That’s how you make drugs!

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The path a drug has to travel from its early beginnings until it reaches the patient is a long one. The entire process is divided into dozens of stages, possibly even hundreds. No one monitors or takes responsibility for the entire process. However, the patients are the ones who pay the price. Patients do not really have a say in any of the groups that are involved in bringing a drug to the market. David Tuveson, a leading pancreatic cancer researcher asked me what the most important thing was that pancreatic cancer patients had to deal with? My answer was: ‘Pain!’ David’s conclusion; ‘If I can take away the pain I give them six to twelve months more Peter’. However, nobody apart from David does any research into the pain related to pancreatic cancer. Relevant research and the relevant drugs and clinical trials that result from them arise through cooperation between patients, physicians, scientists and representatives of the pharmaceutical industry. Patients will also indicate that the introduction of new medicines takes far too long and can be much quicker. In conclusion, patients do not need treatments that don’t work or which have horrific side-effects. This is however the effect of most treatments so far. To date this has involved spending considerable amounts of money, which in most cases has just led to misery. Listening to and cooperating with patients is not only beneficial for them, but also for the healthcare services and the related costs.

Hypothalamic cytokine as biomembrane stabilizer

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Aim: The aim of the given work was to investigate the membranous aspects of the development of endogenous intoxication under radiation stress and the possibilities of its correction by studying the changes of the main lipid and protein components of biomembranes before and after introduction of proline-rich polipeptide-hypothalamic cytokine (HC).

Materials & Methods: The test subjects were Wistar white male rats. The animals were exposed to ionizing irradiation. After 10 days of the exposure 3 Grey of HC was introduced intraperitoneally for 3 days at a rate of 5 mg per 100 g of animal’s weight.

Results: It is determined that the radiation stress is characterized by considerable metabolic derangements of the main classes of membranous phospholipids (PL) lymphocytes, thymocytes, and the cells of spleen tissue. Moreover, a double reduction of the activity of cytoplasmic glycerophosphate dehydrogenase and glycerol kinase is observed. At the same time a simultaneous, more than triple, increase of the activity of phospholipase A2 and of the processes of peroxide oxidation of lipids (POL) is observed. On the background of considerable (P<0.01) increase of the levels of lysosphospholipids, phosphatidic acids and adenosine monophosphate, a reduction of the content of phosphatidylycholines and phosphatidylycerines, as well as an inhibition of potency of Na/K- and Mg-ATP in spleen tissue and in blood lymphocytes is observed. After application of HC, a definite normalization of membranous phosphatidylycerines and the activity of enzymes of phosphatidogenesis are observed. On the background of restoration of the content of adenosine monophosphates and ATP, the activity of ATP system, potency of phospholipase A2 and processes of POL is almost totally normalized. Possible mechanisms of development of endogenous intoxication under the radiation stress and its correction under the action of HC are being discussed.