Pathophysiology

Questions for 2nd totalisation, test SIMU (semester V)

1. How do the resting membrane potential and neuromuscular excitability change in severe hyperkalemia (above 6,5 mEq/l)?
2. How pH and bicarbonate are changed in insulin deficiency?
3. What are the blood changes detected in metabolic acidosis?
4. What are the causes of hypotonic hyperhydration?
5. What change in the blood is found in hyperhydration?
6. What changes in the blood are found in isotonic hyperhydration?
7. What is the cause of absolute hyponatremia?
8. What is the change of hyperkalemia on ECG?
9. What are the main mediators involved in type II allergic reactions?
10. What are the mechanisms of tissular injury in type IV allergic reactions?
11. What biological products can be DAMP (damage associated molecular pattern)?
12. What change in the blood is found in hyperhydration?
13. What is the biological significance of leucocyte emigration in the inflammatory focus?
14. What is the cause of hypotonic hyperhydration?
15. What mediators determine development of arterial hyperemia into the inflammatory focus?
16. What pathogenetic factors increase vascular permeability into the inflammatory focus?
17. Which factors promote adhesion and rolling of leukocytes at the endothelial level?
18. What does represent allergy?
19. What inflammatory mediators are derived from neutrophils?
20. Accumulation of what products leads to metabolic acidosis in insulin lack?
21. How do the blood circulatory volume and blood viscosity change in relative hyponatremia?
22. How do the blood viscosity and blood cell concentration change in absolute hyponatremia?
23. How do the circulatory blood volume and blood cell concentration change in absolute hyponatremia?
24. How do the intravascular volume, osmolarity of the plasma and cell volume change in relative hypernatremia?
25. How do the intravascular volume, osmolarity of the plasma and cell volume change in absolute hyponatremia?
26. How do the resting membrane potential and neuromuscular excitability change in mild hyperkalemia (5,5-6,0 mEq/l)?
27. How do the resting membrane potential and neuromuscular excitability change in hypokalemia?
28. How does carbohydrates metabolism change in liver failure?
29. How does carbohydrates metabolism change in liver failure?
30. How does glycemia change in liver insufficiency?
31. How does the blood protein content change in liver failure?
32. How does the blood protein content change in liver failure?
33. How does the blood viscosity and concentration of blood cells change in relative hypernatremia?
34. How does the circulatory blood volume and concentration of blood cells change in absolute hypernatremia?
35. How does the circulatory blood volume and concentration of blood cells change in relative hypernatremia?
36. How does the protein metabolism change in protein maldigestion?
37. How oxyhemoglobin curve dissociation and hemoglobin affinity to O2 change in alkalosis?
38. How oxyhemoglobin curve dissociation and hemoglobin affinity to O2 change in acidosis?
39. How pH and bicarbonate change in the hypoxia?
40. How pH and PaCO2 change in the pulmonary hyperventilation?
41. How pH and PaCO2 change in the pulmonary hypoventilation?
42. How respiratory frequency (RF) and PaCO2 change in metabolic acidosis?
43. How respiratory frequency (RF) and PaCO2 change in metabolic alkalosis?
44. How the acidosis is defined?
45. How the blood glucose level, blood osmolarity and diuresis are changed in ketoacidosis triggered by insulin deficiency?
46. How the blood oncotic and osmotic pressure are changed in excessive intake of water?
47. How the blood oncotic and osmotic pressure are changed in massive infusion of isotonic NaCl solution?
48. How the blood osmolarity and cell volume are changed in vasopressin hypersecretion?
49. How the blood osmolarity and cell volume change in pulmonary hyperventilation?
50. How the blood osmolarity and cell volume change in vasopressin deficiency?
51. How the blood osmolarity and cell volume is changed in hypertonic dehydration?
52. How the blood osmolarity and intracellular hydric compartment are changed in hypertonic hyperhydration?
53. How the blood osmolarity and sodium blood level change in pulmonary hyperventilation?
54. How the lipid metabolic reactions are changed in inanition?
55. How the lipid metabolism is changed in liver failure?
56. How the pH and NaHCO3 are changed in the metabolic acidosis?
57. How the pH and NaHCO3 are changed in the metabolic alkalosis?
58. How the pH and PaCO2 are changed in respiratory acidosis?
59. How the pH and PaCO2 are changed in the metabolic acidosis?
60. How the pH and PaCO2 are changed in the metabolic alkalosis?
61. How the pH and PaCO2 are changed in the respiratory alkalosis?
62. In what cases is attested negative nitrogen balance?
63. In what cases is attested positive nitrogen balance?
64. In what pathological process there is found protein maldigestion?
65. In what pathological processes is attested hyperkalemia?
66. In what pathological processes is attested hypernatremia?
67. Inflammation leads to development of acute-phase response. What are the changes in the body during acute phase-response?
68. On what depends the vulnerability of different organs to the hypoxia?
69. The inanition period is followed by hypoglycemia. How do change the insulin secretion and glucagon secretion in this period?
70. What are biological characteristics of immediate hypersensibility?
71. What are biological characteristics of active sensitisation?
72. What are biological characteristics of delayed hypersensibility?
73. What are biological characteristics of passive sensitisation?
74. What are biological characteristics of passive sensitisation?
75. What are biological effects of anaphylatoxins in inflammatory focus?
76. What are hallmarks of the immunological stage of type II allergic reactions?
77. What are mediators involved in type II allergic reactions?
78. What are pathogenetic mechanisms of exudation in the inflammatory focus?
79. What are pathogenetic mechanisms of exudation in the inflammatory focus?
80. What are plasma-derived inflammatory mediators?
81. What are plasma-derived inflammatory mediators?
82. What are the biologic effects of fragments C3a and C5a into the inflammatory focus?
83. What are the biologic effects of kinin in inflammation?
84. What are the biological characteristics of active sensitisation?
85. What are the biological characteristics of acute inflammation?
86. What are the biological characteristics of antigen presenting cells?
87. What are the biological characteristics of chronic inflammation?
88. What are the biological effects of anti-inflammatory interleukins?
89. What are the biological effects of pro-inflammatory interleukins (IL-1, IL-6)?
90. What are the biological effects of pro-inflammatory interleukins (IL-1, IL-6)?
91. What are the blood changes detected in metabolic acidosis?
92. What are the blood changes detected in metabolic alkalosis?
93. What are the blood changes detected in respiratory acidosis?
94. What are the blood changes detected in respiratory alkalosis?
95. What are the causes of lipid maldigestion?
96. What are the causes of retention hyperlipidemia?
97. What are the causes of retention hyperlipidemia?
98. What are the cellular chemotactic substances that are important in emigration of leukocytes?
99. What are the cellular chemotactic substances that are important in emigration of leukocytes?
100. What are the changes of hyperkalemia on ECG?
101. What are the compensatory reactions in hypercalcemia?
102. What are the compensatory reactions in hyperglycemia?
103. What are the compensatory reactions in hyperglycemia?
104. What are the consequences of excessive alimentary consumption of proteins?
105. What are the consequences of excessive protein intake?
106. What are the consequences of lipid malabsorption?
107. What are the consequences of lipid malabsorption?
108. What are the consequences of vomiting?
109. What are the effector immune cells in delayed hypersensitivity?
110. What are the effects of leukotrienes realised by mast cells in allergic reaction type I?
111. What are the effects of prostaglandins realised from mast cells in allergic reaction type I?
112. What are the features of immunologic stage of immediate type allergic reactions?
113. What are the features of immunologic stage of immediate type allergic reactions?
114. What are the humoral chemotactic substances that are important in emigration of leukocytes?
115. What are the humoral chemotactic substances that are important in emigration of leukocytes?
116. What are the main mediators involved in type II allergic reactions?
117. What are the manifestations of immediate response (pathophysiological stage) in allergic reaction type I?
118. What are the manifestations of immediate response (pathophysiological stage) in allergic reaction type I?
119. What are the manifestations of persistent hyperglycemia?
120. What are the mechanisms of cytotoxicity in type II allergic reactions?
121. What are the mechanisms of cytotoxicity in type II allergic reactions?
122. What are the mechanisms of tissular injuries in type III allergic reactions?
123. What are the mechanisms of tissular injuries in type III allergic reactions?
124. What are the mechanisms of tissular injury in type IV allergic reactions?
125. What are the oxygen – dependent bactericide mechanisms that destroy the pathogenic agent in phagolysosome?
126. What are the oxygen – dependent bactericide products that destroy pathogenic agents in phagolysosome?
127. What are the oxygen – independent bactericide products that destroy pathogenic agents in phagolysosome?
128. What are the oxygen – independent bactericide products that destroy pathogenic agents in phagolysosome?
129. What are the pathogenetic factors of immunodeficiency in protein inanition?
130. What are the pathogenetic mechanisms of protein maldigestion in protein inanition?
131. What are the pathogenic factors of hypocalcemia in alkalosis?
132. What are the pathogenic factors of hypokalemia in alkalosis?
133. What biological product can be DAMP (damage associated molecular pattern)?
134. What biological products can be PAMP (pathogen associated molecular pattern)?
135. What does represent the opsonisation process?
136. What dyshomeostasis of sodium develops in vasopressin hyposecretion?
137. What dyshomeostasis of sodium develops in vasopressin hypersecretion?
138. What factors can contribute to pathogenesis of diabetic ketoacidosis?
139. What is a compensatory reaction in hyperglycemia?
140. What is a consequence of lipid malabsorption?
141. What is a consequence of lipid malabsorption?
142. What is a consequence of protein metabolic changes in liver failure?
143. What is characteristic for the immunological stage of type I allergic reactions?
144. What is one compensatory reaction in hypoglycemia?
145. What is one compensatory reaction in hypoglycemia?
146. What is one compensatory reaction in hypoglycemia?
147. What is the consequence of carbohydrate malabsorption?
148. What is the consequence of hyperammonaemia in liver failure?
149. What is the difference between purulent exudate and transudate?
150. What is the electrophysiological change of hypokalemia in myocardium?
151. What is the main pathogenic link of metabolic acidosis installed in aldosterone hyposecretion?
152. What is the mechanism of firm adhesion of leukocytes to the vessel wall?
153. What is the mechanism of hypocalcemia in kidney failure?
154. What is the mechanism of ketogenesis in carbohydrate inanition?
155. What is the mechanism of leukocytes rolling along vessel wall?
156. What is the pathogenesis of acid-base disorder in starvation?
157. What is the pathogenesis of calcium dyshomeostasis in kidney failure?
158. What is the pathogenesis of calcium dyshomeostasis in liver failure?
159. What is the pathogenesis of neuromuscular excitability disorders in hypocalcemia?
160. What is the pathogenesis of neuromuscular excitability disorders in hypercalcemia?
161. What is the pathogenesis of potassium dyshomeostasis in hyperglycemia?
162. What is the pathogenesis of potassium dyshomeostasis in treatment with insulin?
163. What is the pathogenesis of relative hyponatremia?
164. What is the pathogenesis of sodium dyshomeostasis that is found in chronic liver failure?
165. What is the pathogenetic role of the complement system activation in type III allergic reactions?
166. What is the pathogenic factor of acid-base disorder in hypoxia?
167. What is the pathogenic factor of acid-base disorder in pulmonary hypoventilation?
168. What is the pathogenic factor of acid-base disorder in pulmonary hyperventilation?
169. What is the pathogenic factor of decreased neuromuscular excitability in acidosis?
170. What is the pathogenic factor of potassium disorder in alkalosis?
171. What is the role of C reactive protein in pathogeny of acute inflammation?
172. What is the role of C3b fraction of the complement system in acute inflammation?
173. What is the role of C5a-C9a fraction of the complement system in acute inflammation?
174. What is the role of Hageman factor in pathogeny of acute inflammation?
175. What is the scheme of allergic reaction type I?
176. What is the scheme of allergic reaction type II?
177. What is the scheme of allergic reaction type III?
178. What is the scheme of allergic reaction type IV?
179. What is the sequence of the processes during phagocytosis?
180. What mediators are involved in development of inflammatory reaction in type III allergic reactions?
181. What mediators are released in the result of mast cell degranulation?
182. What mediators with pro-inflammatory effects are produced in the result of activation of Hageman factor in type III allergic reaction?
183. What oxygen-dependent bactericide factors are generated by neutrophils?
184. What pathological conditions are characterized by deviation of oxyhemoglobin dissociation curve to the right?
185. What pathological conditions are characterized by deviation of oxyhemoglobin dissociation curve to the left?
186. What pathological conditions are characterized by deviation of oxyhemoglobin dissociation curve to the left?
187. What pathological processes are associated with hypotonic hyperhydration?
188. What pathological processes are associated with isotonic dehydration?
189. What pathological processes are associated with transport hyperlipidemia?
190. What pro-inflammatory mediators are involved in pathogeny of delayed hypersensitivity?
191. Which acid –base imbalance develops in hypokalemia?
192. Which acid-base imbalance develops in hyperkalemia?
193. Which arachidonic acid metabolites have vasoconstrictive effect?
194. Which arachidonic acid metabolites have vasodilatory effect?
195. Which blood cells mainly will migrate to the tissue in acute coccic infection?
196. Which blood cells mainly will migrate to the tissue in parasite invasion?
197. Which is one of the inflammatory mediators has anti-inflammatory effect?
198. Which newly synthesized mediators derived from mast cells and basophils in allergic reaction type I?
199. Which pre- synthetized mediators are realised from mast cells and basophils during degranulation process in allergic reaction type I?
200. Which types of leukocytes have ability to make phagocytosis?