

PLENARY PRESENTATIONS

ACUTE TOXICITY AND ANTIARRHYTHMIC ACTIVITY OF THE ALKALOID NITRARIDINE

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Relevance of the study. Cardiac arrhythmias are frequently encountered in clinical practice and pose a threat to the patient's life. It is well known that cardiovascular disease ranks first among causes of death in various countries. One of the frequently occurring symptoms that worsens the course and outcome of cardiovascular diseases is arrhythmia. herefore, the clinical need for effective antiarrhythmic drugs of various spectrums and mechanisms of action is very high.

The above served as the basis for studying the effects of certain alkaloids from *Nitraria Komarovii* Iljin et Lava on experimental cardiac arrhythmias.

The acute toxicity of nitraridine was studied in white mice weighing 18-22 g with intravenous administration of a 1% solution at doses of 150-250 mg/kg. After the injection of nitraridine in the above-mentioned doses, a decrease in the motor activity of the animals, a lateral position, and respiratory depression in some mice for 5-10 minutes are observed, followed by calming lasting 20-25 minutes. The experimental results were statistically processed using the Litchfield-Wilcoxon signed-rank method. The mean lethal dose (LD50) of nitraridine was 190 (171.7 $\pm$ 210.1) mg/kg at P=0.05. The antiarrhythmic activity of nitraridine was studied in the aconitine arrhythmia model (15 μ g/kg) for prophylactic and therapeutic administration. The results showed that nitraridine at doses of 5-10 mg/kg, administered prophylactically, prolonged the latency of arrhythmia onset by 15-20 minutes in 100% of cases. When administered therapeutically, the drug immediately eliminates aconitine-induced arrhythmia within 5-10 minutes in 100% of cases. The antiarrhythmic effect of novocainamide was studied under similar experimental conditions. Novocainamide was administered at a dose of 20 mg/kg.

In our experiments, novocainamide restored impaired cardiac activity in 2 (33.3%) cases out of 6, reduced the number of ectopic heart contractions in 2 (33.3%) experiments, and had no therapeutic effect on aconitine arrhythmia in the remaining cases. Prophylactic administration of novocainamide at the dose indicated above did not prevent the development of aconitine-induced cardiac arrhythmia in any case out of 6 experiments, although in 4 (66.6%) experiments, arrhythmia under the influence of novocainamide developed somewhat later (by 8-12 minutes) than in the control.

When studying the effect of nitraridine on the bioelectrical activity of the heart in rats, it was found that nitraridine at doses of 3-5 mg/kg did not significantly affect the ECG parameters of the rats' hearts, and at a dose of 10 mg/kg it mainly lengthened the R-R interval by 10-14.2%.

Thus, nitraridine is of practical interest as a less toxic antiarrhythmic drug.