

Learning Objectives - Faculty of Stomatology

Pathophysiology 2

1. Normovolemia, its types
2. Hypovolemia, its types and mechanisms
3. Hypervolemia, its types and mechanisms
4. Classification of anemias
5. Acute posthemorrhagic anemia. Changes in blood during acute posthemorrhagic anemia
6. Immediate compensatory mechanisms in acute posthemorrhagic anemia
7. Later compensatory mechanisms in acute posthemorrhagic anemia
8. Chronic posthemorrhagic anemia. Changes in blood during chronic posthemorrhagic anemia
9. Hereditary, congenital and acquired hemolytic anemias
10. Changes in blood during hemolytic anemias
11. Toxic-hemolytic anemias
12. Immune hemolytic anemias
13. Physiological and pathological jaundice of newborns
14. Mechanisms of hemolysis of erythrocytes
15. Erythrocytopathies (membranopathies)
16. Hemoglobinopathies
17. Pathogenesis of sickle cell anemia
18. Thalassemia, its types
19. Enzymopathies. Pathogenesis of glucose-6-phosphate dehydrogenase deficiency anemia
20. Anemias developed due to hemopoiesis disorders
21. Causes of iron deficiency anemia development
22. Mechanism and manifestations of achlorhydric anemia
23. Mechanism of hyperchromic macrocytes formation in vitamin B12 (and/or folic acid) deficiency anemia
24. Blood picture in vitamin B12 (and/or folic acid) deficient anemia
25. Pathogenesis of Addison-Birmer pernicious anemia
26. Causes and contributing factors of hypo- and aplastic anemias
27. Blood picture during hypo- and aplastic anemias
28. False and true erythrocytosis, mechanisms of their development
29. Pathogenesis of Polycythemia Rubra Vera - Vaquez disease
30. Changes in blood during Vaquez disease
31. Factors causing leukopoiesis disorders
32. Leukocyte maturation disorder, its types
33. Degenerative changes of leukocytes
34. Changes in the leukocyte formula
35. Physiological and pathological leukocytosis
36. Neutrophilia

37. Eosinophilia
38. Lymphocytosis
39. Quantitative and qualitative changes of leukocytes
40. Leukemoid reactions
41. Leukopenia, its types
42. Agranulocytosis
43. Oral status in individuals experiencing agranulocytosis
44. Aleikia, aneosinophilia
45. Leukosis and its types
46. Etiology and pathogenesis of leukemia
47. Forms of acute leukemia according to the number of leukocytes in the blood
48. Hemorrhagic syndrome during acute myeloblastic leukemias
49. Chronic myelogenous leukemia
50. Thrombocytopenia and thrombocytopathy
51. Mechanisms of hypercoagulation
52. Thrombohemorrhagic complications in dental practice
53. Causes of acute circulatory failure
54. Causes of chronic blood circulation failure
55. The essence of heart failure
56. Heart failure developed due to overload
57. Heart failure developed due to myocardial injury
58. Heart failure developed due to damage to the pericardium
59. Left ventricular and right ventricular heart failure
60. Cardiac overload with increased volume
61. Cardiac overload with increased resistance
62. Aortic valvular defect
63. Tonogenic and myogenic dilation of myocardium
64. Mitral defect
65. Hypertension of the systemic and pulmonary circulations
66. Determining factors of total peripheral vascular resistance
67. Heart failure caused by myocardial injury
68. Coronary insufficiency
69. Non-coronary necrosis of the myocardium
70. Coronarogenic necrosis of the myocardium
71. Ischemic heart disease
72. Types of angina pectoris
73. Myocardial infarction
74. Vasoactive endothelial factors
75. Cardiomyocyte damage during coronary insufficiency
76. Damaging impact of excessive catecholamine levels on the myocardium
77. Mechanism and manifestations of life-threatening complications of myocardial infarction
78. Mechanism of relative coronary insufficiency
79. Necrosis of the myocardium due to catecholamine excess

80. Compensatory mechanisms of the heart
81. Homeometric and heterometric mechanism of compensatory changes in cardiac muscle contractility
82. Features of hypertrophied myocardium
83. Mechanism of formation of "pulmonary heart – cor pulmonale".
84. Factors causing chronic cardiopulmonary failure
85. Mechanism of development of heart failure
86. Cardiac arrhythmias
87. Arrhythmias developed as a result of automaticity disorder
88. Nomotopic and heterotopic arrhythmias
89. Sinus tachycardia, relative bradycardia
90. Sinus bradycardia
91. Arrhythmias developed due to disturbance of excitability and impulse conduction
92. Extrasystolic arrhythmia
93. Atrioventricular extrasystole
94. Ventricular extrasystole
95. Paroxysmal tachycardia
96. Cardiac arrhythmias developed as a result of electric conduction disturbances
97. Heart block, its forms
98. Atrial fibrillation
99. Determinants of mean blood pressure
100. Mechanism of centrogenic hypertension
101. The role of vascular wall baroreceptors in blood pressure regulation
102. Humoral regulation of vascular tone
103. Effects of the renin-angiotensin system on vascular tone
104. Mechanism of renoparenchymal hypertension
105. The role of the sympathetic-adrenal system in the development of hypertension
106. Etiology and pathogenesis of hypertensive disease
107. Factors involved in the development of hypertensive disease
108. The main pathogenic links of hypertensive disease
109. Pathogenesis of pulmonary hypertension
110. Mechanism and types of arterial hypotension
111. The main links of the pathogenesis of arterial hypotension
112. Processes that determine gas exchange in the lungs
113. Respiratory failure
114. The main causes of respiratory disorders
115. The primary factors involved in the nervous and humoral regulation of breathing
116. Factors reducing the excitability of the respiratory center
117. Etiology of alveolar ventilation disorder
118. Effect of carbon dioxide levels on lung ventilation
119. The role of the vagus nerve in breathing regulation
120. The main causes of lung hypoventilation

121. Causes of respiratory movement disorders of the chest
122. Pneumo-, hydro- and hemothorax
123. Causes and mechanism of obstructive type of respiratory failure
124. Causes, mechanism and consequences of lower respiratory tract airway obstruction
125. Lung ventilation disorders associated with a decrease in the respiratory surface area of the lungs
126. Causes of restrictive respiratory failure
127. Pulmonary fibrosis
128. Surfactant and the consequences of its deficiency
129. Pulmonary atelectasis
130. Forms of pulmonary ventilation disorders
131. Hyper- and hypoventilation, causes and consequences of their development
132. Disturbance of diffusion in the alveoli
133. Causes of diffusion disorders in alveoli
134. Alveolar-capillary block
135. Causes and mechanisms of decreased perfusion of pulmonary vessels
136. Forms of respiratory failure
137. Causes of dyspnea and mechanisms of its development
138. Inspiratory dyspnea
139. Expiratory dyspnea
140. Mixed type of dyspnea
141. Cough, its causes and mechanism
142. The primary pathways of dyspnea development in cardiac asthma
143. Periodic breathing
144. Cheyne-Stokes, Biot, Kussmaul's "big" gasping breath
145. Impairment of bronchi, bronchioles, and alveolar function.
146. Pneumonia
147. Lung emphysema and atelectasis
148. Pneumothorax
149. Asphyxia
150. The role of lungs in water balance regulation
151. Indigestion
152. Disruption of nervous and humoral regulation of digestion
153. Indigestion in the mouth
154. Plaque on the tongue, swelling of the tongue and hypertrophy of the tongue
155. Tooth caries, its mechanisms
156. Causes and consequences of saliva secretion disorders
157. Hyposalivation, causes and consequences
158. Hypersalivation, causes and consequences
159. Inflammation of oral tissues
160. Cheilitis
161. Xerostomia
162. Sjogren's syndrome

163. Periodontitis, its types
164. Periodontitis
165. Pulpitis
166. Causes and consequences of gastric reservoir function disorders
167. Hyper- and hyposecretion of gastric juice
168. Achylia, its types and results
169. Changes in the acidity of gastric juice
170. Disorders of the stomach's motor function, its causes and consequences.
171. Gastric hypertonia and atony
172. Hyperkinesis and hypokinesis of the stomach
173. Types of gastric motor function disorders
174. Mechanism of heartburn
175. Mechanisms of hiccups, heartburn, nausea and vomiting
176. Disturbance of the absorptive function of the stomach
177. Disturbance of excretory function of the stomach
178. Etiological factors of peptic ulcer disease
179. The role of helicobacter in the development of peptic ulcer disease
180. Pathogenesis of peptic ulcer disease
181. Mechanisms of gastric protection against aggressive factors and peptic damage
182. Indigestion in the intestines
183. Indigestion in the intestines - remote stage
184. Membranous indigestion in intestines
185. Bile secretion disorder, hypocholia and acholia
186. Causes and consequences of pancreatic juice secretion disorders
187. Pancreatic Achylia
188. Mechanisms of development of pancreatitis
189. Indigestion in the small intestine
190. Impairment of intestinal mucosa and its absorption capabilities
191. Acquired malabsorption syndrome
192. Intestinal motility dysfunction
193. Constipation, its types
194. Spasmodic constipation
195. Atonic constipation
196. Intestinal obstruction, its types
197. Autointoxication from intestines
198. Liver failure and its type
199. The main causes of liver damage
200. Hepatocellular and shunting forms of liver failure; Fulminant, acute and chronic forms
201. The primary components of the mechanism of liver failure
202. Metabolism during liver damage (disorders of fat, protein metabolism)
203. Changes in blood proteins during liver failure (paraproteinemia, dysproteinemia, etc.)
204. Impairment of liver detoxification function
205. Toxemic syndrome during liver failure

206. Portal hypertension
207. Hepatic coma, its pathogenetic factors and types
208. The role of ammonia metabolism in brain damage during hepatic coma
209. The role of hypoglycemia in the pathogenesis of hepatic coma
210. Disturbance of the bile-secreting function of the liver
211. Cholemia and related pathological events
212. Causes, consequences and manifestations of acholia. Acholic syndrome
213. Pathogenesis of mechanical jaundice
214. Pathogenesis of parenchymal jaundice
215. Pathogenesis of hemolytic jaundice
216. Blood circulation disorder during liver failure
217. Causes, types and consequences of portal hypertension
218. Causes of renal dysfunction
219. Dysregulation of urine secretion
220. Impairment of the function of nephrons
221. Reasons and mechanism of filtration and urine output reduction
222. Reasons and mechanisms of increased permeability of renal glomeruli
223. Causes and mechanisms of proteinuria
224. Mechanisms of functional proteinuria
225. Mechanisms of organic proteinuria
226. "Non-selective proteinuria"
227. Globular proteinuria
228. Impairment of the excretory function of the kidneys
229. Disorders of renal tubule function
230. Tubular reabsorption disorders
231. Disturbance of reabsorption of sodium and water in renal tubules
232. Hypokalemia
233. Disturbance of backflow of water in tubules
234. Disturbance of glucose reabsorption in renal tubules
235. Disturbance of protein reabsorption in convoluted tubules
236. Tubular protein
237. Impairment of tubular secretion
238. Proteinuria, glucosuria
239. Hematuria, leukocyturia, cylindruria
240. Acute diffuse glomerulonephritis, its main causes
241. Immunocomplex mediated glomerulonephritis
242. Chronic diffuse glomerulonephritis, its forms
243. The main causes of primary and secondary nephrotic syndrome
244. Pyelonephritis, its causes and manifestations
245. General events during kidney damage
246. Azotemia
247. Renal arterial hypertension
248. Renal anemia

249. Hypocoagulable, hemorrhagic syndrome during kidney disease
250. Acute kidney failure
251. Chronic kidney failure
252. Uremia, uremic coma
253. Hypophyseal and parhypophyseal way of endocrine regulation
254. Negative feedback between endocrine glands
255. Pathological processes in endocrine glands
256. Peripheral (non-glandular) mechanisms of hormone activity disorders
257. Insufficiency of the anterior part of the pituitary gland (hypopituitarism)
258. Panhypopituitarism and its consequences
259. Partial hypofunction of the adenohypophysis
260. Dwarfism
261. Infantilism (gonadotropic failure) in girls and boys
262. Adipogenic dystrophy
263. Adenohypophysis hyperfunction
264. Etiology and pathogenesis of adenohypophysis hyperfunction
265. Pituitary gigantism, acromegaly
266. Metabolic disorders during gigantism and acromegaly
267. Consequences of the excess production of ACTH
268. Neurohypophysis function disorder and its manifestations
269. Pathogenesis of diabetes insipidus
270. Thyrotoxicosis
271. Gout (Graves' disease)
272. Toxic goiter (Plummer's disease)
273. The "Iod-Basedov" phenomenon
274. Thyrotoxicosis causes, manifestations and their mechanism
275. Thyroid hypofunction, its causes and mechanisms
276. Myxedema
277. Cretinism
278. Endemic goiter
279. Disorder of thyrocalcitonin secretion
280. Dysfunction of parathyroid glands
281. Hyperparathyroidism
282. Osteodystrophy, nephrocalcinosis, hypoparathyroidism
283. Parathyroid tetany
284. Mechanism of clinical signs of hypoparathyroidism
285. Adrenal gland dysfunction, corticoid insufficiency
286. Acute corticoid failure
287. Addison's disease
288. Exchange of water and electrolytes during aldosterone and glucocorticoid deficiency
289. Vascular tone changes in adrenal gland dysfunction
290. Carbohydrate exchange in adrenal gland dysfunction
291. Events in adrenal gland failure and their main mechanisms

292. Hyperpigmentation in adrenal insufficiency
293. Mechanisms of adrenal cortex hyperfunction
294. Manifestations of hypercorticism, Cushing's disease and syndrome
295. Mechanism of manifestations of hyperaldosteronism (Kohn's disease).
296. Secondary hyperaldosteronism
297. Adrenogenital syndromes and its types
298. Corticosteroma, androsteroma
299. Hermaphroditism, feminism, hirsutism, virilization
300. Hyperfunction of the medulla of the adrenal gland (pheochromocytoma)
301. Impairment of the male gonadsfunction
302. Hypo- and hypergonadism
303. Impairment of the function of the female gonads
304. Pathological weakening of nervous regulation, its causes and mechanisms
305. Pathogenesis of denervation syndrome
306. Pathological enhancement of nervous influence, its causes and mechanisms
307. Types and mechanisms of sensitivity disorders
308. Pain, its types (protopathic, epicritic, phantom)
309. Pain development mechanism
310. The role of disturbance of the antinociceptive system in the formation of pain
311. Mechanisms of disturbance of the driving function of the nervous system
312. Hypokinesia
313. Hyperkinesia
314. Experimental neuroses
315. Types of neurosis