DETERMINATION OF THE ACUTE TOXICITY OF WILD PEAR (PYRUS PYRASTER) DRY EXTRACT

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Relevance of the topic: As is known from the literature, the fruit of pear (Pyrus communis) has been used as food since ancient times. There are more than 22 species of it, one of which is the wild pear, which is the ancestor of the modern cultivated pear. Diabetes mellitus remains one of the most urgent problems of clinical medicine. Diabetes mellitus is the third leading cause of death from this disease (6%), after cardiovascular diseases (51%) and cancer (17%). Over the past 10 years, the incidence of diabetes mellitus has increased in all countries of the world. Children under the age of 14 account for 6-8% of the population with diabetes. The annual increase in the number of children with insulin-dependent diabetes is 6%. Up to 13% of children with diabetes are under the age of 5. Due to the high content of beneficial substances in the composition of wild pear, it has been used: for diuretics, inflammation, normalization of blood pressure, and boosting immunity. Scientific research in recent years has shown that natural compounds consisting of polyphenols and polysaccharides in their chemical composition are used to prevent the development of obesity and diabetes (by reducing the amount of glucose in the blood).

The purpose of the study: To study the acute toxicity of a dry extract of wild pear.

Research method: The acute toxicity of a dry extract of wild pear was studied in 30 white mice of different sexes, weighing 19-21 g. The experimental white mice were divided into groups of 6. 10% and 20% suspensions of the studied dry extract were prepared and administered orally once at doses of 1000 mg/kg, 2000 mg/kg, 3000 mg/kg, 4000 mg/kg and 5000 mg/kg. The experimental white mice were monitored for their functional state for 14 days. At the end of the experiment, their LD50 was determined.

Practical results of the study: According to the results of the experiment, when wild pear dry extract was administered to white mice at 1000 mg/kg and 2000 mg/kg, it can be observed that there were no changes in the general condition of the experimental animals. No changes were observed in the coordination of movements and skeletal muscle tone. When the dose administered to the body was increased to 5000 mg/kg, no changes were observed in the white mice's reaction to external sounds, light, or pain. No changes were observed in their fur. No changes were observed in the demand for water and food. There were no physiological changes in urine and feces. No deaths were observed in white mice even on the 14th day of the experiment. Taking into account that it was not possible to obtain a concentration of more than 20% of the dry extract, the experiment was stopped at this stage and the LD50 was determined to be more than 5000 mg/kg.

Conclusion: the acute toxicity of wild pear dry extract is more than 5000 mg/kg, and according to the toxicity classification (Stefanov A.V., 2002) it belongs to the group of practically non-toxic substances of class V.