1. What is characteristic for arterial hyperaemia?
2. What is the pathogenetic mechanism of neurotonic arterial hyperaemia?
3. What is the pathogenetic mechanism of neuromyoparalytic arterial hyperaemia?
4. What is the pathogenetic mechanism of neuroparalitic arterial hyperaemia?
5. How does the cellular metabolism change in the ischemia?
6. What are the local pathogenetic mechanisms of ischemia?
7. What is the external manifestation of ischemia?
8. What organ develops insufficient absolute functional collaterals?
9. What factor disturbs rheological properties of the blood?
10. What emboli are endogenous?
11. In what cases develops gaseous embolism?
12. What does represent paradoxical embolism?
13. Which vessels damage lead to air embolism?
14. What are the external manifestations of venous hyperaemia?
15. What hemodynamic changes are characteristic for ischemia?
16. What is the consequence of venous hyperaemia?
17. What is the cause of increased organ volume in venous hyperaemia?
18. What is the cause of venous hyperaemia?
19. What is the pathogenetic role of endothelial cell injury in development of white thrombus (primary thrombus)?
20. What pathogenetic factor contributes to development of thrombosis?
21. What pathogenetic factors contribute to activation and adhesion of thrombocytes in thrombosis?
22. Which are pathogenetic factors that contribute to development of thrombosis?
23. What biological products can be DAMP (damage associated molecular pattern)?
24. What biological products can be DAMP (damage associated molecular pattern)?
25. What biological products can be PAMP (pathogen associated molecular pattern)?
26. What changes in the body homeostasis can indicate the presence of inflammatory process?
27. What does involve the inflammasome concept?
28. What factors contribute to migration of leukocyte in the inflammatory focus?
29. What factors determine secondary alteration in inflammation?
30. What factors determine venous hyperaemia into the inflammatory focus?
31. What represent acquired antigens?
32. What is the biological significance of leukocyte emigration in the inflammatory focus?
33. What mediators determine development of arterial hyperaemia into the inflammatory focus?
34. What pathogenetic factors increase vascular permeability into the inflammatory focus?
35. Which factors promote adhesion and rolling of leukocytes at the endothelial level?
36. What inflammatory mediators are derived from neutrophils?
37. How does the carbohydrate metabolism change into the inflammatory focus?
38. In the process of intracellular killing and degradation of the microbe are involved several mechanisms. What is the correct sequence of phenomena involved in intracellular killing and degradation of microbes?
39. In the regenerative processes the big role has – TGF- β (transforming growth factor beta). What is the main source of it?
40. In what cases there is considered that the body is sensitized?
41. Inflammation leads to development of acute-phase response. What are the changes in the body during acute phase-response?
42. One of the systemic effects of inflammation is fever. What is the pathogenetic mechanism of it?
43. The fluid obtained from the pleural cavity has the following characteristics: transparent fluid with low viscosity, contains up to 2% of proteins with low molecular weight, several neutrophils, pH – 7,4. What does represent this fluid?
44. The fluid obtained from the pleural cavity has the following characteristics: is opaque, green-yellowish, dense viscosity, contains more than 5,0 % of proteins with high molecular weight, many polymorphonuclear cells, pH – 6,7. What does represent this fluid?
45. The fluid obtained from the pleural cavity has the following characteristics: is a fluid, transparent with low viscosity, has up to 2-3 % of small molecular weight proteins (predominantly albumin), several neutrophils, pH– 6,7. What does represent this fluid?
46. What are pathogenetic mechanisms of extracellular hyperonchia responsible for exudation?
47. What are pathogenetic mechanisms of exudation in the inflammatory focus?
48. What are pathogenetic mechanisms of increased vascular permeability in the inflammatory focus?
49. What are the biological characteristics of acute inflammation?
50. What are plasma-derived inflammatory mediators?
51. What are the biologic effects of fragments C3a and C5a into the inflammatory focus?
52. What are the biological characteristics of antigen presenting cells?
53. What are the biological characteristics of chronic inflammation?
54. What are the biological effects of anti-inflammatory interleukins?
55. What are the biological effects of pro-inflammatory interleukins (IL-1,IL-6)?
56. What immune cells secrete anti-inflammatory interleukins?
57. What immune cells secrete pro-inflammatory interleukins (IL-1, IL-6)?
58. What are the cellular chemotactic substances that are important in emigration of leukocytes?
59. What are the humoral chemotactic substances that are important in emigration of leukocytes?
60. What are the characteristics of normoergic inflammation?
61. What are the most important opsonins that enhance the recognition processes and phagocytosis of pathogenic agents?
62. What are the oxygen – dependent bactericide mechanisms that destroy the pathogenic agent in phagolysosome?
63. What are the oxygen – dependent bactericide products that destroy pathogenic agents in phagolysosome?
64. What are the oxygen – independent bactericide products that destroy pathogenic agents in phagolysosome?
65. What are the pathogenetic factors of exudation into the inflammatory focus?
66. What are the pathogenetic mechanisms of exudation in the inflammatory focus?
67. What does represent the opsonisation process?
68. What hormones have pro-inflammatory effects?
69. What inflammatory mediators are derived from eosinophils?
70. What inflammatory mediators are released in the result of activation of Hageman factor?
71. What is one of biological characteristics of acute inflammation?
72. What is one of biological characteristics of chronic inflammation?
73. What is pathogenic mechanism of arteriolar vasodilation in the inflammatory focus?
74. What is pathogenic of ischemia into inflammatory focus?
75. What is the biologic significance of blood stasis in inflammation?
76. What is the biologic significance of inflammatory venous hyperaemia?
77. What is the difference between purulent exudate and transudate?
78. What is the effect of triptase that derived from mast cell in inflammation?
79. What is the first vascular reaction to injury?
80. What is the main source of hydrolyses in inflammatory focus?
81. What is the mechanism of firm adhesion of leukocytes to the vessel wall?
82. What is the mechanism of leukocytes rolling along vessel wall?
83. What is the mechanism of leukocytes transmigration across the vessel wall?
84. What is the mechanism of pathologic regeneration during chronic inflammation?
85. What is the non-specific natural mechanism of attachment process during phagocytosis?
86. What is the pathogenic chain for cytokines production in acute inflammation triggered by biological factors (bacteria, fungi)?
87. What is the pathogenic chain for cytokines production in acute inflammation triggered by cell necrosis in hypoxia?
88. What is the pathogeny for enhanced synthesis of acute-phase proteins in acute inflammation triggered by cell necrosis in hypoxia?
89. What is the pathogeny for enhanced synthesis of acute-phase proteins in acute inflammation triggered by a biological flogogenic factor (bacteria, fungi)?
90. What is the role of C reactive protein in pathogeny of acute inflammation?
91. What is the role of C3b fraction of the complement system in acute inflammation?
92. What is the role of C5a-C9a fraction of the complement system in acute inflammation?
93. What is the role of fibrinogen in pathogeny of acute inflammation?
94. What is the role of Hageman factor in pathogeny of acute inflammation?
95. What is the role of macrophages in the regenerative processes during chronic inflammation?
96. What is the role of macrophages in the regenerative processes during acute inflammation?
97. What is the role of serum amyloid A in pathogeny of acute inflammation?
98. What is the sequence of the processes during phagocytosis?
99. Which types of leukocytes have ability to make phagocytosis?
100. What mediators have bronchoconstrictor effect?
101. What are the specific immune mechanisms of attachment process during phagocytosis?
102. What oxigendependent bactericide factors are generated by neutrophils?
103. What mediators are released in the result of mast cell degranulation?
104. What processes does involve the physiological regeneration in the inflammatory focus?
105. Which arachidonic acid metabolites have anti-inflammatory effect?
106. Which arachidonic acid metabolites have vasoconstrictive effect?
107. Which arachidonic acid metabolites have vasodilator effect?
108. Which blood cells mainly will migrate to the tissue in acute coccic infection?
109. Which blood cells mainly will migrate to the tissue in parasite invasion?
110. Which factors promote adhesion and rolling of leukocytes at the endothelial level?
111. Which factors promote the firm adhesion of leukocytes to the vessel wall?
112. Which inflammatory mediators induce expression of selectins and integrins that are important for the leukocytes emigration?
113. Which is one of the inflammatory mediators has anti-inflammatory effect?
114. Which mediators are responsible for arterial hyperaemia in the inflammatory focus?
115. What does represent allergy?
116. What are biological characteristics of immediate hypersensibility?
117. What are biological characteristics of active sensitisation?
118. What are biological characteristics of delayed hypersensibility?
119. What are the features of immunologic stage of immediate type allergic reactions?
120. What are the features of the antigens that lead to immune response and immediate allergic reactions?
121. What are biological characteristics of passive sensitisation?
122. What substances represent incomplete allergens?
123. What is one of biological characteristics of antigen presenting cells?
124. What is the scheme of allergic reaction type I?
125. What is the scheme of allergic reaction type II?
126. What is the scheme of allergic reaction type III?
127. What is the scheme of allergic reaction type IV?
128. What pathological processes underlie on the bases of type I allergic reactions?
129. What pathological processes underlie on the bases of type II allergic reactions?
130. What pathological processes underlie on the bases of type III allergic reactions?
131. What pathological processes underlie on the bases of type IV allergic reactions?
132. What pathophysiological phenomena underlie on the basis of autoimmunity?
133. What pathophysiological processes underlie on the basis of allergic reactions?
134. What phenomena characterize the physiopathological stage in type I allergic reactions?
135. Which are the effects of histamine in type I allergic reaction?
136. What are the effects of leukotriens realised by mast cells in allergic reaction type I?
137. What are the manifestations of immediate response (pathophysiological stage) in allergic reaction type I?
138. What is characteristic for pathochemical stage of allergic reaction type I?
139. What is characteristic for the immunological stage of immediate type allergic reactions?
140. What is characteristic for the immunological stage of type I allergic reactions?
141. What is characteristic for the pathochemical stage in type I allergic reactions?
142. What is characteristic for the pathophysiological stage of type I allergic reactions?
143. What is characteristic for type I allergic reactions?
144. What are the effects of PAF (platelet activator factor) realised by mast cells in allergic reaction type I?
145. What is one of the manifestations of late phase reaction (pathophysiological stage) in allergic reaction type I?
146. What are the effects of prostaglandins realised from mast cells in allergic reaction type I?
147. What are the pathophysiological manifestations of arterial collapse in anaphylactic shock?
148. What are the pathophysiological mechanisms of cardiovasculary events in anaphylactic shock?
149. What are the pathophysiological mechanisms of edema in anaphylactic shock?
150. What are the pathophysiological mechanisms of respiratory events in anaphylactic shock?
151. Which newly synthesized mediators are derived from mast cells and basophiles in allergic reaction type I
152. Which presynthetized mediators are realized from mast cells and basophiles during degranulation process in allergic reaction type I?
153. Which inflammatory mediators provoke vasodilation and arterial collapse in anaphylactic shock?
154. Which inflammatory mediators trigger bronchial hypersecretion and obstruction of superior respiratory tract in anaphylactic shock?
155. Which inflammatory mediators trigger bronchospasm in anaphylactic shock?
156. Which inflammatory mediators trigger vascular hyperpermeability and formation of edema in anaphylactic shock?
157. What are the main mediators involved in type II allergic reactions?
158. What are biological effects of anaphylatoxins in inflammatory focus?
159. What are hallmarks of the immunological stage of type II allergic reactions?
160. What are mediators involved in type II allergic reactions?
161. What are pathogenetic links of type II allergic reactions?
162. What are the characteristics of pathohemical phase in type II allergic reaction?
163. What are the conditions necessary to transform a hapten in a complete allergen?
164. What are the effector immune cells in delayed hypersensitivity?
165. What are the sources of secondary anaphylaxia mediators?
166. What are the main mediators involved in type II allergic reactions?
167. What are the mechanisms of cytotoxicity in type II allergic reactions?
168. What immune cells are responsible for cytotoxicity in type II allergic reactions?
169. What diseases develop according to the model of allergic reactions type II?
170. What are the mechanisms of tissular injuries in type III allergic reactions?
171. What are the mechanisms of tissular injury in type IV allergic reactions?
172. What are the mediators of reaginic allergic reactions?
173. What are the most frequently involved organs in which sediment and trigger inflammatory reaction immune complexes in type III allergic reactions?
174. What are the mechanisms of tissular injury in type IV allergic reactions?
175. What does represent antibody mediated cellular dysfunction?
176. What does represent endogenous acquired infectious allergen?
177. What does represent endogenous acquired non-infectious allergen?
178. What does represent endogenous native allergens?
179. What does represent the allergen in antibody mediated cellular dysfunction?
180. What immune cells are responsible for cytotoxicity in delayed hypersensitivity?
181. What is the correct sequence of phenomena which occur in immunological stage of delayed hypersensibility?
182. What is the pathogenetic role of the complement system activation in type III allergic reactions?
183. What is the pathogenetic role of the Hageman factor activation in allergic reaction with immune complexes?
184. What is the pathogeny of cytotoxicity in delayed hypersensibility?
185. What is the pathogeny of sensitization in atopic dermatitis?
186. What is the pathogeny of sensitization in contact dermatitis?
187. What is the sequence of leukocytes emigration to the focus of inflammation?
188. What is the sequence of reaction which are responsible for sensitization in delayed hypersensibility?
189. What is the sequence of reaction which are responsible for sensitization in Arthus phenomenon?
190. What is the sequence of reaction which are responsible for sensitization in allergic reaction mediated by immune complexes?
191. What is the sequence of reactions which are responsible for sensitization in serum seekness?
192. What mediator is involved in development of inflammatory reaction in type III allergic reactions?
193. What mediators with pro-inflammatory effects are produced in the result of activation of Hageman factor in type III allergic reaction?
194. What molecules are responsible for double opsonisation in cytotoxic-cytolytic reactions?
195. What pro-inflammatory mediators are involved in pathogeny of delayed hypersensitivity?
196. Where immune complexes are formed in type III allergic reactions?
197. Which pathophysiological phenomena underlie autoimmune diseases?
198. A 5 year old child suffers from diphtheria. To the child had been administered anti-diphtheric serum and 9 days after that developed following symptoms: fever, skin eruptions and joint pain. What are the pathogenetic mechanisms of this allergic reaction?
199. After attachment of the drug (which represents a hapten) to the body proteins there are formed complex allergens. What is the condition when the antibodies against this hapten can trigger cross-linked allergic reactions to other drugs?
200. At a child, 10 years old was performed the Mantoux probe (administration of tuberculin). After 24 ore in the place of injection of the allergen developed a papulla with a diameter of 15 mm, surrounded by a zone of hyperaemia (positive reaction). What is the pathogenetic mechanism of this allergic reaction?
201. For reproduction of allergic reaction in a guinea pig, subcutaneously was injected 0,2 ml of horse serum. After 2 weeks intravenously was given 3,0 ml of horse serum. The guinea pig presented symptoms of anaphylactic shock. What pathophysiological phenomenon developed at the repeated contact with the allergen?
202. For reproduction of allergic reaction in a guinea pig, subcutaneously was injected 0,2 ml of horse serum. After 2 weeks intravenously was given 3,0 ml of horse serum. The guinea pig presented symptoms of anaphylactic shock. What pathophysiological phenomenon developed at the first contact with the allergen?
203. In what autoimmune disorders the auto-antibodies are not organ-specific?
204. Patient K, male 50 years old, during 3 weeks received levomycetin for treatment of salmonellosis. After finishing the treatment the patient had presented in the hospital with severe anemia. Laboratory tests revealed the presence of anti-erythrocyte antibodies. What is the pathophysiological mechanism of anemia?
205. Patient, male 35 years old, complaints about crises of bronchial asthma after intake of diclofenac and other non-steroid anti-inflammatory drugs. What is the mechanism which triggers the bronchial muscle spasm in this patient?
206. To patient with thyrotoxicosis (hyperfunction of thyroid gland) in the blood were found anti-thyroid stimulating hormone antibodies. What type of allergic reaction underlies on the basis of autoimmune thyrotoxicosis?