

Questions for the examination of the Pathology

General medicine

1.

- a) Cell injury and cellular adaptations (intercellular communication, molecular interactions between cells, cell membrane receptors, etiology of cell injury).
- b) Neoplastic disease (neuroectodermal tumours, mixed tumours and choriocarcinoma).
- c) Pathology of the kidney (membranous and membrano-proliferative glomerulonephritis, mesangial glomerulonephritis, glomerulosclerosis).

2.

- a) Basic methods in pathology practice (division of biopsy, cytology, histochemistry, immunohistochemistry, electron microscopy and immunofluorescence).
- b) Neoplastic disease (mesenchymal and epithelial tumours).
- c) Musculoskeletal system diseases (osteoarthritis, rheumatoid arthritis, gouty arthritis, bursitis, ganglion).

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- a) Pathogenesis of cell injury (ischaemic and hypoxic injury, intracellular acidosis, damage to membrane pumps, cytoskeletal injury, free radical-mediated injury).
- b) Classification of heart diseases (congenital heart disease, acute heart failure, cardiac hypertrophy and dilatation).
- c) Neuropathology (astrocytoma, oligodendroglioma, ependymoma, glioblastoma multiforme, meningioma, neurilemmoma).

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- a) Special methods in pathology practice (molecular pathology, flow cytometry, cytogenetics in pathology, methods of obtaining tissue samples for biopsy).
- b) Pneumopathology (sudden infant death syndrome, pulmonary arterial hypertension, classification of pneumonias, bacterial pneumonia).
- c) Musculoskeletal system diseases (myasthenia gravis, muscular denervation atrophy, myopathies, fibrous dysplasia, non-ossifying fibroma, aneurysmal bone cyst, osteoma).

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- a) Tumours of childhood
- b) Parasitic diseases (amoebiasis, malaria, cysticercosis, filariasis and TORCH complex perinatal infections).

- c) Neuropathology (multiple sclerosis, Alzheimer's disease, parkinsonism, leucodystrophies and acquired metabolic diseases).

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- a) Irreversible cell injury (ischaemia-reperfusion injury, direct toxic injury, damage by ionizing radiation, excessive cold and heat).
- b) Pneumopathology (pneumonitis, mycoplasmal pneumonia, pneumocystis and legionella pneumonia, aspiration and hypostatic pneumonia, lipid pneumonia).
- c) Neuropathology (developmental anomalies, hydrocephalus, meningitis, bacterial encephalitis, viral encephalitis, leucoencephalopathies).

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- a) Thanatology (virtual death, clinical death and biological death, postmortal changes, moment of death).
- b) Neoplastic disease (clinical aspects of neoplasia, tumour antigens, histological methods of diagnosis of cancer).
- c) Soft tissue tumours (classification, tumours of fibrous tissue, fibrohistiocytic tumours, tumours of adipose tissue, rhabdomyosarcoma, synovial sarcoma, alveolar sarcoma, myositis ossificans).

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- a) Dystrophy (hydropic change, hyaline change, mucoid change, disorders of saccharide, lipid and protein metabolism).
- b) Neoplastic disease (invasion, spread, growth promoting oncogenes, grading and staging of cancer, predisposition, precancerosis, paraneoplastic syndrome).
- c) Neuropathology (ischaemic brain damage, encephalomalacia, intracranial haemorrhage, brain and spinal cord concussion, diffuse axonal injury).

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- a) Thanatology (definition of death, categories of death, agonia, atria mortis).
- b) Neoplastic disease (nomenclature, classification, characteristics, categories, features: clinical, macroscopic and microscopic, N/C ratio, mitotic activity index, tumour angiogenesis and stroma).
- c) Bone and joint tumours (osteosarcoma, chondroblastoma, chondrosarcoma, osteoclastoma, Ewing's sarcoma, PNET).

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- a) Disorders of pigment metabolism (pathology of endogenous and exogenous pigments).
- b) Pneumopathology (abscess, chronic bronchitis, emphysema, bronchial asthma).
- c) Pathology of the kidney (Berger's disease, end-stage kidney, lupus nephritis, diabetic nephropathy).

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- a) Derangements of homeostasis (oedema, pathogenesis and morphology of important types of oedema)
- b) Pneumopathology (restrictive pulmonary disease, pneumoconioses, interstitial lung disease).
- c) Diseases and tumours of the adrenal gland.

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- a) Morphology of irreversible cell injury (autolysis, necrosis, apoptosis).
- b) Tumours of lungs, diseases and tumours of the pleura.
- c) Musculoskeletal system diseases (osteomyelitis, osteonecrosis, osteoporosis, renal osteodystrophy, Paget's disease of bone).

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- a) Morphology of irreversible cell injury (gangrene, atrophy).
- b) Tumours of orofacial region and neck (eye and orbit, tumours of the ear, nose and paranasal sinuses, tumours of the pharynx and larynx).
- c) Pathology of the kidney (tubular and tubulointerstitial diseases, acute tubular necrosis, acute and chronic pyelonephritis).

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- a) Cellular adaptations (hypertrophy, hyperplasia, metaplasia, dysplasia, calcification).
- b) Diseases of the esophagus (muscular dysfunctions, haematemesis, varices, GERD, Barret's esophagus, tumours of the esophagus).
- c) Diseases and tumours of the pituitary gland.

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- a) Immunopathology (organs and cells of immune system, HLA system, transplant rejection).
- b) Diseases of the stomach (gastritis, peptic ulcer, haematemesis, tumours).
- c) Parathyroid gland disorders and tumours. Diabetes mellitus. MEN syndrome.

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- a) Diseases of immunity (AIDS, HIV infection, types of immunologic tissue injury – hypersensitivity reactions).
- b) Cardiomyopathies, pericardial diseases, tumours of the heart.
- c) Tumours of the skin (squamous cell carcinoma, basal cell carcinoma, melanoma, melanocytic naevi, tumours of the dermis and cellular migrant tumours).

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- a) Autoimmune diseases (SLE, progressive systemic sclerosis, polymyositis, Sjögren's syndrome, Reiter's syndrome).
- b) Pneumopathology (paediatric lung diseases, bronchopulmonary sequestration, ARDS, atelectasis and collapse of the lungs).
- c) Dermatopathology (granulomatous diseases of the skin, connective tissue diseases, bullous dermatoses).

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- a) Amyloidosis (pathogenesis and classification, systemic and localised amyloidosis, amyloidosis of kidneys, spleen, liver, heart and alimentary tract).
- b) Hypertensive heart disease, cor pulmonale, rheumatic heart disease, endocarditis.
- c) Dermatopathology (genetic dermatoses, non-infectious inflammatory dermatoses, infectious dermatoses).

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- a) Derangements of homeostasis (Gibbs-Donnan equilibrium, acid-base balance)

- b) Diseases of arteries and veins (morphologic features, atherosclerosis, mediocalcinosis, arteritis, aneurysms, phlebothrombosis and thrombophlebitis, lymphedema).
- c) Endometriosis, tumours of the endometrium and myometrium.

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- a) Pathology of dehydration and disturbances of electrolytes.
- b) Valvular heart diseases and deformities, myocarditis.
- c) Pathology of pregnancy (placental abnormalities, mole, choriocarcinoma, fetoplacental unit disorders, spontaneous abortion, termination of pregnancy, ectopic pregnancy, gestosis, puerperal sepsis).

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- a) Haemodynamic derangements (hyperaemia, congestion, chronic venous congestion, haemorrhage).
- b) Diseases of the Fallopian tube and ovary (polycystic ovary disease, ovarian tumours, Krukenberg's tumour, salpingitis, Fallopian tube hydrops and empyema).
- c) Diseases and tumours of the thyroid gland.

22

- a) Shock (definition, classification, etiology, pathogenesis, stages, morphologic features, clinical features and complications).
- b) Ischaemic heart disease (coronary atherosclerosis, angina pectoris, acute myocardial infarction).
- c) Diseases of the uterus (dysfunctional bleeding, endometrial hyperplasia, endometritis, myometritis).

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- a) Circulatory disturbances - thrombosis (pathology of endothelial injury, role of platelets, haemocoagulation disorders, morphologic features of individual types of thrombi, fate of thrombus).
- b) Diseases of the vagina and cervix of uterus (vulvovaginitis, vulval leukoplakia, cervicitis, squamous intraepithelial lesion of the ectocervix, Bethesda system, carcinoma in situ and invasive carcinoma of the cervix of uterus).
- c) Dermatopathology (scaling dermatoses, metabolic diseases of the skin, phakomatoses, pre-malignant lesions and benign tumours of the skin).

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- a) Circulatory disturbances – embolism (etiopathogenesis, systemic and pulmonary thromboembolism, types of embolism).
- b) Diseases of the oral cavity and salivary glands (developmental malformations, stomatitis, glossitis, reactive hyperplasia, leukoplakia, sialadenitis, tumours of the salivary glands).
- c) Non-neoplastic diseases of the breast and breast tumours.

25

- a) Circulatory disturbances – ischaemia (etiology, infarction, morphology of infarct).
- b) Enlargement of lymph nodes and importance of the sentinel lymph node.
- c) Pathology of the kidney (congenital anomalies, acute and chronic renal failure, clinicopathologic classification of glomerulonephritides).

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- a) Inflammation (definition, types of inflammation, classification of inflammation, cellular events in inflammation).
- b) Pathology of haematopoietic system (haemorrhagic diatheses, disorders of platelet functions, DIC, haemolytic disease of newborn).
- c) Tumours of the testis, phimosis, tumours of the penis, non-neoplastic epithelial disorders of the vulva.

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- a) Inflammation (cell-derived mediators of inflammation, plasma-derived mediators of inflammation, regulation of inflammation).
- b) Pathology of haematopoietic system (autoimmune and microangiopathic haemolytic anaemia, haemoglobinopathies, aplastic anaemia, thalassaemia).
- c) Pathology of the kidney and urinary tract (renal vascular diseases, nephrosclerosis, nephrolithiasis, hydronephrosis).

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- a) Inflammation (forms of acute inflammation, systemic effects of acute inflammation, morphologic signs of acute inflammation).
- b) Pathology of haematopoietic system (megaloblastic anaemia, pernicious anaemia, classification of haemolytic anaemias).
- c) Inflammations of the ureter, urinary bladder and prostate, orchitis and epididymitis, Fournier's gangrene.

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- a) Inflammation (forms of chronic inflammation, systemic effects of chronic inflammation, morphologic signs of chronic inflammation).
- b) Tumours of the lymphoid series (mycosis fungoides, Sézary syndrome, plasmacytoma, Waldenström's macroglobulinaemia, histiocytosis).
- c) Tumours of the kidney, urinary bladder and prostate.

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- a) Altered type of inflammation (parenchymatous inflammations – diphtheric myocarditis, infectious hepatitis, kuru, encephalitis).
- b) Nutritional diseases (obesity, starvation, diseases resulting from vitamin deficiency and excess).
- c) Pathology of the kidney (glomerulonephritides: immunologic and non-immunologic mechanisms, acute glomerulonephritis, extracapillary glomerulonephritis, minimal change disease, nephrotic syndrome).

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- a) Exudative type of inflammation (types, serous inflammation of serous membranes, mucous membrane, skin and interstitium).
- b) Tumours of lymphoid series (NHL, Hodgkin's disease, ALL, CLL, follicular and Burkitt's lymphoma).
- c) Pathology of the pancreas (congenital anomalies, pancreatitis, tumours).

32

- a) Exudative type of inflammation (non-purulent and purulent inflammation of serous membranes, mucous membrane, skin and interstitium).

- b) Infectious diseases (herpes simplex, lymphogranuloma venereum, varicella, cat-scratch disease, rabies).
- c) Pathology of the liver (cirrhosis and its complications, cholelithiasis, cholecystitis).

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- a) Exudative type of inflammation (fibrinous - croupous, diphtheric, escharotic and interstitial; gangrenous).
- b) Pathology of leucocytes and lymphatic tissue (infectious mononucleosis, leukaemias, myeloproliferative neoplasms, myelodysplastic syndrome).
- c) Pathology of the liver (cholangitis, abscesses, echinococcosis, portal hypertension, tumours).

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- a) Proliferative type of inflammation and complications of different types of inflammation.
- b) Environmental diseases (injury by excessive heat and cold, radiation, atmospheric pressure, chemical agents in the air).
- c) Pathology of the liver (hepatitis, etiopathogenesis, classification, acute and chronic hepatitis, complications).

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- a) Specific type of inflammation (tuberculosis – adult and childhood type).
- b) Genetic diseases (errors in morphogenesis, chromosomal abnormalities, Mendelian disorders, inborn errors of metabolism).
- c) Pathology of the liver (hepatic failure, circulatory disturbances, liver dystrophy).

36

- a) Specific type of inflammation (leprosy and syphilis).
- b) Environmental diseases (tobacco smoking, alcoholism, drug abuse, CO poisoning).
- c) Diseases of the large intestine (congenital malformations, diverticulosis, ischaemic colitis, other types of colitis, haemorrhoids, polyps and tumours).

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- a) Specific type of inflammation (actinomycosis and sarcoidosis).

- b) Pathology of haematopoietic system (classification of anaemias, hypochromic and sideroblastic anaemia and anaemia of chronic disease).
- c) Diseases of the small intestine (malabsorption syndrome, celiac disease, non-celiac gluten sensitivity, tumours of the small intestine).

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- a) Regeneration and reparation (molecular and cellular factors, morphologic signs, wound healing).
- b) Infectious diseases (haemorrhagic fever, yellow fever, dengue fever, influenza).
- c) Diseases of the small intestine (inflammatory diseases – Crohn's disease, ulcerative colitis, infectious enterocolitis).

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- a) Regeneration and reparation (complications of wound healing, fracture healing, healing of nervous tissue, muscle, mucosal surfaces and parenchymatous organs).
- b) Infectious diseases (staphylococci, streptococci, clostridial infections, candidiasis).
- c) Pathology of the liver (developmental abnormalities of the bile ducts, jaundice, neonatal jaundice, Reye's syndrome).

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- a) Infectious diseases (plague, anthrax, pertussis, granuloma inguinale).
- b) Neoplastic disease (growth suppressing oncogenes, genes regulating apoptosis, carcinogens, biological carcinogenesis).
- c) Diseases of the small intestine (congenital anomalies, obstruction, ischaemic enterocolitis, necrotizing enterocolitis).