**Exemplary questions of credit for "Pathophysiology, clinical pathophysiology".**

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|  | Concepts of «health» and «disease». Disease criteria. Concepts of pathological process, pathological state, typical pathological processes, examples. |
|  | The cause-and-effect relationship in the pathogenesis of the disease. Local and general reactions to injury, their relationship. Leading links of the pathogenesis, the vicious circle in the pathogenesis of the disease, examples. Specific and nonspecific in the development of the disease. |
|  | Injury as the initial link of the pathogenesis. Manifestations of damage at different levels of the body's integration. |
|  | The significance of reasons and conditions of disease development. The notion of environmental and internal causes and factors of risk of disease. |
|  | Regularities in the formation of reactivity in phylo- and ontogenesis. Characterization of the notions «reactivity» and «resistance», their relationship. |
|  | The structure and functions of microcirculatory bed. Mechanisms of neuro-humoral regulation of microcirculation. |
|  | Intravascular disorders of blood microcirculation, etiology, pathogenesis. «Sludge» -phenomenon. |
|  | Transmural and extravascular disorders of blood microcirculation, etiology, pathogenesis, clinical manifestations and consequences. Stasis, its types, mechanisms of development, consequences. |
|  | Arterial hyperemia, its types, etiology, pathogenesis, disorders of microcirculation and tissue metabolism, symptoms and significance for the organism.  |
|  | Venous hyperemia, its causes, mechanisms of development, disorders of microcirculation and tissue metabolism, symptoms and significance for the organism. |
|  | Ischemia, its types, etiology, pathogenesis, disorders of microcirculation and tissue metabolism, symptoms, compensation mechanisms, consequences. Factors that influence on the consequences of ischemia. |
|  | Embolism, its types. The patterns of emboli travel. Classification of embolism, embolism of vessels of large and small circles of blood circulation, embolism of portal vein, causes, consequences. |
|  | The content and distribution of water in the organism. The laws of electroneutrality and isoosmolarity. Neurohormonal regulation of water-electrolyte metabolism and the mechanisms of its violation. |
|  | Pathogenetic factors of edema development, its classification. |
|  | The pathogenesis of cardiac, renal, inflammatory, toxic, allergic, starvation types of edema. Local and systemic disturbances in edema. |
|  | Mechanisms of disturbance of Na, K, Ca metabolism regulation. |
|  | Hyperhydration syndrome: types, causes, pathogenetic features, symptoms, consequences, principles of correction. |
|  | Hypohydration syndrome: types, causes, pathogenesis, clinical and pathophysiological manifestations, consequences, pathogenetic principles of correction. |
|  | Particularities of metabolism at alteration, physicochemical changes at alteration, their role in the pathogenesis of inflammation. |
|  | Proliferation, its development mechanisms, stimulators and inhibitors of proliferation. Principles of anti-inflammatory therapy. |
|  | Stages, and mechanisms of leukocytes emigration in inflammation. Factors of chemotaxis. |
|  | Impairment stages of peripheral blood circulation in the focus of inflammation and mechanisms of their development. |
|  | Mediators of inflammation; their types, principles of classification, their origin and significance in the dynamics of development and completion of the inflammation. Interrelation of various mediators. |
|  | Disorders of the final stages of protein metabolism, causes, consequences for the organism. Hyperazotemia. |
|  | Violations of metabolism of amino acids and amino acid composition of the blood, causes, consequences for the organism. balance. |
|  | Etiology and pathogenesis of insulin-dependent (type 1) and non-insulin-dependent (type 2) diabetes mellitus. Mechanism of hyperglycemia in insulin deficiency. |
|  | Disorders of carbohydrate and other kinds of metabolism in diabetes, complications of diabetes. |
|  | Hypoglycemic states, their types, mechanisms of development, disorders of physiological functions; hypoglycemic coma. |
|  | Hyperglycemic conditions, their types, mechanisms of development. Pathogenetic significance of hyperglycemia. |
|  | Pathology of digestion, transport and metabolism of fats. Hyperlipidemia types, causes, pathogenesis. |
|  | Violations of protein digestion of food, positive and negative nitrogen balance. Violations of the protein composition of blood plasma: hyper-, hypo- and dysproteinemia. |
|  | Allergy: definition of the notion, etiology, stages. Types of allergic reactions, their classification. |
|  | Type I allergic reaction (anaphylactic), characteristics of allergens, stages, mediators, clinical forms.  |
|  | Type II allergic reaction (cytotoxic), characteristics of allergens, stages, mediators, clinical forms.  |
|  | Type IV allergic reaction (cell-mediated), characteristics of allergens, stages, mediators, clinical forms. |
|  | Autoallergy, etiology, pathogenesis, clinical forms. |
|  | Primary immunodeficiencies, types, causes of development and manifestations (examples). The consequences for the organism. |
|  | The definition of the notion «hypoxia». Principles of classification of hypoxic states. Mechanisms of urgent and long-term adaptation to hypoxia. Stability of individual organs and tissues to hypoxia. |
|  | Respiratory hypoxia, etiology, pathogenesis, functional-metabolic manifestations, changes of the arterial and venous blood gas parameters.  |
|  | Circulatory hypoxia, etiology, pathogenesis, functional-metabolic manifestations, changes of the arterial and venous blood gas parameters. |
|  | Exogenous hypoxia, types, etiology, pathogenesis, functional-metabolic manifestations, changes of the arterial and venous blood gas parameters. |
|  | Anemic hypoxia, etiology, pathogenesis, functional-metabolic manifestations, changes of the arterial and venous blood gas parameters. |
|  | Tissue hypoxia, etiology, pathogenesis, functional-metabolic manifestations, changes of the arterial and venous blood gas parameters. |
|  | The concept of "acute phase response" (APR). The main mediators of the APR, their origin and biological effects. |
|  | Pyrogenic substances, their types, mechanism of action, mediators of fever. |
|  | Thermoregulation during various stages of fever. Varieties of fever. Changes of metabolism, functions of systems and organs in fever. General biological significance of fever. |
|  | The concept of "hyperthermia", its types and mechanisms of development. Basic distinction of fever from hyperthermia (overheating). |
|  | The concept of the acid-base balance of the organism. The role of buffer systems, kidneys, lungs, liver, and gastro-intestinal tract in the regulation of acid-base balance. Basic laboratory estimation criteria of acid-base balance impairments. |
|  | Syndromes non-respiratory and respiratory alkalosis, etiology, pathogenesis, parameters, mechanisms of compensation, changes in the function of organs and systems. |
|  | Syndromes non-respiratory and respiratory acidosis, etiology, pathogenesis, parameters, mechanisms of compensation, changes in the function of organs and systems. |

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| The questions was constituted by the docent | D.A.Kseyko |