

**TESTS IN PATHOLOGICAL ANATOMY FOR ENGLISH-MEDIUM STUDENTS OF DENTISTRY FACULTY  
EXAM “KROK-1. DENTISTRY”  
2014, 2015, 2016**

**Attention! Correct answers are under letter “A”**

**2014**

Histologically, the internal wall of a maxillary cyst is lined with stratified squamous epithelium with underlying granulation tissue with infiltrating lymphocytes. The outer layer is represented by loose fibrous connective tissue surrounded by cicatrical fibrous tissue. What diagnosis can be made?

- A. Cystic granuloma
- B. Simple granuloma
- C. Epithelial granuloma
- D. Keratocyst
- E. Ameloblastoma

Examination of a patient revealed a hard palate tumor in form of a small dense gray node without clear boundaries. Histological study of the tumor after its removal revealed the following peculiarities: the tumor was constituted by small cubic cells with hyperchromatic nucleus forming alveoli, trabeculae, solid and cribriform structures. The tumor growth could be characterized as invasive. Specify the tumor:

- A. Adenoid cystic carcinoma
- B. Malignant pleomorphic adenoma
- C. Mucoepidermoid carcinoma
- D. Adenolymphoma
- E. Monomorphic adenoma

A 28-year-old patient had been diagnosed with multifragmental fracture of the right hip. On the third day after the injury he began to complain of pain in the right side of chest, difficult respiration. A day later the patient died of progressive heart and respiratory failure. Histological study of pulmonary and cerebral blood vessels revealed orange sudanophilic droplets that completely obstructed the vessels of microvasculature. What complication caused the death of the patient?

- A. Fat embolism
- B. Gas embolism
- C. Drug-induced embolism
- D. Microbial embolism
- E. Thromboembolism

A patient underwent radiography that revealed numerous smooth-walled roundish defects in both jaws. Histological study revealed osteolysis and osteoporosis accompanied by the phenomena of poor bone formation. The patient's urine contained Bence-Jones protein. What is the most likely diagnosis?

- A. Multiple myeloma
- B. Chronic myelogenous leukemia
- C. Chronic erythroleukemia
- D. Acute myeloid leukemia
- E. Acute undifferentiated leukemia

A 53-year-old patient with a long history of nephrolithiasis underwent nephrectomy. The kidney looks as a thin-walled sac filled with urine. Renal parenchyma is atrophied. Specify this complication of nephrolithiasis:

- A. Hydronephrosis
- B. Pyelonephritis
- C. Pyonephrosis
- D. Multicystic kidney disease
- E. Nephrosclerosis

During anesthesia of the oral mucosa a 37-year-old patient has had anaphylactic reaction (widespread vasodilation, increased vascular permeability with liquid exiting the blood vessels and penetrating in the tissues). What type of hypersensitivity reaction occurred in the patient?

- A. Type I (anaphylactic)
- B. Type II (antibody-dependent)
- C. Type III (immune complex)
- D. Type IV (cell cytotoxicity)
- E. Type V (granulomatosis)

A 36-year-old patient with a several year history of chronic pulpitis had undergone tooth extraction. Microscopic examination of the pulp revealed some deep-purple structureless areas which can be interpreted as:

- A. Dystrophic calcification
- B. Metabolic calcification
- C. Metastatic calcification
- D. Lithiasis
- E. Dental tartar

Examination of a 29-year-old patient revealed a dense, immobile, ill-defined tumor-like formation in the lower jaw. The overlying mucosa was pale. Biopsy of the neoplasm revealed osteoid structures lined with atypical osteoblasts; numerous pathologic mitotic figures; a great number of thinwalled vessels. What is the most likely diagnosis?

- A. Osteosarcoma
- B. Osteoblastoclastoma
- C. Exacerbation of chronic osteomyelitis
- D. Ameloblastoma
- E. Primary jaw carcinoma

Microscopic examination of a skin tumor revealed that it invaded the underlying tissue, destroyed it and formed nests and cords of atypical epithelium which included some pearl-like formations. Specify the tumor:

- A. Keratinizing squamous cell carcinoma
- B. Squamous cell non-keratinizing carcinoma
- C. Solid carcinoma
- D. Adenocarcinoma
- E. Medullary carcinoma

A 38-year-old female patient complains of bleeding gums, halitosis, exposure of tooth necks. Objectively: the patient has gingivitis, plaque and tartar. Inflammation involves the alveolar part of gingiva with dental pockets. The bone tissue exhibits signs of bone resorption. What pathology does the patient have?

- A. Parodontitis
- B. Periostitis
- C. Periodontitis
- D. Gingivitis
- E. -

A 9-year-old child has multiple lesions of the oral mucosa in form of small painful hyperemic sores with a white deposit in the center; enlarged and painful submandibular lymph nodes. Microscopic examination of the affected region revealed a superficial defect covered by fibrin; edematous and hyperemic submucosa with inflammatory infiltration. What is the most likely diagnosis?

- A. Aphthous stomatitis
- B. Hypertrophic stomatitis
- C. Herpetic stomatitis
- D. Catarrhal gingivitis
- E. -

After restoration of maxillary incisors with artificial crowns a 44-year-old female was found to have a brownish overgrowth in form of a nodule of 15 mm in diameter. Histological study revealed that under the stratified squamous epithelium of gingiva there was a connective tissue mass with numerous sinusoidal vessels, oval-shaped mononuclear cells forming osteoid substance, and polynuclear giant cells that destroyed the alveolar ridge of the upper jaw. What is the most likely diagnosis?

- A. Giant cell epulis
- B. Fibromatous epulis
- C. Angiomatous epulis
- D. Gingival fibromatosis
- E. Eosinophilic granuloma

The surgically excised connective tissue of the deformed mitral valve gives a basophilic reaction when stained with hematoxylin and eosin. When stained with toluidine blue, it turns purple (metachromasia). What changes of the connective tissue can be detected by these reactions?

- A. Mucoïd edema
- B. Fibrinoid necrosis of connective tissue
- C. Connective tissue edema
- D. Petrification
- E. Hyalinosis

A 31-year-old patient has deep caries of the fifth maxillary tooth on the right. Acute purulent inflammation in the region of the tooth apex has developed. There is marked edema with isolated neutrophils in the

perifocal tissues and soft tissues of cheek and palate. Diagnose the pathologic process in the soft tissues of cheek and palate:

- A. Acute serous inflammation
- B. Acute suppurative periodontitis
- C. Acute suppurative periostitis
- D. Phlegmon
- E. -

Autopsy of a dead man with no fixed abode revealed the aneurysm of the ascending aorta. Microscopy of the middle tunica of aorta revealed lymphocytic inflammatory infiltrates, plasma cells, fibroblast cells with some Pirogov-Langhans cells, endovasculitis. What disease should be suspected?

- A. Syphilis
- B. Atherosclerosis
- C. Rheumatism
- D. Essential hypertension
- E. Tuberculosis

A 12-year-old girl has a bleeding ulcer 5 mm in diameter which is localized on the mouth floor. The ulcer is surrounded by bright-red tissue that turns white when pressed. Microscopic examination of a biopsy sample reveals a tumor constituted by a number of large cavities filled with blood. The cavities are lined with endothelial cells. Between the cavities there is stroma represented by the loose connective tissue. What is the most likely diagnosis?

- A. Ulcerated cavernous hemangioma
- B. Secondary rhabdomyosarcoma
- C. Squamous cell non-keratinizing carcinoma
- D. Osteoblastoclastoma
- E. Ulcerated melanoma

A 47-year-old patient with symptoms of severe intoxication and respiratory failure died. A section of lung tissue had a mottled pattern with multiple small focal hemorrhages and foci of emphysema. Histological examination revealed hemorrhagic bronchopneumonia accompanied by abscess; the cytoplasm of bronchial epithelial cells had eosinophil and basophil inclusions. According to the section analysis, make your diagnosis:

- A. Influenza
- B. Adenovirus infection
- C. Parainfluenza
- D. Respiratory syncytial
- E. Staphylococcal bronchopneumonia

A 64-year-old male patient died with symptoms of acute cardiovascular failure. Autopsy results: the section of the anterior wall of the left ventricle showed a yellowish flaccid 1,5-2 cm focus surrounded by a reddish rim. The convoluted coronary arteries had lumen irregularly narrowed by 75%. The vessel intima was thickened, dense, covered with whitish plaques, crunched when cut. What disease can you think of?

- A. Acute myocardial infarction
- B. Continuously recurrent myocardial infarction
- C. Postinfarction cardiosclerosis
- D. Microfocal cardiosclerosis
- E. Recurrent myocardial infarction

During an abdominal surgery a 46-year-old patient working at a meat processing plant was found to have a very dense roundish formation 11 cm in diameter which was localized in the right lobe of the liver. The cross-section of the formation has a porous appearance due to a large number of small vesicles with layers of dense connective tissue. The surrounding tissues have visible necrotic areas and proliferation of granulation tissue including many eosinophils and foreign body giant cells. What disease can be thought of in this case?

- A. Echinococcus multilocularis
- B. Malaria
- C. Hepatitis
- D. Hepatic rhabdomyosarcoma
- E. Calculous cholecystitis

A 45-year-old patient with an 8-year history of tuberculosis died in a hospital of chronic renal failure. At autopsy, the kidneys were enlarged, the cross-section surface looked greasy, histological study revealed profuse deposits of structureless homogeneous eosinophilic masses exhibiting marked metachromasia when stained with Congo red. What pathological process developed in the kidneys?

- A. Secondary amyloidosis
- B. Hematogenous renal tuberculosis
- C. Acute glomerulonephritis
- D. Toxic nephritis against the background of antibiotic therapy

## E. Nephrosclerosis

Autopsy of a dead 6-year-old child revealed a marked edema of the soft tissues of neck and enlarged tonsils. Pharyngeal mucosa was covered with numerous dense whitish-yellow pellicles exposing deep ulcers after their removal. Histological examination of the pharyngeal mucosa revealed necrosis of the upper epithelial layers, impregnation of the mucous membrane with the fibrinous exudate and moderate leukocyte infiltration. What infectious disease caused the death of the child?

- A. Diphtheria
- B. Parainfluenza
- C. Scarlet fever
- D. Whooping cough
- E. Measles

A 69-year-old male patient got a small plaque with subsequent ulceration on the skin of the lower eyelid. The formation was removed. Microscopic examination of dermis revealed complexes of atypical epithelial cells arranged perpendicularly to the basal membrane on the periphery. The cells were dark, of polygonal prismatic shape with hyperchromic nuclei with a high mitotic rate. What is the histological form of carcinoma in this patient?

- A. Basal cell carcinoma
- B. Keratinizing squamous cell carcinoma
- C. Nonkeratinizing squamous cell carcinoma
- D. Adenocarcinoma
- E. Undifferentiated carcinoma

A 35-year-old female patient has HIV at the AIDS stage. On the skin of the lower extremities and palatine mucosa there appeared rusty red spots, bright red nodules of various sizes. One of the nodules was taken for histological study. It revealed a lot of randomly distributed thin-walled vessels lined with endothelium, the bundles of spindle cells containing hemosiderin. What kind of tumor developed in the patient?

- A. Kaposi's sarcoma
- B. Hemangioma
- C. Burkitt's lymphoma
- D. Lymphangioma
- E. Fibrosarcoma

A dentist examined a 5-year-old boy and found him to have a saddle nose, high-arched palate, natiform skull. Both front maxillary incisors are peg-shaped and have a crescent-shaped notch in the cutting edge. Lymph nodes are not changed. What is the provisional diagnosis?

- A. Late congenital syphilis
- B. Early congenital syphilis
- C. Tertiary syphilis
- D. Fluorosis
- E. Rickets

Microscopic examination of the biopsy sample taken from a deformed upper jaw bone revealed areas of bone resorption and replacement of bone tissue by randomly arranged bundles of mature collagen fibers with spindle and stellate cells; primitive structure of trabeculae; myxomatous foci. What is the most likely diagnosis?

- A. Fibrous osteodysplasia
- B. Osteoma
- C. Osteoblastosarcoma
- D. Osteoporosis
- E. Osteosarcoma

A 35-year-old patient complains of pain in the upper jaw, bleeding, a slight loosening of teeth. He has been diagnosed with periodontitis. What is a typical pathological process in this case?

- A. Inflammation
- B. Bleeding
- C. Caries
- D. Pain
- E. Redness

## 2015

A 7-year-old child suffers from acute disease. A pediatrician observed the following during examination: pharynx mucosa is hyperemic, edematous, swollen, covered with large amount of mucus. Buccal mucosa has whitish discoloured spots. On the next day the child came out in rash with large spots covering the skin of his face, neck and torso. What kind of inflammation causes changes in pharynx mucosa?

- A. Catarrhal
- B. Serous
- C. Serofibrinous
- D. Fibrinous
- E. Hemorrhagic

Histological examination of the grayish pink elastic nodule of 0,3 cm in diameter found by a surgeon at the root of the extracted tooth shows granulation tissue with cords of stratified squamous epithelium. What is the most likely diagnosis?

- A. Granulomatous periodontitis
- B. Eosinophilic granuloma
- C. Granulating pulpitis
- D. Acute apical periodontitis
- E. Granulating periodontitis

Histological examination of a lymph node removed from the posterior triangle of neck of an 18-year-old patient revealed some cell agglomerations that included single multinuclear Reed-Sternberg cells, major Hodgkin's cells, minor Hodgkin's cells and many lymphocytes, single plasmatic cells, eosinophils. What is the most likely diagnosis?

- A. Lymphogranulomatosis
- B. Nodular lymphoma
- C. Burkitts tumour
- D. Lymphocytic lymphoma
- E. Chronic lymphoid leukosis

Autopsy of a man who died from intractable hemorrhage revealed necrosis of grouped and solitary follicles, dead tissues imbued with bile and blood in the ileum; sequestration and rejection of necrotic masses with defect formation in the lower segment of the intestine. Which of the following diagnoses is most likely?

- A. Typhoid fever, ulcerative stage
- B. Typhoid fever, "clean ulcer" stage
- C. Typhoid fever, necrosis stage
- D. Abdominal typhoid salmonellosis
- E. Crohn's disease

An autopsy of the body of an aged man, who was suffering from acute intestinal disorder during his last 2 weeks, has revealed the following change in the rectum and sigmoid colon: brown and green film covering the mucosa is detected. The intestinal wall is thickened; the cavity sharply narrows down. Microscopy reveals mucosa necrosis of varying depth, necrotic tissue is pierced through with fibrin threads, leucocytic infiltration is observed. What diagnosis is most probable?

- A. Fibrinous colitis
- B. Catharrhal colon
- C. Ulcerative colitis
- D. Follicular colitis
- E. -

A 28-year-old patient had been diagnosed with multifragmental fracture of the right hip. On the third day after the injury he began to complain of pain in the right side of chest, difficult respiration. A day later the patient died of progressive heart and respiratory failure. Histological study of pulmonary and cerebral blood vessels revealed orange sudanophilic droplets that completely obstructed the vessels of microvasculature. What complication caused the death of the patient?

- A. Fat embolism
- B. Gas embolism
- C. Drug-induced embolism
- D. Microbial embolism
- E. Thromboembolism

A female patient with heavy poisoning caused by sepsis has died. "Tiger heart" was revealed during autopsy. Microscopic investigation allowed to detect lipides in the cardiac myocytes cytoplasm. What morphogenetic development mechanism is the main cause of this kind of dystrophy?

- A. Decomposition
- B. Infiltration
- C. Transformation
- D. Pathological synthesis
- E. –

A patient, who works as a milk maid has made an appointment with a dentist with complaints of aphtho-shaped rash on the mucosa of oral cavity. The doctor detected rash on her hands in the area of nail plates. What agent causes this disease?

- A. Foot-and-mouth disease virus
- B. Cytomegalovirus
- C. Vesicular stomatitis virus
- D. Herpesvirus
- E. Coxsackie B virus

A 53-year-old patient with a long history of nephrolithiasis underwent nephrectomy. The kidney looks as a thin-walled sac filled with urine. Renal parenchyma is atrophied. Specify this complication of nephrolithiasis:

- A. Hydronephrosis
- B. Pyelonephritis
- C. Pyonephrosis
- D. Multicystic kidney disease
- E. Nephrosclerosis

A histologic study of a red bone marrow puncture sample had been conducted in the course of examination of a 35-year-old patient, and significant megakaryocyte number depletion was detected. What peripheral blood changes will result from that?

- A. Thrombocytopenia
- B. Leukocytosis
- C. Thrombocytosis
- D. Agranulocytosis
- E. Leukopenia

A 25-year-old woman has died when giving birth. The histological study of her kidneys has revealed the following in the epithelium of nephron tubules: condensation of nucleus chromatin, nuclei breaking down into lumps, and lysis, along with plasmorrhaxis and cytolysis. What pathologic process was revealed in the epithelium of kidney tubules?

- A. Necrosis
- B. Hydropic degeneration
- C. Amyloidosis
- D. Fatty degeneration
- E. Hyalinosis

A 50-year-old patient has been referred for treatment of neck lymphadenitis. His individual penicillin sensitivity was tested. In 30 seconds full-body fever raised in the patient and his arterial blood pressure dropped to 0 mm Hg, followed by cardiac arrest. Resuscitation was unsuccessful. Autopsy revealed acute venous hyperemia of viscera. Histological study revealed mast cells (tissue basocytes) degranulation in the skin (at the area of injections), myocardium and lungs. What kind of hypersensitivity reaction occurred in patient?

- A. Anaphylactic
- B. Delayed-type hypersensitivity
- C. Complement-mediated cytotoxic
- D. Immune complex-mediated
- E. -

Examination of the oral mucosa revealed a small nodule with papillary surface. Histological examination revealed conjugate papillary proliferations of stratified squamous epithelium without cellular atypism and underlying stroma represented by thin-walled vessels and loose connective tissue. What formation has developed in a patient?

- A. Papilloma
- B. Fibroma
- C. Fibrolipoma
- D. Epithelium hyperplasia
- E. Basal cell carcinoma

A 9-year-old child has multiple lesions of the oral mucosa in form of small painful hyperemic sores with a white deposit in the center; enlarged and painful submandibular lymph nodes. Microscopic examination of the affected region revealed a superficial defect covered by fibrin; edematous and hyperemic submucosa with inflammatory infiltration. What is the most likely diagnosis?

- A. Aphthous stomatitis
- B. Hypertrophic stomatitis
- C. Herpetic stomatitis
- D. Catarrhal gingivitis
- E. –

An irregular-shaped dense grey and white focus has appeared on the patient's oral cavity mucosa, raising above mucosa surface. The patient considers it to be denture-caused damage of mucosa. Microscopy has revealed the following: hyperplasia, hyperkeratosis, parakeratosis, acanthosis of stratified epithelium of mucosa; underlying connective tissue has lymphoplasmacytic infiltration. What pathology is it?

- A. Leukoplakia
- B. Candidosis
- C. Ichthyosis
- D. Syphilitic papula
- E. Lupus erythematosus

After restoration of maxillary incisors with artificial crowns a 44-year-old female was found to have a brownish overgrowth in form of a node of 15 mm in diameter. Histological study revealed that under the stratified squamous epithelium of gingiva there was a connective tissue mass with numerous sinusoidal vessels, oval-shaped mononuclear cells forming osteoid substance, and multinuclear giant cells that destroyed the alveolar ridge of the upper jaw. What is the most likely diagnosis?

- A. Giant cell epulis
- B. Fibromatous epulis
- C. Angiomatous epulis
- D. Gingival fibromatosis
- E. Eosinophilic granuloma

A rounded whitish-pink tumor node with diameter of 6 cm has been removed from uterine cavity. Microscopy revealed it to consist of chaotically arranged smooth muscle fibers with large amount of stroma threaded through with nerves and blood vessels. What diagnosis is most probable?

- A. Fibromyoma
- B. Granular cell (Abrikosov's) tumor
- C. Desmoid
- D. Hibernoma
- E. Rhabdomyoma

A patient consulted an immunologist about diarrhea, weight loss within several months, low-grade fever, enlarged lymph nodes. The doctor suspected HIV infection. What immunocompetent cells must be studied in the first place?

- A. Helper T-lymphocytes
- B. Suppressor T-lymphocytes
- C. B-lymphocytes
- D. Monocytes
- E. Plasma cells

Preventive examination of a 55-year-old patient revealed type II diabetes mellitus. An endocrinologist revealed an increase in body weight and liver enlargement. The man is non-smoker and doesn't abuse alcohol but likes to have a good meal. Histological examination by means of diagnostic liver puncture revealed that the hepatocytes were enlarged mostly on the lobule periphery, their cytoplasm had transparent vacuoles showing positive reaction with Sudan III. What liver pathology was revealed?

- A. Fatty hepatosis
- B. Acute viral hepatitis
- C. Chronic viral hepatitis
- D. Alcohol hepatitis
- E. Portal liver cirrhosis

A 64-year-old male patient died with symptoms of acute cardiovascular failure. Autopsy results: the section of the anterior wall of the left ventricle showed a yellowish flaccid 1.5-2 cm focus surrounded by a reddish rim. The convoluted coronary arteries had lumen irregularly narrowed by 75%. The vessel intima was thickened, dense, covered with whitish plaques, crunched when cut. What disease can you think of?

- A. Acute myocardial infarction
- B. Continuously recurrent myocardial infarction
- C. Postinfarction cardiosclerosis
- D. Microfocal cardiosclerosis
- E. Recurrent myocardial infarction

A 43-year-old patient has acute pancreatitis with concomitant disruption of common bile duct patency. What condition can it result in?

- A. Mechanical jaundice
- B. Hemolytic jaundice
- C. Hepatocellular jaundice
- D. Hepatic coma
- E. Portal hypertension

Postmortem examination of a patient with a long history of rheumatism revealed thickening and shortening of the mitral valve leaflets with abundant thrombotic deposits. Histological examination of the valve leaflets confirmed sclerosis and revealed multiple foci of connective tissue disorganization in form of mucoid and fibrinoid swelling, as well as deendothelization foci. Endothelium defects were covered with thrombotic deposits of 1-2 mm. What type of valvular endocarditis is the case?

- A. Recurrent verrucous endocarditis
- B. Acute verrucous endocarditis
- C. Fibroplastic endocarditis
- D. Diffuse valvulitis
- E. Polypous-ulcerative endocarditis

Autopsy of a dead 6-year-old child revealed a marked edema of the soft tissues of neck and enlarged tonsils. Pharyngeal mucosa was covered with numerous dense whitish-yellow pellicles exposing deep ulcers after their removal. Histological examination of the pharyngeal mucosa revealed necrosis of the upper epithelial layers, impregnation of the mucous membrane with the fibrinous exudate and moderate leukocyte infiltration. What infectious disease caused the death of the child?

- A. Diphtheria
- B. Parainfluenza
- C. Scarlet fever
- D. Whooping cough
- E. Measles

A patient was suffering from primary tuberculosis 5 years ago. Radiography has revealed a sharply marginated nodular shadow with diameter of 4 cm in the 2nd segment of the right lung. Focus was surgically removed. Histological study has revealed the following: the focus of caseous necrosis surrounded by the thick capsule of connective tissue. What kind of secondary tuberculosis has occurred in patient?

- A. Tuberculoma
- B. Acute cavernous tuberculosis
- C. Fibro-cavernous tuberculosis
- D. Caseous pneumonia
- E. Cirrhotic tuberculosis

An autopsy of the body of a 56-year-old man, who was suffering from secondary tuberculosis, has revealed large areas of sclerosis in the I-II segments of the right lung. Tissue surrounding affected areas is pale, soft, convex; crunches when cut; does not recede. Specify the changes occurring in the tissues surrounding sclerosis focus.

- A. Focal emphysema
- B. Bronchiectasis
- C. Pneumothorax
- D. Atelectasis
- E. Abscess

There is a 7-year-old child with complains of cough, lacrimation, rhinitis, skin rash, photophobia and three-day-long fever as high as 38°C. Physical examination has revealed the following: conjunctivitis; bright red maculopapular rash covering the skin of face, neck and torso; hyperemic pharynx; serous purulent secretions from the nose; dry rales in the lungs. What is the most probable diagnosis?

- A. Measles
- B. Scarlet fever
- C. Rubella
- D. Adenovirus infection
- E. Chicken pox



## 2016

Histological investigation of a 40-year-old man's thymus revealed the following: decreased part of parenchymatous elements, increased part of adipose and loose connective tissues, high concentration of thymic bodies with total organ weight remaining the same. Name this phenomenon:

- A. Age-related thymic involution
- B. Accidental thymic involution
- C. Thymic hypotrophy
- D. Thymic dystrophy
- E. Thymic atrophy

Microscopy of an extracted tooth has revealed a focus of enamel destruction at the dentino-enamel junction. Within this focus accumulation of microorganisms occurs; calcium salts disappear from enamel columns; intercolumn substance and enamel columns are partially destroyed. What diagnosis is the most likely?

- A. Superficial caries
- B. Median caries
- C. Deep caries
- D. Fluorosis
- E. Cemental caries

A patient with a long history of chronic periodontitis underwent removal of a maxillary cyst located at the root of the affected tooth. Microscopy shows that the bone wall is made up of fibrous tissue infiltrated by lymphocytes and plasma cells. The inner surface of the cyst is covered with stratified squamous epithelium with no signs of keratinization. What is the most likely diagnosis?

- A. Radicular cyst
- B. Follicular cyst
- C. Primordial cyst
- D. Eosinophilic granuloma
- E. Gingival fibromatosis

An autopsy of the body of an elderly man, who was suffering from acute intestinal disorder during his last 2 weeks of life, has revealed the following change in the rectum and sigmoid colon: brown and green film covering the mucosa is detected. The intestinal wall is thickened; the cavity sharply narrows down. Microscopy reveals mucosa necrosis of varying depth, necrotic tissue is pierced through with fibrin threads, leucocytic infiltration is observed. What diagnosis is the most probable?

- A. Fibrinous colitis
- B. Catharrhal colon
- C. Ulcerative colitis
- D. Follicular colitis
- E. –

Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles. Histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in the lung?

- A. Pulmonary emphysema
- B. Multiple bronchiectasis
- C. Cavernous tuberculosis
- D. Chronic bronchitis
- E. Fibrosing alveolitis

A 28-year-old patient had been diagnosed with multifragmental fracture of the right hip. On the third day after the injury he began to complain of pain in the right side of the chest, difficult respiration. One day later the patient died of progressive heart and respiratory failure. Histological study of the pulmonary and cerebral blood vessels revealed orange sudanophilic droplets that completely obstructed the vessels of microvasculature. What complication caused the death of the patient?

- A. Fat embolism
- B. Gas embolism
- C. Drug-induced embolism
- D. Microbial embolism
- E. Thromboembolism

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 composed of tuberculous granulation tissue and the external one was consisted 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

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

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

A 53-year-old patient with a long history of nephrolithiasis underwent nephrectomy. The kidney resembles a thin-walled sac filled with urine. Renal parenchyma is atrophied. Specify this complication of nephrolithiasis:

- A. Hydronephrosis
- B. Pyelonephritis
- C. Pyonephrosis
- D. Multicystic kidney disease
- E. Nephrosclerosis

A 25-year-old man presents with tumorous growth situated in the area of the body of the maxilla, which results in face deformation. Biopsy material consists of fibrous tissue containing juvenile bone trabeculae, spindle and stellate cells. There is no clear margin between the normal bone tissue and lesion focus, capsule is absent. No pathologic changes can be detected in the other organs. Make the diagnosis:

- A. Simple fibrous dysplasia
- B. Osteoclastoma
- C. Odontogenic fibroma
- D. Osteosarcoma
- E. Ossifying fibroma

A 50-year-old patient has been referred for treatment of neck lymphadenitis. His individual penicillin sensitivity was tested. In 30 seconds full body fever raised in the patient and his arterial blood pressure dropped to 0 mm Hg followed by cardiac arrest. Resuscitation was unsuccessful. Autopsy revealed acute venous hyperemia of viscera. Histological study revealed mast cells (tissue basocytes) degranulation in the skin (at the area of injections), myocardium and lungs. What kind of hypersensitivity reaction occurred in the patient?

- A. Anaphylactic
- B. Delayed-type hypersensitivity
- C. Complement-mediated cytotoxic
- D. Immune complex-mediated
- E. -

A 78-year-old patient suffering from atherosclerosis has been delivered to a surgical ward with signs of acute abdomen. Laparoscopy revealed blackened and flaccid small intestine loops; demarcation line is not clear. Diagnose the changes that occurred in the patient's small intestine:

- A. Hemorrhagic infarction complicated with humid gangrene
- B. Hemorrhagic infarction complicated with dry gangrene
- C. Ischemic stroke complicated with humid gangrene
- D. Ischemic stroke complicated with dry gangrene
- E. -

Examination of a 29-year-old patient revealed a dense, immobile, ill-defined tumor-like formation in the lower jaw. The overlying mucosa was pale. Biopsy of the neoplasm revealed osteoid structures lined with atypical osteoblasts; numerous pathologic mitotic figures; a great number of thin-walled vessels. What is the most likely diagnosis?

- A. Osteosarcoma
- B. Osteoblastoclastoma
- C. Exacerbation of chronic osteomyelitis
- D. Ameloblastoma
- E. Primary jaw carcinoma

Microscopic examination of a skin tumor revealed that it invaded the underlying tissue, destroyed it and formed nests and cords of atypical epithelium, which include pearl-like formations. Specify the tumor:

- A. Keratinizing squamous cell carcinoma
- B. Squamous cell non-keratinizing carcinoma
- C. Solid carcinoma
- D. Adenocarcinoma
- E. Medullary carcinoma

Histological examination of the myocardium of a 47-year-old patient with rheumatic heart disease (section material) revealed big visually empty vacuoles within the cardiomyocytes. They turn black, when stained with osmic acid, and yellow-red, when stained with sudan III. What pathological process is it?

- A. Adipose degeneration
- B. Hyaline droplet degeneration
- C. Hydropic degeneration
- D. Carbohydrate degeneration
- E. Dysproteinosis

A 38-year-old woman complains of bleeding gums, halitosis, exposure of tooth necks. Objectively: the patient has gingivitis, plaque and tartar. Inflammation involves the alveolar part of gingival with dental pockets. The bone tissue exhibits signs of bone resorption. What pathology does the patient have?

- A. Parodontitis
- B. Periostitis
- C. Periodontitis
- D. Gingivitis
- E. –

Vestibular surface of the left lower incisor has a pink fungoid formation up to 2 cm large, which is fixed to the supra-alveolar tissue by a wide pedicle. Histological examination revealed branched capillary vessels with multiple hemorrhages and foci of hemosiderosis. What is the most likely diagnosis?

- A. Angiomatous epulis
- B. Fibrous epulis
- C. Giant cell epulis
- D. Gingival fibromatosis
- E. Cavernous hemangioma

Autopsy of a young man revealed lung cavities with inner walls made up of granulation tissue of varying degree of maturity, pronounced pneumosclerosis and bronchiectasis. Some cavities had caseation areas. What is your presumptive diagnosis?

- A. Fibrous cavernous tuberculosis
- B. Infiltrative tuberculosis
- C. Caseous pneumonia
- D. Acute cavernous tuberculosis
- E. Bronchiectasis

A woman suffering from essential hypertension had suddenly lost consciousness; she was delivered to a resuscitation unit in a comatose state with the diagnosis of disturbed cerebral circulation. The patient died one day after her hospitalization. Autopsy revealed a cavity in the left hemisphere of the brain. The cavity is 5x4 cm in size and filled with blood clots and liquid blood. What hemorrhage is it according to the mechanism of its origin?

- A. Hemorrhage caused by vessel rupture
- B. Hemorrhage caused by vessel erosion
- C. Diapedetic hemorrhage
- D. Hemorrhagic extravasation
- E. Petechial hemorrhage

An autopsy is performed on the body of a 58-year-old woman, who suffered from diabetes mellitus. On histological examination of kidneys the following was revealed: segmental homogenous oxyphilic deposits are detected in the glomerules; arteriole walls are diffusely thickened, homogenous, oxyphilic. Diagnose the morphologic changes that occurred in the renal glomerules and vessels:

- A. Hyalinosis
- B. Hyaline droplet degeneration
- C. Amyloidosis
- D. Mucoid degeneration
- E. Fibrinoid degeneration

A 65-year-old patient had been treated for 3 days in a resuscitation unit for a cardiac pathology. Suddenly he developed ventricular fibrillation that became the immediate cause of death of this patient. Microscopy of the left ventricular myocardium revealed a large focus of cardiomyocyte karyolysis demarcated by the zone of hyperaemia. What cardiac pathology was the cause of death?

- A. Acute myocardial infarction
- B. Ischemic myocardial degeneration
- C. Acute myocarditis
- D. Diffuse cardiosclerosis
- E. Postinfarction cardiosclerosis

Microscopy of an extracted tooth has revealed the following: odontoblasts and pulpocytes are decreased in size and number; thickened connective fibers of the pulp are stretched between the cells that remain. What general pathological process is likely to be occurring in the tooth pulp?

- A. Atrophy
- B. Adipose degeneration
- C. Amyloidosis
- D. Local hyalinosis
- E. Local hemosiderosis

Autopsy of the body of a 46-year old man, who had been suffering from typhoid fever and died of intestinal hemorrhage, has revealed sequestration areas, tissue rejection in the areas of lymphoid follicle clusters. What stage of typhoid fever is it?

- A. Dirty ulcers
- B. Healing
- C. Clean ulcers
- D. Brain-like swelling of the follicles
- E. Necrosis

During autopsy of the body of a patient, who had died due to heart failure, the following has been detected: myogenic dilatation of the heart left ventricle, microfocal cardiosclerosis, vasculitis, Aschoff bodies with disorganization of connective tissue, myocarditis. Make the diagnosis:

- A. Rheumatic productive myocarditis
- B. Rheumatic exudative myocarditis
- C. Cardiac infarction
- D. Systemic lupus erythematosus
- E. Myocardial ischemic dystrophy

A 30-year-old man addressed a doctor with complaints of enlarged submandibular lymph nodes. Anamnesis states that the patient previously had been treated for acute apical periodontitis of the 36th and 46th teeth. Histologically the following could be detected in the removed lymph node: hyperemia, edema, increased amount of plasmocytes and plasmablasts in the medullary area and germinal centers of follicles. What can cause such changes in lymph nodes?

- A. Antigenic stimulation
- B. Immunodeficiency state
- C. Metastasis of a malignant tumor
- D. Granulomatous inflammation
- E. Lymphoma

A 35-year-old woman complains of swollen neck. Subtotal thyroidectomy is performed. On histological examination of the removed part of the thyroid gland the following was detected: atrophy of parenchyma, moderate sclerosis development, diffuse infiltration by lymphocytes and plasma cells leading to formation of lymphatic follicles. What pathology has developed in the thyroid gland?

- A. Hashimoto's thyroiditis
- B. Follicular adenoma
- C. Riedel's thyroiditis
- D. Papillary carcinoma of the thyroid gland
- E. Diffuse toxic goiter

A 12-year-old patient suffering from acute leukemia presents with fever up to 39, 80C, acute pain in the throat. Examination of the oral cavity has revealed swollen tonsils, their surface is covered in deep lesions with uneven margins, numerous petechial hemorrhages in the pharyngeal mucosa and around the tonsils. Determine the type of tonsillitis that complicates the disease progress in this case:

- A. Necrotic
- B. Catarrhal
- C. Fibrinous
- D. Lacunar
- E. Purulent