Quiz 2. Questions

Immune system pathophysiology

1. Immunodeficiency: definition, classification. Primary immunodeficiency: classification, clinical presentation, consequences.

2. Secondary immunodeficiency. Causes, clinical manifestation, diagnosis, treatment.

3. Allergy: definition, importance of the problem, characteristics. Hypersensitivity reactions, their classification. Correlation between hypersensitivity and immune system.

4. Hypersensitivity reactions, type I. Stages, mediators, mechanisms of action. Clinical manifestation. Examples.

5. Hypersensitivity reactions, type II. Stages, mediators, mechanisms of action. Clinical manifestation. Examples.

6. Hypersensitivity reactions, type III. Stages, mediators, mechanisms of action. Clinical manifestation. Serum sickness, Arthus reaction. Systemic lupus erythematosus.

7. Hypersensitivity reactions, type IV. Stages, mediators, mechanisms of action. Clinical manifestation. Examples.

8. Autoimmune diseases: definition, classification. Etiology, pathogenesis. Mechanisms of tissue injury. Systemic lupus erythematosus, rheumatoid arthritis. Treatment.

Metabolism disorders

1. Carbohydrates metabolism disorders: etiology. Hypoglycemia: causes, pathogenesis, diagnostic, treatment.

2. Carbohydrates metabolism disorders: etiology. Hyperglycemia: causes, pathogenesis, diagnostic, treatment.

3. Diabetes mellitus. Definition, types. Diabetes risk factors. Etiology, pathogenesis.

4. Acute complications of diabetes mellitus. The mechanisms of their development.

5. Chronic complications of diabetes mellitus (microangiopathy, nephropathy, neuropathy, encephalopathy, retinopathy). Mechanisms.

6. Proteins and nucleic acids metabolism disorders. Causes, pathogenesis. Typical disorders of protein metabolism.

7. Nucleic acids metabolism disorders. Purine bases disturbances. Hyperuricemia. Gout.

8. Lipids metabolism disorders. Typical forms of lipids deficiency and lipids exceeding. Classification, pathogenesis of obesity.

9. Dyslipoproteinemia. Atherosclerosis. Etiology, pathogenesis, complications.

Neoplasia

1. Neoplasia: definition, types. Etiology, carcinogens. Atypia. Clinical aspects of tumor growth.

2. Metastasis. Routes of metastasis. Mechanisms of malignant transformation.

3. Proto-oncogenes, oncogenes, tumor suppressor genes. Mechanisms of action, examples. Role in carcinogenesis.

4. Pathogenesis of carcinogenesis. Stages of initiation, promotion, progression.

Genetic diseases

1. Hereditary diseases. Gene and chromosome mutations. Monogenic and polygenic disorders.

2. Autosomal dominant disorders. Examples, karyotype, clinical aspects.

3. Autosomal recessive disorders. Examples, karyotype, clinical aspects.

4. X-linked disorders. Examples, karyotype, clinical aspects.

5. Lysosomal storage diseases. Tay-Sachs Disease, Niemann-Pick Diseas, Gaucher Disease, mucopolysaccharidoses. Glycogen storage diseases.

6. Diseases caused by mutations in genes encoding structural rroteins. Marfan syndrome. Ehlers-Danlos syndrome.

7. Diseases caused by mutations in genes encoding receptor proteins or channels. Familiar hypercholesterinemia. Cystic fibrosis.

8. Diseases caused by mutations in genes encoding enzyme proteins. Phenylketonuria. Galactosemia.