1. What is the pathophysiological mechanism of relative leukocytosis?
2. What are biochemical changes characteristic for intravascular hemolysis?
3. What is the pathophysiological mechanism of autoimmune hemolytic anemia?
4. What are hematological changes in the peripheral blood in aplastic anemia?
5. What is the pathogenetic mechanism of neurologic syndrome in B12 deficiency?
6. What is the pathophysiological mechanism of aplastic anemia triggered by cytostatic administration?
7. How mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) change in B12 deficiency anemia?
8. For what heart disorders there is characteristic heterometric hyperfunction?
9. For what heart disorders there is characteristic homeometric hyperfunction?
10. For what type of neutrophilia there is characteristic the presence of signs of neutrophil degeneration?
11. How change arterial blood pressure (BP) in a patient with absolute primary erythrocytosis?
12. How change arterial blood pressure (BP) in a patient with relative erythrocytosis?
13. How change circulatory blood volume (CBV) and serum iron in absolute primary erythrocytosis?
14. How change circulatory blood volume (CBV) and serum iron in absolute secondary erythrocytosis?
15. How change circulatory blood volume (CBV) and serum iron in relative erythrocytosis?
16. How change the circulatory blood volume (CBV) and blood viscosity in absolute erythrocytosis?
17. How change the circulatory blood volume (CBV) and blood viscosity in relative erythrocytosis?
18. How circulatory blood volume is changed in a patient with activation of JAK 2 gene?
19. How circulatory blood volume is changed in a patient with activation of HIF -1α gene?
20. How circulatory blood volume is changed in a patient with chronic respiratory failure?
21. How circulatory blood volume is changed in a patient with hormone-producing tumor at the level of reticular layer of the adrenal cortex?
22. How hematocrit (Ht) and mean corpuscular hemoglobin concentration (MCHC) is changed in absolute secondary erythrocytosis?
23. How hematocrit (Ht) and mean corpuscular hemoglobin concentration (MCHC) is changed in absolute primary erythrocytosis?
24. How hematocrit (Ht) and mean corpuscular volume (MCV) of erythrocytes is changed in relative erythrocytosis?
25. How hematocrit (Ht) and mean corpuscular volume (MCV) of erythrocytes is changed in absolute secondary erythrocytosis?
26. How hematocrit (Ht) and mean corpuscular volume (MCV) of erythrocytes is changed in absolute primary erythrocytosis?
27. How hemoglobin (Hb), mean corpuscular hemoglobin (MCH) and mean corpuscular hemoglobin concentration (MCHC) are changed in iron deficiency anemia?
28. How hemoglobin (Hb), mean corpuscular hemoglobin (MCH) and seric ferritin are changed in iron deficiency anemia?
29. How is defined acute leucosis?
30. How is defined hemoblastosis?
31. How is defined leucosis?
32. What pathological processes at the level of hematopoietic bone marrow are present in acute leucosis?
33. What is the distinct hematological sign in hemolysis triggered by mechanical trauma of erythrocytes?
34. What is a characteristic pathophysiological mechanism for intravascular hemolysis?
35. What is a hematological change in the peripheral blood in absolute secondary erythrocytosis?
36. What is a pathogenetic factor involved in development of iron deficiency anemia?
37. How mean corpuscular hemoglobin concentration (MCHC) and mean corpuscular hemoglobin (MCH) are changed in iron deficiency anemia?\
38. How mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) change in folate deficiency anemia?
39. How mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) are changed in iron deficiency anemia?
40. How mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) are changed in folate deficiency anemia?
41. How mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) are changed in B12 deficiency anemia?
42. How mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH) and mean corpuscular hemoglobin concentration (MCHC) are changed in iron deficiency anemia?
43. How mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH) and seric ferritin are changed in iron deficiency anemia?
44. How mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH) and mean corpuscular hemoglobin concentration (MCHC) are changed in iron deficiency anemia?
45. How mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH) and mean corpuscular hemoglobin concentration (MCHC) are changed in B12 deficiency anemia?
46. How mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH) and mean corpuscular hemoglobin concentration (MCHC) are changed in folate deficiency anemia?
47. How reticulocyte count is changed in relative erythrocytosis?
48. How the erythropoietin level is changed in absolute primary erythrocytosis?
49. How the erythropoietin level is changed in absolute secondary erythrocytosis?
50. How the erythropoietin level is changed in relative erythrocytosis?
51. In acute leukemia of myeloid lineage patients frequently develop severe infections. What is the pathogenesis?
52. In what condition can be found polycythemic hypovolemia?
53. In what conditions can be found absolute lymphocytosis?
54. In what conditions can be found normocythemic hypovolemia?
55. In what conditions can be found oligocythemic hypervolemia?
56. What is the pathogeny of neurological manifestations in pernicious anemia triggered by deficiency of B12?
57. What is hematologic criterion of subleukemic myeloid leucosis?
58. In what conditions can be found oligocythemic hypovolemia?
59. In what conditions can be found polycythemic hypervolemia?
60. In what conditions can be found polycythemic hypovolemia?
61. Neutropenia in the patient is associated with frequent infections. What is the pathogenesis
62. On the basis of what cells there is increased hematocrit in patients with absolute primary erythrocytosis?
63. RDW (red cell distribution) is a hematological parameter which characterize the degree of anisocytosis and is used together with MCV to perform differential diagnosis of anemias. What type of anemia is characterized by enhanced RDW and reduced MCV.
64. Toxic substances can react with SH group of globin and form Heinz bodies by precipitation of globin. What is the mechanism of hemolysis in this case?
65. Transportation of iron Fe2+ from enterocytes and macrophages in the bloodstream is regulated by hepcidin. How iron transportation from enterocytes and macrophages in the bloodstream is affected in deficiency of hepcidin?
66. Transportation of iron Fe2+ from enterocytes and macrophages in the bloodstream is regulated by hepcidin. How iron transportation from enterocytes and macrophages in the bloodstream is affected in excessive level of hepcidin?
67. What are biochemical changes characteristic for intravascular hemolysis?
68. What are biochemical changes in intracellular hemolysis?
69. What anemias are characterized by MCH (mean corpuscular hemoglobin) < than normal ranges?
70. What anemias are characterized by MCV (mean corpuscular volume) < than normal ranges?
71. What are characteristic clinical manifestations in hemolysis triggered by drugs or chemical products?
72. What are characteristic clinical manifestations in immune mediated hemolysis?
73. What are general characteristic of hemolytic anemias?
74. What are general characteristics of acquired hemolytic anemias?
75. What are general characteristics of hemolytic anemias?
76. What pathological processes at the level of hematopoietic bone marrow are present in acute leucosis?
77. What does represent pancytopenia?
78. What does represent agranulocytosis?
79. What are general features of aplastic anemia?
80. What are hematological changes in B12 deficiency anemia?
81. What are hematological changes in folate deficiency anemia?
82. What are hematological changes in the peripheral blood in absolute primary erythrocytosis?
83. What are hematological changes in the peripheral blood in aplastic anemia?
84. What are hematological changes in the peripheral blood in relative erythrocytosis?
85. What are hematological criteria of aleukemic myeloid leucosis?
86. What are clinical manifestations in aplastic anemia?
87. What are common biochemical changes which are found in both, intravascular and extravascular hemolysis?
88. What are compensatory reactions in anemias?
89. What are distinct hematological changes in autoimmune hemolytic anemia?
90. What are gastrointestinal manifestations in B12 deficiency?
91. What are metabolic disorders in deficiency of B12?
92. What are pathogenetic mechanisms of neurologic syndrome in B12 deficiency?
93. What are pathogenetic factors involved in development of iron deficiency anemia?
94. What are pathogenetic mechanisms of iron deficiency anemia which develop in chronic inflammatory diseases?
95. What are pathophysiological mechanisms of clinical manifestations in B12 deficiency anemia?
96. What are specific manifestations in intravascular hemolysis?
97. What are pathophysiological mechanisms of autoimmune hemolytic anemia?
98. What are the characteristics of acute leucosis of lymphoid lineage?
99. What are the characteristics of acute leucosis of myeloid lineage?
100. What are the characteristics of agranulocytosis in aplastic anemia?
101. What are the features of absolute leukocytosis?
102. What are the features of relative leukocytosis?
103. What are the intrinsic causes of hemolytic anemias?
104. What is the other clinical term to define neutrophilia with “left nuclear shift” hyperregenerative type?
105. What does represent “hiatus leukemicus” in development of acute myeloblastic leukemia?
106. What erythrocytes are subjected to excessive hemolysis?
107. What is the mechanism of intravascular hemolysis in hemolytic anemias?
108. What is the pathogenesis for increased hematocrit in relative erythrocytosis?
109. What is the pathogenesis of gastrointestinal syndrome in B12 deficiency anemia?
110. What is the pathogenesis of gastrointestinal syndrome in folate deficiency anemia?
111. What is the pathogenetic mechanism of absolute primary erythrocytosis?
112. What is the pathogenetic mechanism of anemic syndrome in B12 deficiency?
113. What is the pathogenetic mechanism of atypical mitosis in B12 deficiency anemia?
114. What is the pathogenetic mechanism of iron deficiency anemia in chronic inflammation?
115. What is the pathogenetic mechanism of neurologic syndrome in B12 deficiency?
116. What is the pathogenetic mechanism of pernicious anemia?
117. What is the cause of neutrophilia with “left nuclear shift” hyperregenerative type?
118. What is the cause of neutrophilia with “right nuclear shift”?
119. What is the cause of neutrophilia?
120. What is the cause of relative lymphocytosis?
121. What is the characteristic of agranulocytosis in aplastic anemia?
122. What is the clinical significance for interpretation of reticulocyte count in the peripheral blood?
123. What is the clinical significance of relative lymphocytosis in the patient?
124. What is the hematologic sign for leucocytopenic myeloid leucosis?
125. What is the hematologic sign of leukemic myeloid leucosis ?
126. What form of neutrophils is found in the peripheral blood in neutrophilia with “left nuclear shift”?
127. What forms of neutrophils are found in the peripheral blood in neutrophilia with “right nuclear shift”?
128. What forms of young neutrophils are found in the peripheral blood in neutrophilia with “left nuclear shift” hyperregenerative type?
129. What forms of young neutrophils are found in the peripheral blood in neutrophilia with “left nuclear shift” regenerative type?
130. What forms of young neutrophils are found in the peripheral blood in neutrophilia with “left nuclear shift” hyporegenerative type?
131. What forms of young neutrophils are found in the peripheral blood in neutrophilia with “left nuclear shift”?
132. What hematological disorders are associated with relative lymphocytosis?
133. What hemoglobin compounds have low oxygen capacity?
134. What immunoglobulins are involved in development of secondary agranulocytosis?
135. What does represent neutrophilia with “left nuclear shift”?
136. What does represent neutrophilia with “right nuclear shift”?
137. What does mean anaplasia of hematopoietic bone marrow in pathogenesis of acute leucosis?
138. What does mean hyperplasia of hematopoietic bone marrow in pathogenesis of acute leucosis?
139. What does mean metaplasia of hematopoietic bone marrow in pathogenesis of acute leucosis?
140. What clinical manifestations are characteristic in patient with Vaquez disease?
141. What conditions are associated with relative leukocytosis?
142. What can be possible causes leading to B12 vitamin deficiency in the patients?
143. What biochemical change is found in both, intravascular and intracellular hemolysis?
144. What biochemical changes in the blood are found in B12 deficiency anemia?
145. What are the pathogenetic mechanisms of relative erythrocytosis?
146. What are the sources which participate in iron homeostasis in the body of human being?
147. What are the pathogenetic mechanisms which explain paleness of skin, mucosal layers and nail beds in anemia?
148. What are the pathophysiological mechanisms of autoimmune neutropenia?
149. What are the pathophysiological mechanisms of secondary agranulocytosis?
150. What are the signs of neutrophil degeneration?
151. What is the pathophysiological mechanism of absolute lymphocytosis?
152. What type of anemia is considered hypochromic according to mean corpuscular hemoglobin (MCH) ˂ 27 pg?
153. What type of erythrocytosis develop and how change the erythropoietin level (EPO) in smokers?
154. What type of erythrocytosis is found in patients with chronic respiratory failure ?
155. What type of erythrocytosis is found in patients with hormone-producing tumor at the level of reticular layer of the adrenal cortex?
156. What type of erythrocytosis is found in patients with renal ischemia?
157. What type of hemolysis is characteristic for clinical conditions associated with changes in erythrocyte shape and flexibility?
158. What types of anemia are considered macrocytic according to mean corpuscular volume (MCV )> 100 fl?
159. What types of anemias are considered hyperchromic according to mean corpuscular hemoglobin (MCH) > 35 pg?
160. What types of anemias are considered hyperregenerative according to reticulocyte count in the peripheral blood > 1,5%?
161. What types of anemias are considered hypochromic according to mean corpuscular hemoglobin (MCH) ˂ 27 pg?
162. What types of anemias are considered hyporegenerative according to reticulocyte count in the peripheral blood ˂ 1,5%?
163. What types of anemias are considered microcytic according to mean corpuscular volume (MCV ) ˂ 80 fl?
164. When can be found primary agranulocytosis?
165. When can be found secondary agranulocytosis?
166. What is the pathophysiological mechanism of autoimmune neutropenia?
167. What is the pathophysiological mechanism of clinical manifestations in folate deficiency anemia?
168. What laboratory parameters reflect etiology of anemia?
169. What leukocytosis are considered physiological?
170. What metabolic effects of B12 are disturbed in megaloblastic anemia?
171. What is the pathophysiological mechanism of itching in patients with Vaquez disease?
172. What is the pathophysiological mechanism of neutrophilia?
173. What is the pathophysiological mechanism of primary agranulocytosis?
174. What is the pathophysiological mechanism of relative leukocytosis in physical effort?
175. What is the pathophysiological mechanism of relative lymphocytosis?
176. What is the pathophysiological mechanism of secondary agranulocytosis?
177. What is the pathophysiological mechanisms of absolute leukocytosis?
178. In what pathological conditions there can develop dysmetabolic heart failure?
179. In what pathological conditions there is attested heart overload with resistance?
180. In what pathological conditions there is attested heart overload with volume?
181. In what pathological processes can be attested sinus bradycardia?
182. What are compensatory mechanisms of diastolic heart failure?
183. What are characteristic manifestations in decompensated left heart failure?
184. What are characteristic manifestations in decompensated right heart failure?
185. What are immediate cardiac compensatory reactions in heart failure?
186. What are immediate extracardiac compensatory reactions in heart failure?
187. What are late compensatory reactions in heart failure?
188. What are late extracardiac compensatory reactions in heart failure?
189. What are mechanisms of hypervolemia in chronic heart failure?
190. What are mechanisms of hypervolemia in heart failure?
191. What are mechanisms of peripheral cardiac edema?
192. What are the consequences of left ventricular failure?
193. What are the consequences of myocardial ischemia?
194. What are the consequences of portal hypertension in right cardiac failure?
195. How the stroke volume (SV) and cardiac output (CO) are changed in decompensated heart failure?
196. In heart failure BNP (brain natriuretic peptide) production increases. What are its effects?
197. What are the consequences of venous stasis in circulatory insufficiency?
198. What are the extra cardiac compensatory mechanisms of heart failure?
199. What cardiac arrhythmias are caused by automatism disorders?
200. What cardiac arrhythmias are caused by excitability disorders?
201. What is one of late extracardiac compensatory reaction in heart failure?
202. What is one of the immediate cardiac compensatory reactions in heart failure?
203. What is one of the immediate extracardiac compensatory reactions in heart failure?
204. What is one of the late cardiac compensatory reactions in heart failure?
205. What is one of the mechanisms of heterometric hyperfunction of the heart?
206. What is the mechanism of homeometric hyperfunction of the heart?
207. What is the mechanism of hypervolemia in chronic heart failure?
208. In which cases is attested rare and deep breathing?
209. In what disorders is attested shallow and accelerated breathing?
210. In what disorders is attested shallow and accelerated breathing?
211. In what pathological cases there can be attested expiratory dyspnea?
212. How do the intratoracic pressure and venous return to the heart change in shallow breathing?
213. What are the sources of proteolytic enzymes which damage pulmonary alveoli
214. One of characteristic sign of pulmonary emphysema is shortening of inspiration. What is explanation of this sign in emphysema?
215. One of the characteristic sign of pulmonary emphysema is the impaired expiration. What is the explanation of impaired expiration in emphysema?
216. One of the characteristic sign of pulmonary emphysema is the increasing of thoracic cavity volume (“barrel chest”). What is the explanation of this sign in pulmonary emphysema?
217. What acid – base imbalance is attested in condition of hyperventilation?
218. What acid- base imbalance is attested in hypoventilation?
219. What active biological substances have bronchodilator effect?
220. What are Ang II mechanisms in the pathogenesis of essential hypertension?
221. What are causes of rare and deep breathing (stenotic breathing)?
222. What are causes of rare and deep breathing (stenotic breathing)?
223. What are pathogenetic mechanisms of acute respiratory distress syndrome in adult?
224. What are pathogenetic mechanisms of pneumosclerosis
225. What are pathophysiological mechanisms of bronchial obstruction?
226. What are possible causes of right heart failure?
227. What are the catecholamine mechanisms in pathogenesis of essential hypertension?
228. What are the causes of extrapulmonary restriction?
229. What are the causes of exudate accumulation into the pleural cavity?
230. What are the causes of hyperventilation?
231. What are the causes of hypoventilation?
232. What are the causes of intraparenchymatouse restrictive lung diseases?
233. What are the causes of nonobstructive atelectasis?
234. What are the causes of pneumosclerosis?
235. What are the causes of rare and deep breathing (stenotic breathing)?
236. What are the causes of transudate accumulation into the pleural cavity?
237. What are the consequences of atelectasis?
238. What are the extrinsic causes of hemolytic anemias?
239. What are the key elements which define the bronchial asthma?
240. What are the local anti-pulmonary edema compensatory reactions?
241. What are the main characteristics of acute respiratory distress syndrome?
242. What are the main manifestations in bronchial asthma?
243. What are the main pathogenetic factors involved in development of bronchial asthma?
244. What are the manifestations of pneumosclerosis?
245. What are the mechanisms of aldosterone in the pathogenesis of essential hypertension?
246. What are the mechanisms of heterometric hyperfunction of the heart?
247. What are the mechanisms of homeometric hyperfunction of the heart?
248. What are the mechanisms of relative hypoxia in the hypertrophied heart?
249. What are the mechanisms of shallow and accelerated breathing?
250. What are the mechanisms responsible for exhaustion of functional capacity of the heart with hypertrophy and development of cardiosclerosis?
251. What are the pathogenetic mechanisms non-obstructive atelectasis?
252. What are the pathogenetic mechanisms of non-obstructive atelectasis?
253. What are the structural changes in the heart with hypertrophy?
254. What are types of pneumothorax?
255. What biological active substances have bronchoconstrictor effect?
256. What biological active substances increase the arterial pressure in pulmonary circulation?
257. What biological active substances reduce the arterial pressure in pulmonary circulation?
258. What can be a consequence of lung congestion ?
259. What changes of alveolar air composition are found in condition of hyperventilation?
260. What changes of alveolar air composition is attested under condition of hypoventilation?
261. What changes of arterial blood gas composition are attested in condition of hyperventilation?
262. What changes of arterial blood gas composition are attested in condition of hypoventilation?
263. What changes of pneumogram are characteristic for the restrictive diseases?
264. What changes of pulmonary parenchyma are characteristic for emphysema?
265. What does bradypnea represent?
266. What does hypercapnia represent?
267. What does hyperpnea mean?
268. What does hyperventilation represent?
269. What does hypoventilation represent?
270. What does hypoxemia represent?
271. What does polypnea represent?
272. What does pulmonary atelectasis mean?
273. What does pulmonary obstruction mean?
274. What does pulmonary restriction mean?
275. What does represent acute respiratory distress syndrome?
276. What does represent asphyxia?
277. What does represent oxigenic capacity of the blood?
278. What does represent pulmonary edema?
279. What does the intraparenchymatouse pulmonary restriction mean?
280. What does the pneumosclerosis mean?
281. What does the pneumothorax mean?
282. What does the pulmonary emphysema mean?
283. What factor can trigger acute respiratory distress syndrome in adult?
284. What factor reduces the oxygen capacity of the blood?
285. What factor triggers development of pulmonary edema?
286. What factors can lead to development of acute respiratory distress syndrome in adults?
287. What factors can trigger development of pulmonary edema?
288. What factors control the diffusion coeficient of gas in the fluid environment in the body (blood) ?
289. What factors increase the peripheral vascular resistance?
290. What factors lead to myocardial concentric hypertrophy?
291. What factors provoke obstruction of inferior respiratory airways?
292. What factors provoke obstruction of respiratory superior airways?
293. What factors reduce the oxygen capacity of the blood?
294. What is characteristic for pulmonary emphysema?
295. What is one of the mechanisms of stenotic breathing?
296. What is pathogenesis of cardiac asthma with orthopnea in pulmonary congestion?
297. What is pathogenesis of pulmonary edema?
298. What is the main pathogenetic link in pulmonary emphysema?
299. What is the main pathogenetic link of pneumothorax?
300. What is the main pathogenetic link of renovascular hypertension?
301. What is the main pathogenetic loop in development of hypoxia and hypercapnia in pulmonary congestion?
302. What is the mechanism of shallow and accelerated breathing?
303. What is the pathogeny of hypoxemia and hypercapnia in inhalation of anorganic dusts?
304. What is the pathogeny of hypoxemia and hypercapnia in pulmonary congestion?
305. What is the pathogeny of hypoxemia and hypercapnia in pulmonary fibrosis?
306. What is the pathogeny of secondary hyperaldosteronism in pathogenesis of circulatory insufficiency?
307. What is the role of angiotensin II (And II) in increasing peripheral vascular resistance?
308. What is the role of endothelin 1 (ET-1) in increasing peripheral vascular resistance?
309. What is the role of NO deficiency in pathogenesis of essential HTA?
310. What is the role of NO deficiency in vascular remodeling associated with arterial hypertension?
311. What is the role of renal ischemia in pathogeny of cardiac edema?
312. What pathogenetic mechanisms contribute to development of arterial hypertension in patients with absolute primary erythrocytosis?
313. What physical parameters of alveolar air delay the gas diffusion across the alveolo-capillary membrane?
314. What physico-chemical parameters delay oxygen association to hemoglobin in systemic circulation?
315. What physico-chemical parameters delay oxygen association to hemoglobin in pulmonary circulation?
316. What physico-chemical parameters delay oxyhemoglobin dissociation in systemic circulation?
317. What physico-chemical parameters enhance oxyhemoglobin dissociation in systemic circulation?
318. What processes impede the diffusion of gases across the alveolo-capillary membrane?
319. What processes impede the diffusion of gases across the alveolo-capillary membrane?
320. What types of atelectasis are?
321. What types of neutrophils are found in the peripheral blood in neutrophilia with “right nuclear shift”?
322. What ventilatory parameters of the lungs are changed in hyperventilation?
323. What ventilatory parameters of the lungs are changed in hypoventilation?
324. Which are the types of pulmonary emphysema?
325. Which factors disturb heteromeric mechanism?
326. Which processes characterize external respiration?
327. Who develops more frequent the centracinar emphysema?
328. Who develops more frequent the panacinar emphysema?
329. Who develops more frequent the paraseptal emphysema?