ΠΑΘΟΦΥΣΙΟΛΟΓΙΑ

1) **The following contractile proteins participate on the process of myocardial muscle contraction:** p.94

a. actin, myosin, sarcoplasmic reticulum
b. myosin, mitochondria and sarcoplasmic reticulum
c. actin, myosin, tropomyosin, troponin
d. actin, myosin, troponin, tropomyosin and sarcoplasmic reticulum
e. troponin and calcium
f. actin, myosin, sarcoplasmic reticulum and sarcolemma

2) **Under the aerobic conditions, the heart muscle gains energy mainly by:**

a. the beta-oxidation of the fatty acids
b. anaerobic glycolysis
c. aerobic glycolysis
d. pentose cycle
e. glycogenolysis
f. aerobic glycolysis and glycogenolysis

3) **Myocardium uses ATP:**

a. exclusively for contraction
b. exclusively for relaxation
c. mainly for transmembrane ion transport
d. mainly for basal metabolism
e. mainly for the action of contraction and relaxation
f. mainly for preservation of subcellular structures

4) **Afterload is determined by following factors:** p.99

a. preload and volume of blood in venous bed
b. preload and peripheral arterial resitance
c. preload and contractility
d. the length of the muscular fibers and peripheral venous resistance
e. arterial compliance, arterial system blood volume and peripheral arterial resitance
f. volume of blood in the left ventricle at the end of diastole

5) **The most frequent causes of heart failure are:** p.104

a. hypertension and valvular diseases
b. hypertension and heart hypertrophy
c. hypertension and ischemic heart disease
d. ischemic heart disease and cardiomyopathy
e. myocardial infarction and diastolic dysfunction
f. myocardial infarction and hypovolemic shock

6) **Forward failure means:** p.104

a. failure of the arterial bed
b. failure of the venous bed
c. signs and symptoms developing as a result of insufficient tissue perfusion
d. breathlessness
e. the disturbance of the skeletal muscle function (mainly fatigue)
f. failure of the left ventricular afterload

7) **Heart failure is:** p.103

a. the state, shortening the life expectancy in 50%
b. the state, shortening the life to five years
c. the syndrome, being the result of variable cardiac diseases
d. the most frequent pathologic unit of the cardiovascular system
e. the disease, which always causes death
f. the arrest of the heart

8) **In central cyanosis:** p.110

a. the acral parts of the body are cold
b. the upper extremities are cold, lower are warm
c. the lower extremities are cold, upper are warm
d. the extremities are cold but mucous layers are warm
e. the temperature of the acral parts of the body is normal
f. the amount of the the reduced hemoglobin in the capillary blood is more then 50%

9) **The gallop rhythm means that:** p.111-112

a. above the heart, we hear not two but three sounds
b. above the heart, we hear not four but five sounds
c. that the heart rate is above 100 beats per minute
d. that the heart sounds mimics the gallop of quagaa (zebra)
e. that the patient has „pulses alternans"
f. we hear all four sounds of the heart

10) **The most frequent cause of mitral stenosis is:** p.126

a. heart failure with „relative" mitral stenosis
b. breathlessness
c. embolization into the arterial system
d. atrial fibrillation and cyanosis
e. rheumatic fever
f. bacterial endocarditis

11) **One of the consequences of mitral stenosis is:** p.127

a. arterial system embolism
b. pulmonary embolism
c. cor pulmonale acutum
d. left ventricular hypertrophy
e. relative mitral insufficiency
f. foramen ovale apertum

12) **The typical manifestations of the aortic stenosis are as follows:** p.132

a. collapse, stenocardia, sudden death
b. shock and excentric hypertrophy of the left ventricle
c. palpitation and peripheral cyanosis
d. diastolic murmur
e. cyanosis and repeated tromboembolism
f. surprisingly good toleration of the physical effort

13) **In aortic stenosis following pathology occur:**

a. concentric hypertrophy of the left ventricle
b. excentric hypertrophy of the left ventricle
c. excentric hypertrophy of the left and right ventricles
d. concentric hypertrophy of the left atria and ventricle
e. septal defect
f. dilatation of both ventricles

14 **Great systolic-diastolic amplitude is typical for:**

a. aortic insufficiency
b. mitral insufficiency
c. ventricular septal defect
d. aortic and mitral insufficiency
e. aortic stenosis
f. aortic and mitral stenosis

15) **The filling pressure of the left ventricle in cardiogenic shock is:** p.180

a. decreased
b. extremely decreased- resulting in hypoperfusion of the periphery
c. almost normal
d. increased
e. to speak about filling pressure in shock is a non-sense
f. lower then filling pressure of the right ventricle

16) **In the beginning of the septic shock the minute volume is:**

a. decreased
b. normal or increased
c. extremely decreased
d. decreased as a result of endotoxin
e. indefinable
f. accelerated

17) **Following states are considered to be the complication of myocardial infarction:** p199-204

a. general adaptive syndrome
b. ventricular dysrhythmias
c. myocarditis
d. Frank-Starling mechanism
e. ischemic degeneration of the brain
f. atherosclerosis of the coronary arteries

18) **In the earliest period of atherosclerosis following pathology is present:** p191

a. endothelial cells
b. fibose plates
c. fibromuscular plates
d. foam cells
e. plaque fissures
f. thrombus

19) **The basic features of neurons involve:**

a. membrane excitability
b. transmission of signals

c. release of neurotransmitters
d. release of hormones
e. release of digestive enzymes
f. phagocytosis
g. processing of signals
h. regulation of motor functions

20) **The cells having supporting or helping function in the nervous system are:**

a. neurons
b. Schwann cells
c. lymphocytes
d. satellite cells
e. astrocytes
f. oligodendrocytes
g. microglial cells
h. ependymal cells

21) **Glial cells:**

a. exert supporting function
b. exert nutritional function
c. produce and increase the fibrin formation
d. exert regenerate or restorative function
e. participate on the transmission of signals
f. are less vulnerable than the neurons
g. participate on the transfer of information from the peripheral tissues
h. separate cerebrospinal fluid and blood from the brain tissue

22) **Main source of energy for neurons is:**

a. glucose
b. amino acids
c. lipids
d. fructose
e. triacylglycerols
f. cholesterol
g. eikosanoids
h. galactose

23) **On the neuroendocrine stress reaction participates:**

a. the sympathoadrenal system
b. the hypothalamic-pituitary-adrenal axis
c. the parasympathetic nervous system
d. catecholamines
e. glucocorticoids
f. vasopressin
g. erytropoetin
h. angiotensin II

24) **Diseases of the nervous system with mainly intrinsic causes are characterized by the following:**

a. changes of the chromosomal number

b. CNS infection
c. are the genetically conditioned diseases
d. are neuromuscular diseases
e. the decisive factors remain unknown
f. are metabolic disturbances
g. changes of the chromosomal structures
h. changes resulting from the destruction of the nervous system

25) **Diseases of the nervous system with mixed or possibly unknown etiology can be subdivided into these subgroups:**

a. infection of the CNS
b. tumors of the CNS
c. the neuroimmunological diseases
d. the neuromuscular diseases
e. the metabolic disturbances
f. the degenerative diseases
g. some neuropathies
h. the genetically conditioned diseases

26) **Diseases of the congenital disturbances of the amino acid metabolism involve:**

a. phenylketonurea
b. maple syrup disease
c. generalized gangliosidosis
d. Tay-Sachs amaurotic familiar idiocy
e. cystationinurea
f. citrulinurea
g. Gaucher disease
h. Gierke disease

27) **Diseases with lipid metabolism disturbances include:**

a. phenylketonurea
b. maple syrup disease
c. generalized gangliosidosis
d. Tay-Sachs amaurotic familiar idiocy
e. galactosemia
f. Fabry syndrome
g. Gaucher disease
h. Gierke disease

28) **Diseases with disturbance of sacharide metabolism include:**

a. Cori disease
b. maple syrup disease
c. McArdle disease
d. Tay-Sachs amaurotic familiar idiocy
e. galactosemia
f. citrulinurea
g. Pompe disease
h. Gierke disease

29) **Neuronal injury might be of many degrees:**

a. interruption of the nerve cords
b. interruption of the commisures of the brain
c. interruption of the nerve fibers
d. functional injury caused for example by pressure
e. interruption of the prefrontal cortex
f. death of an axon without interruption to the endoneural tubes
g. axonal death with interruption of the endoneural tubes

30) **Apart from the direct outcomes of head injury there might commonly be some complications that occur after few hours and days:** p446

a. insomnia
b. hemorrhage
c. infection
d. peripheral cyanosis
e. tumors
f. brain edema
g. leak of the cerebrospinal fluid
h. dyspnea

31) **The vasogenic edema is caused by:** p447

a. direct disturbance of the active transport of brain cells
b. transependymal shift of the cerebrospinal fluid
c. osmotic disturbances
d. changes in the membrane permeability
e. disturbance of released acetylcholine
f. disturbance of the Na^+ pump
g. disturbances of the amino acid metabolism
h. the toxic effect of free O^- radicals

32) **We distinguish 4 stages of intracranial hypertension:** p449

a. the stage of the total compensation
b. the stage of the partial compensation
c. the stage of the stabilization
d. the stage of the destabilization
e. the stage of the decompensation
f. the stage of the partial decompensation
g. the vasomotor paralysis

33) **Hydrocephalus might be caused by:** p450

a. an excessive production of cerebrospinal fluid
b. a decrease production of cerebrospinal fluid
c. cerebrospinal fluid flow obstruction
d. disturbance of the cerebrospinal fluid absorption
e. a increase resorption of the cerebrospinal fluid
f. congenital stenosis of aqueductus Sylvii
g. atresia of aqueductus Sylvii
h. atresia of foramen Magendie and Luschle

34) **The neurodegenerative diseases of the CNS include:**

a. Parkinson's disease

b. Alzheimer's disease
c. demyelization disease
d. epilepsy
e. multiple sclerosis
f. myasthenia gravis
g. Fabry syndrome
h. the acute haemorhagic leukoencephalopathy

35) **For prionosis is valid:**

a. they are contagious diseases
b. they are neurodegenerative diseases
c. they are exclusively genetically based
d. they are not transmitted between different species
e. they are transmitted between different species
f. accumulation of a gama-amyloid
g. accumulation of a tau proteins
h. accumulation of alpha-synuclein and amyloid

36) **Diseases of motor neuron include:**

a. Huntington's disease, chorea
b. Alzheimer's disease
c. amyotrophic lateral sclerosis
d. progressive supranuclear palsy
e. tabes dorsalis
f. myasthenia gravis
g. epilepsy
h. hydrocephalus

37) **Neuromuscular diseases include:**

a. Huntington's disease, chorea
b. Lambert–Eaton myasthenic syndrome
c. amyotrophic lateral sclerosis
d. progressive supranuclear palsy
e. tabes dorsalis
f. myasthenia gravis
g. epilepsy
h. hydrocephalus

38) **Neurodegenerative disorders include:**

a. Huntington's disease, chorea
b. Alzheimer's disease
c. amyotrophic lateral sclerosis
d. progressive supranuclear palsy
e. Parkinson's disease
f. myasthenia gravis
g. epilepsy
h. hydrocephalus

39) **Microscopic features of Alzheimer disease include:**

a. accumulation of a neurofibrillary tangles

b. accumulation of a prion proteins
c. accumulation of a beta-amyloid
d. accumulation of an alpha-amyloid
e. accumulation of a gama-amyloid
f. accumulation of parkin proteins
g. accumulation of a tau proteins
h. occurrence a senile plaques

40) **Parkinson's disease is characterized by:** (wiki)

a. accumulation of alpha-synuclein
b. accumulation of a prion proteins
c. accumulation of a beta-amyloid
d. accumulation of an alpha-amyloid
e. accumulation of a gama-amyloid
f. accumulation of parkin proteins
g. accumulation of tau proteins
h. loss of dopaminergic cells

41) **The Parkinson's disease is clinically manifested by:** p.455

a. the typical finger movements
b. the typical head tremor
c. the typical hand tremor
d. a mask face
e. hypertrophy of heart sympathetic innervation
f. a muscular tonus disturbance
g. generalized seizures
h. the abnormal postural tonus

42) **Demyelinization diseases include:** (wiki) p.455, 453

a. Huntington's disease/chorea
b. multiple sclerosis
c. amyotrophic lateral sclerosis
d. progressive supranuclear palsy
e. Parkinson's disease
f. myasthenia gravis
g. acute disseminated encephalopathy
h. acute hemorhagic leukoencephalopathy

? 43) **Common features of neurodegenerative diseases include:** (wiki)

a. accumulation of aberrant proteins
b. neuroinflammation
c. mitochondrial abnormality
d. deficit of glutamate
e. deficit of serine
f. deficit of glycine
g. relatively selective loss of neurons of certain phenotype
h. deficit of aspartate

44) **Neurotransmitters are release predominantly from:**

a. presynaptic nerve ending

b. muscle cells
c. postsynaptic nerve endings
d. endoplasmatic reticulum
e. mitochondria
f. sarcoplasmatic reticulum
g. cell nucleus
h. dendrites

45) **For ionotrophic receptor is valid:**

a. inside ion channel is localised Mg^{2+}
b. is also ion channel
c. is localized exclusively in mitochondrial membranes
d. is always bound with G-protein
e. is localized in cell nucleus
f. is responsible for slow changes of electrical charge on postsynaptic membrane
g. is responsible for fast changes of electrical charge on postsynaptic membrane
h. is represented by nicotinic receptors

46) **For metabotropic receptor is valid:**

a. is also ion channel
b. is localized exclusively in cytoplasm of neurons
c. is usually bound to system of G-proteins
d. is localized in cell nucleus
e. is represented by muscarinic receptor
f. is responsible for slow changes of electrical charge on postsynaptic membrane
g. is responsible for fast changes of electrical charge on postsynaptic membrane
h. is represented by nicotine receptors

47) **Nicotine receptor:**

a. belongs into the group of ionotropic receptors
b. belongs into the group of metabotropic receptors
c. its agonist is norepinephrine
d. its agonist is acetylcholine
e. its agonist is dopamine
f. its agonist is glutamate
g. its agonist is aspartate
h. its agonist is epinephrine

48) **Muscarine receptor:**

a. belongs into the group of ionotropic receptors
b. belongs into the group of metabotropic receptors
c. its agonist is serotonin
d. its agonist is dopamine
e. its agonist is ATP
f. its agonist is acetylcholine
g. its agonist is angiotensin

Neurotransmitters

h. its agonist is GABA

49) **The result of transnuclear signalization is:**

nothing

a. synthesis of new receptors
b. synthesis of new ion channels
c. complete termination of translation
d. synthesis of new enzymes
e. changes in reactivity of neuron
f. changes of neuronal plasticity
g. immediate changes in electrical charges on neuronal membrane
h. immediate opening of ion channels in neuronal membrane

50) **Classical small molecule neurotransmitters include:**

a. acetylcholine
b. dopamine
c. enkephalin
d. ACTH
e. endorphin
f. angiotensin II
g. glutamate
h. GABA

51) **Neurotransmitters/neuromodulators with large molecule represent:**

a. enkephalin
b. serotonin
c. substance P
d. glutamate
e. GABA
f. CRH
g. angiotensin II
h. dopamine

52) **The main excitatory neurotransmitter in the nervous system is:**

a. glutamate
b. GABA
c. glycine
d. dopamine
e. serotonin
f. epinephrine
g. histamine
h. ACTH

53) **The main inhibitory neurotransmitter in the nervous system is:**

a. GABA
b. glutamate
c. epinephrine
d. serotonin
e. histamine
f. ATP
g. ACTH