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| **Colloquium** №**4** |
|  | Characteristics of the notion «tumor».  Malignant and benign tumors, their characteristics. |
| 2.   | Mechanisms of infiltrative growth and metastasis of tumors. |
| 3.   | Meaning of hereditary factors, sex, age in occurrence and development of tumors in humans. |
| 4.   | Characteristics of the notions of «tumor progression». |
| 5.   | Systemic effect of the tumor on the body. Paraneoplastic syndrome, its pathogenesis, the main manifestations. The pathogenesis of cancer cachexia. |
| 6.   | The stages of initiation and promotion in the process of carcinogenesis. |
| 7.   | Tumor atypia, its varieties (morphological, metabolic and functional). |
| 8.   | The concept of pre-cancerous conditions. Obligate and facultativeprecancer. |
| 9.   | Etiology of tumors. |
| 10.   | Antineoplastic resistance of the organism. |
| 11.   | Heart failure syndrome, definition of the concept; its forms and stages. |
| 12.   | Cardiac insufficiency due to overloads, types, its causes, mechanisms of development. |
| 13.   | Myocardial heart failure: etiology and pathogenesis. |
| 14.   | Tonogenic and myogenic dilatation of heart, their characteristics, causes, mechanisms of development and pathogenetic significance.    |
| 15.   | Compensatory mechanisms  of the heart to overloads, theircharacteristics    |
| 16.   | Hypertrophy of the myocardium, its forms and stages, morpho-functional characteristic |
| 17.   | Non-coronarogenic type of the myocardium injury, etiology and pathogenesis. |
| 18.   | Ischemic heart disease: forms, causes, mechanisms of development, consequences. Myocardial infarction. |
| 19.   | Cardiac tamponade, causes, mechanism of development, ways of compensating, clinical manifestations. |
| 20.   | Clinical manifestations and hemodynamic parameters of decompensated stage of the heart failure. |
| 21.   | The definition of the notion «cardiac arrhythmias». Classification of arrhythmias. |
| 22.   | Atrial extrasystole, causes, mechanisms of development, ECG-manifestations.   |
| 23.   | Atrioventricular extrasystole, causes, mechanisms of development, ECG-manifestations.   |
| 24.   | Ventricular extrasystole, causes, mechanisms of development, ECG-manifestations. |
| 25.   | Atrial and [ventricular](http://wooordhunt.ru/word/ventricular) [flutter](http://wooordhunt.ru/word/flutter), atrial and [ventricular](http://wooordhunt.ru/word/ventricular) fibrillation, the definition of the notions, causes, mechanisms of development, ECG-manifestations. |
| 26.   | Distinctive ECG signs of atrial and ventricular extrasystole. |
| 27.   | Paroxysmal tachycardia, the definition of the notion, causes, mechanisms of development, ECG-manifestations. |
| 28.   | Arrhythmias due to a violation of the automatism of the sinoatrial node, characteristic, ECG-signs. |
| 29.   | Sinus block, the definition of the notions, causes, mechanisms of development, ECG-manifestations. |
| 30.   | Conduction disorders in the AV (atrioventricular) node, first degree, causes, characteristics, ECG-signs. |
| 31.   | Conduction disorders in the AV (atrioventricular) node, second degree, causes, characteristics, ECG-signs. |
| 32.   | Conduction disorders in the AV (atrioventricular) node, third degree, causes, characteristics, ECG-signs, consequences. |
| 33.   | His bundle blocks, its types, causes, mechanisms of development, ECG-manifestations. |
| 34.   | Arterial hypertension, the definition of the notion, classification. |
| 35.   | Hypertensive disease, etiology, general pathogenesis, clinical stages (their characteristics), consequences and complications. |
| 36.   | Secondary (symptomatic) arterial hypertension. The role of the kidneys in the development of arterial hypertension. |
| 37.   | Atherosclerosis, it etiology and pathogenesis. |
| 38.   | Arterial hypotensions, сlassification, etiology, pathogenesis.  |
| 39.   | Characteristics of the notion of respiratory insufficiency; its types, etiology. |
| 40.   | Changes in the gas composition of blood and acid-base state in respiratory failure in the stage of compensation and decompensation. |
| 41.   | Breathlessness, characteristic of the concept, types, etiology and mechanism of development. |
| 42.   | Etiology and pathogenesis of lungs ventilation disorders of the obstructive type, rates of ventilation. Examples of diseases. |
| 43.   | Etiology and pathogenesis of lungs ventilation disorders of the restrictive type, rates of ventilation. Examples of diseases. |
| 44.   | Impairments of gas diffusion through the lung membrane, causes, mechanisms of development  and manifestations. |
| 45.   | Causes and pathogenesis of the impairment of pulmonary perfusion, consequences. Ventilation-perfusion mismatch. |
| 46.   | Regulation impairments of respiration, etiology, characteristics of remitting forms of breathing. |
| 47.   | Periodic respiration, forms, etiology, pathogenesis, characteristics. |
| 48.   | Atelectasis of the lung, types, causes, consequences. |
| 49.   | Respiratory failure due to lesions of the pleura, the causes, mechanism of development, consequences. |
| 50.   | Disorders of alveolar ventilation, etiology, pathogenesis, gas composition of blood, consequences. |
| 51.   | Emphysema of the lungs, etiology, pathogenesis, changes in pulmonary volumes, consequences. |
| 52.   | Asphyxia. Etiology, pathogenesis, development stages. |
| 53.   | Pneumothorax, types, causes, consequences. |