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Biophysical and biochemical models of cellular mechanisms as in normal tissue and as well as in cancer tissue and in inflammatory processes

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The significant separate biochemical discoveries of pro-/anti-apoptotic processes, pro-/anti-autophagy processes, pro-/anti-proliferative processes in norm and pathology gave possibility to propose the common concept all of these processes mechanism: Interactions between all cells of an organism occur due to remote reactions across distance as the results of cellular capacitors operations via production of resonance waves that maintain common stability of Internal Energy and Internal Medium both in cells and in an organism. Intracellular balances catabolic and anabolic processes interconnect with extracellular balances catabolic and anabolic processes promoting as maintenance stability Internal Medium and Internal Energy of cells as well as cell development in norm. On the contrary the violations interconnections of intracellular balances catabolic & anabolic processes with extracellular balances catabolic & anabolic processes promote pathologic processes. The excessive shifts balance catabolic & anabolic processes into catabolic processes leads to inflammatory or infectious processes expressions. The excessive shifts balance catabolic & anabolic processes into anabolic processes leads to cancer diseases expressions which are characterized by irrepressible proliferative processes due to abundance of ROS/H2O2/free radicals operation resulting in excessive 2nDNA reaction. Studying cellular cycle mechanisms in norm and pathology it was explained the mechanisms of maintenance stability cellular Internal Medium and Internal Energy due to interactions between nuclear function and mitochondrial function, which, on the one hand, link with the stability Internal Energy and Internal Medium of an organism, and, on the other hand, the violation normal interactions between nuclear function and mitochondrial function leads to quasi-stationary pathologic states of cellular Internal Energy and Internal Medium. Besides it was elucidated the violations mechanisms of maintenance stability cellular Internal Medium and cellular Internal Energy in cancer tissue in comparison with the violations mechanisms of maintenance stability cellular Internal Medium and cellular Internal Energy in inflammatory processes. All of it gave possibility to eliminate a lot of doubts and/or queries which were expressed by the authors of the some experiments.

Biography

Ponizovskiy M R has graduated from N.I.Pirogov Vinitsa National Medical University. He worked manager of the hospital in Sum district of Ukraine and then as a Doctor of therapeutic department in the Kiev regional hospital. Then he has graduated from Kiev national Institute of post diploma education and Lvov National Medical University, faculties of laboratory clinical diagnostics, laboratory clinical biochemistry, laboratory toxicology. In 1972 – 1990, he worked as the head of clinical and biochemical laboratory of the First Kiev regional hospital, and I have obtained Degree PhD from 1990. In 1990 – 2002, he worked as the head of toxicological and biochemical Laboratory of the Kiev regional p/n hospital. He has the scientific degree PhD and the clinical degree of the highest category doctor. In Germany, he is the member of the Society of Inventors: he has the German protection of the invention [Gebrauchsmusters] of the new method of blood cells separation and allocation, and this method is examined in German Patent Department for reception of the German Patent.

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