidism
- E. Urolithiasis

23. Granulomas containing lymphocytes and macrophages were detected during analysis of skin biopsy material. Among macrophages there are large cells with fat inclusions, which contain microorganisms in spheric packages (Virchow's cells). The following disease is based on the described type of hypersensitivity:

- A. Leprosy
- B. Syphilis
- C. Tuberculosis
- D. Rhinoscleroma
- E. Epidemic typhus

24. During autopsy of a 9-month-old girl's body, who died due to severe pneumonia complicated with sepsis, lack of thymus is observed. In the lymph nodes the lymphoid follicles and cortical substance are absent; follicles of spleen are reduced in size with Крок 1 Medicine (англомовнийваріант, іноземністуденти) 2015 рік 20 no light zones and plasma cells. What is the cause of such structural changes?

- A. Thymus agenesis
- B. Accidental involution of thymus
- C. Thymus hypoplasia
- D. Thymus atrophy
- E. Thymus aplasia

25. A patient with femoral neck fracture, who for a long time had to remain in bed in a forced (supine) position, has developed dark-brown lesions along the backbone; soft tissues are swollen, in the areas of maceration there is a foul-smelling liquid. Name the clinicopathologic type of necrosis:

- A. Bedsore
- B. Infarction
- C. Sequestrum
- D. Coagulation necrosis
- E. Dry gangrene

## 2016

1. A patient has hoarseness of voice. During laryngoscopy a gray-white larynx tumor with papillary surface has been detected. Microscopic investigation has shown the following: growth of connective tissue covered with multilayer, strongly keratinized pavement epithelium, no cellular atypia. What is the most likely diagnosis?

- A. Papilloma
- B. Fibroma
- C. Polyp
- D. Angioma
- E. Angiofibroma

2. During autopsy approximately 2,0 liters of pus have been found in the abdominal cavity of the body. Peritoneum is dull and of grayish shade, serous tunic of intestines has grayish-colored coating that is easily removable. Specify the most likely type of peritonitis in the patient:

- A. Fibrinopurulent peritonitis
- B. Hemorrhagic peritonitis
- C. Serous peritonitis
- D. Tuberculous peritonitis
- E. –

- 3.** Autopsy of a body revealed bone marrow hyperplasia of tubular and flat bones (pyoid marrow), splenomegaly (6 kg) and hepatomegaly (5 kg), enlargement of all lymph node groups. What disease are the identified changes typical of?
- A.** Chronic myelogenous leukemia
  - B.** Chronic lymphocytic leukemia
  - C.** Multiple myeloma
  - D.** Polycythemia vera
  - E.** Hodgkin's disease
- 4.** A 60-year-old patient with a long history of atherosclerosis and a previous myocardial infarction developed an attack of retrosternal pain. 3 days later the patient was hospitalized and then died of progressive cardiovascular insufficiency. During autopsy a white fibrous depressed area about 3 cm in diameter with clear margins was found within the area of posterior wall of the left ventricle and interventricular septum. The dissector considered these changes to be:
- A.** Focal cardiosclerosis
  - B.** Myocardial ischemia
  - C.** Myocardial infarction
  - D.** Myocarditis
  - E.** Myocardial degeneration
- 5.** A man is 28 years old. Histological investigation of the cervical lymph node revealed a change of its pattern due to proliferation of epithelioid, lymphoid cells and macrophages with horseshoe-shaped nuclei. In the center of some cell clusters there were non-structured light-pink areas with fragments of nuclei. What disease are these changes typical of?
- A.** Tuberculosis
  - B.** Hodgkin's disease
  - C.** Actinomycosis
  - D.** Tumor metastasis
  - E.** Syphilis
- 6.** A patient, having suffered a thermal burn, developed painful boils filled with turbid liquid in the skin. What morphological type of inflammation has developed in the patient?
- A.** Serous
  - B.** Proliferative
  - C.** Croupous
  - D.** Granulomatous
  - E.** Diphtheritic
- 7.** Autopsy of a man with tuberculosis revealed a 3x2 cm large cavity in the superior lobe of the right lung. The cavity was interconnected with a bronchus, its wall was dense and consisted of three layers: the internal layer was pyogenic, the middle layer was made of tuberculous granulation tissue and the external one was made of connective tissue. What is the most likely diagnosis?
- A.** Fibrous cavernous tuberculosis
  - B.** Fibrous focal tuberculosis
  - C.** Tuberculoma
  - D.** Acute focal tuberculosis
  - E.** Acute cavernous tuberculosis
- 8.** A 7-year-old child has acute onset of disease: temperature rise up to 38°C, rhinitis, cough, lacrimation, and large-spot rash on the skin. Pharyngeal mucosa is edematous, hyperemic, with whitish spots in the buccal area. What kind of inflammation caused the changes in the buccal mucosa?
- A.** Catarrhal inflammation
  - B.** Suppurative inflammation
  - C.** Fibrinous inflammation
  - D.** Hemorrhagic inflammation
  - E.** Serous inflammation

- 9.** During autopsy of a man, who died of acute transmural cardiac infarction, the following has been detected on the pericardium surface: fibrous whitish-brown deposit connecting parietal and visceral pericardial layers. What kind of inflammation occurred in the pericardium?
- A.** Croupous
  - B.** Diphtheritic
  - C.** Serous
  - D.** Suppurative
  - E.** Granulomatous
- 10.** A 12-year-old child developed nephritic syndrome (proteinuria, hematuria, cylindruria) 2 weeks after a case of tonsillitis, which is a sign of affected glomerular basement membrane in the kidneys. What mechanism is the most likely to cause the basement membrane damage?
- A.** Immune complex
  - B.** Granulomatous
  - C.** Antibody-mediated
  - D.** Reaginic
  - E.** Cytotoxic
- 11.** A 63-year-old man, who has been suffering from chronic fibrous-cavernous pulmonary tuberculosis for 24 years, has been delivered to a nephrology department with uremia. Intravital diagnostic test for amyloid in the kidneys was positive. What amyloidosis is it in this case?
- A.** Secondary systemic
  - B.** Primary systemic
  - C.** Localized (focal)
  - D.** Hereditary (genetic)
  - E.** Senile
- 12.** Autopsy of a Middle-Eastern woman, who had been suffering from wasting fever for a long time, revealed enlarged blackened liver and spleen. Bone marrow was hyperplastic and black-colored as well. Cerebral cortex was smoky grey. What disease is it characteristic of?
- A.** Malaria
  - B.** AIDS
  - C.** Epidemic typhus
  - D.** Sepsis
  - E.** Hepatitis
- 13.** A patient hospitalized due to mercury intoxication presents with the following processes in the kidneys: focal necrotic changes of tubules of major renal regions, edema, leukocyte infiltration and hemorrhages in the interstitial tissue, venous congestion. What condition developed in the patient?
- A.** Acute necrotic nephrosis
  - B.** Acute glomerulonephritis
  - C.** Chronic renal failure
  - D.** Acute pyelonephritis
  - E.** Chronic pyelonephritis
- 14.** On histological examination of uterine mucosa the following is detected: sinuous glands, serratiform and corkscrew-shaped elongated growths of stroma with cell proliferation. Make the diagnosis:
- A.** Glandular endometrial hyperplasia
  - B.** Acute endometritis
  - C.** Leiomyoma
  - D.** Vesicular mole
  - E.** Placental polyp
- 15.** Autopsy of a 40-year-old woman, who died of cerebral hemorrhage during hypertensive crisis, revealed: upperbody obesity, hypertrichosis, hirsutism, stretchmarks on the skin of thighs and abdomen. Pituitary basophil adenoma is detected in the anterior lobe. What diagnosis is the most likely?
- A.** Cushing's disease

- B. Essential hypertension
- C. Alimentary obesity
- D. Simmonds' disease
- E. Hypothalamic obesity

**16.** A worker of an agricultural enterprise had been suffering from an acute disease with aggravating intoxication signs, which resulted in his death. On autopsy: the spleen is enlarged, flaccid, dark cherry-red in the section, yields excessive pulp scrape. Soft meninges of fornix and base of the brain are edematous and saturated with blood ("cardinal's cap"). Microscopically: serous hemorrhagic inflammation of meninges and cerebral tissues. Make the diagnosis:

- A. Anthrax
- B. Tularemia
- C. Plague
- D. Cholera
- E. Brucellosis

**17.** Autopsy of an 8-month-old boy, who died of severe pneumonia complicated with sepsis, revealed absence of thymus. Lymph nodes have no lymphoid follicles and cortical substance. In the spleen the follicles are decreased in size and have no light centers. What is the cause of such changes?

- A. Thymus agenesis
- B. Thymus aplasia
- C. Thymus atrophy
- D. Thymus hypoplasia
- E. Accidental thymic involution

**18.** A patient died of cancerous cachexia with primary localization of cancer in the stomach. Autopsy revealed acutely enlarged liver with uneven surface and numerous protruding nodes; the nodes had clear margins in the section, rounded shape, gray-pink color, varying density, sometimes contained necrotic foci. Histologically: there are atypical cells in the nodes. What pathologic process occurred in the liver?

- A. Cancer metastases
- B. Abscesses
- C. Regenerative nodes
- D. Infarction
- E. Hepatic cancer

**19.** Autopsy of a 5-year-old child revealed in the area of the vermis of cerebellum a soft grayish-pink node 2 cm in diameter with blurred margins and areas of haemorrhage. Histologically this tumour consisted of atypical monomorphous small round cells with large polymorphous nuclei. What tumour is it?

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

**122.** At the post-mortem examination the stomach of a patient with renal failure was found to have a yellow-brown coating on the thickened mucosa. The coating was firmly adhering to its surface and had significant thickness. Microscopy revealed congestion and necrosis of mucosal and submucosal layers, fibrin presence. What is the most likely diagnosis?

- A. Fibrinous gastritis
- B. Croupous gastritis
- C. Gastric abscess
- D. Esogastritis
- E. Corrosive gastritis

**20.** Autopsy of a 28-year-old patient, who had been suffering from rheumatism and died of heart failure, revealed pancarditis. Histological investigation of myocardium of the left ventricle posterior wall and interventricular septum detected perivascular cellular focal infiltrates composed of macrophages and creating palisade structures surrounding areas of fibrinoid necrosis. Determine the type of myocarditis:

- A. Granulomatous
- B. Diffuse interstitial productive
- C. Diffuse interstitial exudative
- D. Focal interstitial exudative
- E. –

**21.** A woman complains of visual impairment. Examination revealed obesity in the patient and her fasting plasma glucose level is hyperglycemic. What diabetes complication can cause visual impairment/blindness?

- A. Microangiopathy
- B. Macroangiopathy
- C. Atherosclerosis
- D. Neuropathy
- E. Glomerulopathy

**22.** During pathomorphological renal investigation of a patient, who for a long time had been suffering from osteomyelitis and died of progressing renal failure, the following was revealed: deposits of homogeneous eosinophilic masses in glomerular mesangium, arterial and arteriolar walls, and stroma, which colored red when stained with Congo red. What pathological process is this?

- A. Amyloidosis
- B. Muroid swelling
- C. Calcinosis
- D. Carbohydrate degeneration
- E. Hyalinosis

**23.** A patient with femoral neck fracture, who for a long time had to remain in bed in a forced (supine) position, has developed dark-brown lesions along the backbone; soft tissues are swollen, in the areas of maceration there is a foul-smelling liquid. Name the clinicopathologic type of necrosis:

- A. Bedsore
- B. Infarction
- C. Sequestrum
- D. Coagulation necrosis
- E. Dry gangrene