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Green chemistry as an organic medicine

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Civilizational processes are accompanied by pollution of the environment. Emissions of combustion products of fuel, the technology of production and processing of materials and even preservation of food lead to the recipiency of a certain amount of xenobiotics into the human body, which is not metabolized and, as a result, accumulates in the body. This leads to various violations of its functioning-from intoxication to stimulation of tumor processes. Therefore, more and more attention has recently been paid to organic products-both food and medicines. Officinal preparations obtained by the production method are an extract of plant raw materials (or its synthetic analog). However, when preparing the drug, the interactions between the released substance and the accompanying components in the original plant material are damaged, which affect the overall effect of the herbal preparation as a whole. It leads to a violation of the integrity of the complex of biologically active substances that provide the final effect of phyto preparation-and, as a consequence, to impoverishment or distortion of the effect in comparison with the expected one. Thus, in our experiments in vitro and in vivo the advantage of the total extract of the milk thistle fruits in the realization of the radioprotective effect in comparison with their water and fat-soluble fractions was proved. Unfortunately, there is no medicine acting on the principle of "magic bullet" and the side effect is quite real with both synthetic and natural phyto preparations, but the latter has a broader spectrum of action, lower toxicity, and a mild prolonged effect. Therefore, along with the use of patented drugs, the use of "green chemistry" will facilitate the solution of the problem and improve the quality of human life.

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