

DETERMINATION OF THE ACUTE TOXICITY OF AN OINTMENT CONTAINING BLUNT-NOSED VIPER (*VIPERA LEBETINAE*) VENOM

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Relevance: Today, dermatological diseases rank among the most prevalent health conditions. In order to meet the population's demand for effective therapeutic agents, it is essential for pharmacists to expand the range of available dermatological medications and to conduct comprehensive pharmacological and toxicological evaluations of new formulations. One of the key assessments in this process is the determination of a drug's **acute toxicity**, which identifies the dosage range that can be safely used in animals and humans. These tests are carried out using specific standardized methods, which ultimately determine the permissible therapeutic dosage of a given preparation.

Objective of the Study: To evaluate the acute toxicity of an ointment formulation developed with blunt-nosed viper (*Vipera lebetinae*) venom.

Materials and Methods: The experiments were carried out on healthy, sexually mature white rats weighing 180–200 grams, using the Noakes and Sanderson method. The animals were divided into 4 groups of 6 rats each and housed in standard plastic cages under controlled conditions (temperature: 20–25°C, humidity: 40–70%) with continuous access to food and water. Initially, the animals were exposed to minimal doses of chloroform for sedation. Then, 0.5 g of the test ointment was applied to a pre-shaved area of the skin. The same procedure was used to apply the reference industrial ointment "Nayatox."

Results: Neither the test ointment nor the reference ointment showed signs of acute toxicity within the first hours or the first day of the experiment. Throughout the 14-day observation period, no changes were detected in the animals' body weight, behavior, or food intake. No cases of poisoning or intoxication were observed. Behavioral analysis also revealed no significant differences between the two treatment groups. The results are presented in tabular form (Table 1).

Table 1. Comparative Evaluation of Acute Toxicity Between the Test Ointment Containing *Vipera lebetinae* Venom and the Industrial Ointment “Nayatox”

№ Ani- mals	Ointment with Blunt-Nosed Viper Venom (0.02%, test sample)				Nayatox Ointment (20 g, Mekophar Chemical-Pharmaceutical JSC, Vietnam)			
	Wei- ght, g	Dos- e, g/kg	Route of Adminis- tration	Re- sult	W- eight, g	Dose, g/kg	Route of Adminis- tration	Re- sult
1	190			No lethality	200			No lethality
2	200		1 г.	No lethality	210		Topic- al (on skin)	No lethality
3	201		Topical (on skin)	No lethality	204	1 г.	Topic- al (on skin)	No lethality
4	210			No lethality	195			No lethality
5	204			No lethality	190			No lethality
6	207			No lethality	197			No lethality
1	210		2 г.	No lethality	198		Topic- al (on skin)	No lethality
2	198		Topical (on skin)	No lethality	205			No lethality
3	183			No lethality	200	2 г.	Topic- al (on skin)	No lethality
4	205			No lethality	205			No lethality
56	200			No lethality	190			No lethality
	197			No lethality	190			No lethality
				No lethality				No lethality
				No lethality				No lethality
LD ₅₀	>2 g.				>2 g.			

Conclusion:

The externally applied ointment containing nonivamide, capsicum oleoresin, and blunt-nosed viper (*Vipera lebetinae*) venom (0.02%) showed no signs of acute toxicity when compared to the reference preparation, the industrially manufactured ointment "Nayatox." No mortality was observed in any of the experimental animal groups.

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