**Questions for I st concluding (SIMU), GM 2 (semester V)**

1. How does the cellular metabolism change in the ischemia?
2. For every vital function the cell needs energy. What is a consequence of energy depletion for cells?
3. What can be the consequences of cell dystrophy?
4. What is the pathogenetic role of intracellular potassium dyshomeostasis in development of cell necrosis?
5. Cell hypoxia and activation of anaerobic glycolysis led to intracellular acidosis. What is a consequence of decompensated intracellular acidosis?
6. In what cases develops gaseous embolism?
7. What can be the consequence of cell dystrophy?
8. What is characteristic for arterial hyperemia?
9. What is the consequence of venous hyperemia?
10. What is the external manifestation of ischemia?
11. What is the pathogenetic mechanism of neurotonic arterial hyperemia?
12. What is the source of connective tissue in the sclerosis pathogenesis?
13. What pathological cellular processes can trigger cell dystrophy?
14. What pathological cellular processes can trigger cell dystrophy?
15. A homeostatic process precluding sclerosis is collagenolysis. What is the mechanism of collagen excess reducing in the organ?
16. Apoptosis is a programmed cell death, which can be initiated in physiological and pathological situations. What are the conditions for physiological apoptosis?
17. Apoptosis is a programmed cell death, which can be initiated in physiological and pathological situations. What are the conditions for pathological apoptosis?
18. Biologic oxidation is coupled with phosphorylation of ADP. What factor can decouple the process of oxidation and phosphorylation in mitochondria?
19. By what is manifested prodromal period of the disease?
20. Cell hypoxia and activation of anaerobic glycolysis leads to intracellular acidosis. What are the consequences of decompensated intracellular acidosis?
21. Cell organelles are separated from hyaloplasm by membrane. What is the consequence of lysosomal membrane destabilization?
22. Define the correct notion of metaplasia?
23. For every vital function the cell needs energy. What is a consequence of energy depletion for cells?
24. How apoptosis is manifested in the initial period?
25. How is explained the mechanisms of atrophy?
26. How the initial period of apoptosis is manifested?
27. In condition of hyperosmolar environment in the cell are triggered multiple injuries: a. Intracellular hyperosmolarity b. Dehydration of cellular organelles c. Disintegration of mitochondria d. Dehydration of cellular hyaloplasm e. Cytolysis What is the pathogenetic chain of the cellular death to the action of hyperosmolar environment?
28. In condition of hypoosmolar environment in the cell are triggered multiple injuries: a. hypoosmolarity of cellular hyaloplasm b. increases mechanical intracellular pressure c. cellular swelling d. hyperhydration of cellular hyaloplasm e. cytolysis What is the pathogenetic chain of the cellular death to the action of hypoosmolar environment?
29. In condition of hypoxia in the cell are triggered multiple injuries: a. Cessation of ionic pumps b. Intracellular hyperosmolarity c. Decreases ATP synthesis d. Intra-extracellular electrolyte disbalance e. Cytolysis What is the pathogenetic chain of cell death in hypoxia?
30. In condition of low temperature in the cell are triggered multiple injuries: a. mechanical breakdown of cytoplasmic membrane b. crystallization of intracellular water c. intracellular hyperosmolarity d. Intra-extracellular electrolyte disbalance e. Cytolysis What is the pathogenetic chain of the cellular death to the action of low temperature?
31. Cell metabolic disorders can affect one or several organs. What can be the causes of multiple cell metabolic disorders?
32. In cytoplasmatic membrane injury there is equilibration of intra-extracellular electrolytes levels. What is the effect of equilibration of intra-extracellular levels of K+?
33. In which organ the irreparable cell lesions obligatory provoke sclerosis?
34. Liver is the parenchymatous organ frequently affected by lipid dystrophy. What is one of the causes of liver steatosis?
35. Lysosomal membrane traps the lysosomal enzymes within organelles. What factor works as endogenous stabilization factor for lysosomal membrane?
36. Maintenance of intra-extracellular ionic gradient is energy-dependent. What is the consequence of cell ATP depletion?
37. Many cellular pathological processes lead to generation of reactive oxygen species. What is negative effect of ROS?
38. Oxidative processes in the cell lead to generation of reactive oxygen species, which have negative effects on cell structures. What substance represents endogenous antioxidant system?
39. Some intracellular metabolic reactions are energy-dependent. What is the consequence of cell ATP deficiency?
40. The cell injury results in release of intracellular enzymes in the blood. What enzymatic changes are characteristic for bile duct epithelial injury?
41. Under the action of high temperature in the cell appear multiple injuries. What primary injury is caused by high temperature?
42. Under the action of hypoxia in the cell appeared multiple injuries. What primary injury is caused by hypoxia?
43. Under the action of low temperature in the cell appear multiple injuries. What primary injury is caused by low temperature?
44. What are effects of increased sodium level in the cell hyaloplasm?
45. What are effects of reduced sodium ions concentration in the interstitium?
46. What are eventual causes of the primary cell injuries?
47. What are eventual causes of the secondary cell injuries?
48. What are pathogenetic factors of hypoxic cell injuries?
49. What are pathogenic mechanisms which explain autophagy in atrophy?
50. What are pathophysiologic factors of reduced apoptosis?
51. What are the causes of parenchymatous lipid dystrophy?
52. What are the characteristics of apoptosis?
53. What are the characteristics of necrosis?
54. What are the consequences of exaggerated apoptosis?
55. What are the consequences of lysosomal membrane destabilization?
56. What are the consequences of sclerosis?
57. What are the features of apoptosis?
58. What are the general causes of energy depletion that trigger cell dystrophy?
59. What are the general consequences of apoptosis for the organism?
60. What are the general consequences of necrosis for the organism?
61. What are the general consequences of necrosis?
62. What are the important pathogenetic factors for the initiation of intrinsic pathway of apoptosis?
63. What are the important pathogenetic factors for the initiation of extrinsic pathway of apoptosis?
64. What are the local pathogenetic mechanisms of ischemia?
65. What are the main pathogenetic mechanisms of intrinsic pathway of apoptosis?
66. What are the main pathogenetical mechanisms of fatty liver in malnutrition?
67. What are the main pathogenetical mechanisms of fatty liver?
68. What are the main pathogenic mechanisms of fatty liver?
69. What are the manifestations of cell necrosis?
70. What are the mechanisms of collagen excess reducing in the organ?
71. What are the mechanisms of hyperplasia?
72. What are the necrosis consequences?
73. What are the necrosis consequences?
74. What are the pathogenetic factors responsible for initiation of apoptosis?
75. What are the pathogenetic factors responsible for initiation of apoptosis?
76. What are the pathogenetic mechanisms of necrosis due to mitochondrial injury?
77. What are the pathogenic factors of cell dystrophy in condition of catecholamine excess?
78. What are the pathophysiologic mechanisms of defective apoptosis?
79. What are the pathophysiologic mechanisms of reduced apoptosis?
80. What atrophy can be estimated as endocrine?
81. What atrophy can be estimated as post-hypertrophic?
82. What atrophy is considered as hypofunctional?
83. What atrophy is considered as pathological?
84. What atrophy is considered as physiological?
85. What can be the consequence of cell dystrophy?
86. What cell is exposed to apoptosis in a mature organism?
87. What cell is exposed to apoptosis in a mature organism?
88. What cells are exposed to apoptosis in a mature organism?
89. What clinical manifestations can be considered as resolution of the disease?
90. What condition is necessary for complete apoptosis evolution?
91. What disorders are related with increased apoptosis?
92. What disorders are related with reduced apoptosis?
93. What does a physiological reaction mean?
94. What does a real atrophy mean?
95. What does represent paradoxical embolism?
96. What does represent “point of no return „in the course of cell injury?
97. What does the aplasia mean?
98. What does the disease represent?
99. What does the dysplasia mean?
100. What does the hyperplasia mean?
101. What does the hypertrophy mean?
102. What does the metaplasia mean?
103. What does the neurotrophic hypertrophy mean?
104. What does the pathological tumoral hypertrophy mean?
105. What does the physiological regeneration represent?
106. What does the sclerosis of organ mean?
107. What does the vicious cycle in pathogenesis represent?
108. What effects exert favorable conditions for the body?
109. What effects exert unfavorable conditions for the body?
110. What electrolytic dyshomeostasis of internal environment leads to cell injury?
111. What emboli are endogenous?
112. What endogenous conditions could influence the action of harmful agents?
113. What exogenous conditions could influence the action of harmful agents?
114. What factors induce sclerosis?
115. What general dyshomeostasis leads to cell dystrophy?
116. What hemodynamic changes are characteristic for ischemia?
117. What intracellular dyshomeostasis is found in ischemic cells?
118. What intracellular electrolytic dyshomeostasis is found in cells which started necrosis?
119. What intracellular electrolytic dyshomeostasis is found in cells which started necrosis?
120. What is adaptive reaction?
121. What is characteristic arterial hyperemia?
122. What is characteristic for vicious cycle in pathogenesis?
123. What is compensatory reaction?
124. What is pathogenetic therapy?
125. What is reparative reaction?
126. What is symptomatic therapy?
127. What is the cause of increased organ volume in venous hyperemia?
128. What is the cause of venous hyperemia?
129. What is the definition of cell injury?
130. What is the external manifestation of ischemia?
131. What is the pathogenetic factor that inhibits extrinsic pathway of apoptosis?
132. What is the pathogenetic mechanism of cell dystrophy in condition of intracellular acidosis?
133. What is the pathogenetic mechanism of neuromyoparalytic arterial hyperemia?
134. What is the pathogenetic mechanism of neuroparalytic arterial hyperemia?
135. What is the pathogenetic role of calcium in necrosis?
136. What is the pathogenetic role of endothelial cell injury in development of white thrombus (primary thrombus)?
137. What is the pathogenetic role of intracellular calcium dyshomeostasis in development of cell necrosis?
138. What is the pathogenetic role of intracellular sodium dyshomeostasis in development of cell necrosis?
139. What is the pathogenetic role of mitochondrial damage in development of cellular pathological processes?
140. What is the pathogenetic role of reactive oxygen species (ROS) in development of cellular pathologic processes?
141. What is the pathogenetic role of reactive oxygen species (ROS) in development of cell necrosis?
142. What is the pathogenetic role of reactive oxygen species (ROS) in development of cell apoptosis?
143. What is the pathogeny of hypoxic cell injury?
144. What kind of stimuli accelerate proteolysis leading to atrophy?
145. What kind of stimuli activate ubiquitin ligases leading to atrophy?
146. What organ develops insufficient absolute functional collaterals?
147. What pathogenetic factor contributes to development of thrombosis?
148. What proteins are elevated in the blood in acute phase-response?
149. What types of the physiological hypertrophy are considered as compensatory?
150. What types of the physiological regeneration are considered as quantitative inadequate?
151. What types of the physiological regeneration are considered as qualitatively inadequate?
152. Which are pathogenetic factors that contribute to development of thrombosis?
153. Which are pathogenetic factors that contribute to development of thrombosis?
154. Which are the primary sanogenetic mechanisms?
155. Which are the secondary sanogenetic mechanisms?
156. Which endogenous enzymes could lead to cell injuries?
157. Which is one of the variants of disease’s resolution?
158. Which regeneration is considered as homeostatic?
159. Which regenerative process is possible in the cell on molecular level?
160. Which regenerative process is possible in the cell on organelle level?
161. Which vessels damage lead to air embolism?
162. Which vessel’s damage leads to air embolism?