

Category : **Brain: cerebro-vascular accidents**

A91 - Effect of lithium chloride on mortality in ischemic stroke in rats

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Introduction:

The aim of the study was to evaluate the effect of lithium chloride in various dosages on mortality in ischemic stroke in rats

Methods:

The study used male rats weighing $312 \pm 12,5$ g. The model of Long's focal ischemia was used as a basis. The animals were split into 5 groups: false-operated, control (model of ischemic stroke with the introduction of 0,9% NaCl) and three groups in which the simulation of ischemic stroke was combined with the introduction of lithium chloride in various concentrations (4,2 mg/kg, 21 mg/kg and 63 mg/kg, respectively). The drug was administered daily for 14 days. Daily, cumulative, and final mortality rates were evaluated

Results:

According to the results of the experiment, the following data on mortality were obtained: false – operated rats – 0 out of 8, control group – 13 out of 22 (lethality 59%), group III (LiCl 4,2 mg/kg) – 8 out of 14 (lethality 57%), $p > 0,05$ relative to the control, group IV (LiCl 21 mg/kg) - 6 out of 15 (lethality 40%) $p > 0,05$ relative to the control and in group V (LiCl 63 mg/kg), 4 out of 15 animals died (lethality 27%) $p = 0,0317$ relative to the control. The highest mortality rate in the control group was observed on day 1 (22,7%). In groups IV and V, the daily mortality rate was evenly distributed, in group III the largest number of animals died on day 3 (3 out of 14; 21,42%). The cumulative mortality rate in group III significantly differed from the control one only on day 2 ($p < 0,05$). In group IV, cumulative mortality was significantly lower up to 7 days ($p < 0,05$). In group V, cumulative mortality was significantly lower ($p < 0,05$) until 14 days after euthanasia

Conclusion:

Long-term administration of lithium chloride at a dose of 63 mg/kg significantly reduced the mortality of laboratory animals after a stroke. The effect of the drug at a dose of 21 mg/kg was less pronounced. The dose of 4,2 mg/kg showed no neuroprotective effect.