



**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я
ЗАПОРІЗЬКИЙ ДЕРЖАВНИЙ МЕДИКО-ФАРМАЦЕВТИЧНИЙ
УНІВЕРСИТЕТ**

**КООРДИНАЦІЙНА РАДА З НАУКОВОЇ РОБОТИ СТУДЕНТІВ, АСПРАНТІВ,
ДОКТОРАНТІВ І МОЛОДИХ ВЧЕНИХ
СТУДЕНТСЬКА РАДА**

ЗБІРНИК ТЕЗ ДОПОВІДЕЙ

**84 ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ МОЛОДИХ ВЧЕНИХ ТА СТУДЕНТІВ З
МІЖНАРОДНОЮ УЧАСТЮ**

**«АКТУАЛЬНІ ПИТАННЯ
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The test was used to reproduce the model of motor behavior of rodents. The duration during which the animal maintained its balance while walking on the top of the rod and the number of mice that fell from it in certain time intervals (up to 1 min, 2 min, 3 min, 4 min) were recorded.

Results. In the rotating rod test, violations of movement coordination were not detected in all investigated groups. Mice treated with the triazolobenzodiazepine derivatives were held on the rotarod at the same level as animals of the control group. The animals of none of the groups could not hold out for longer than 4 min. MA-253 derivative at a dose of 1 mg/kg increased the retention time on the equipment, which demonstrates greater physical endurance of the animals of these experimental groups.

DISRUPTION OF CARDIAC BIOELECTRICAL ACTIVITY AFTER INTRAUTERINE HYPOXIA AND APPROACHES TO CARDIOPROTECTION IN THE POSTNATAL PERIOD

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A higher likelihood of later-life cardiovascular diseases, such as vascular dystonia and rhythm abnormalities, is associated with posthypoxic cardiopathy. It is well recognized that a disturbance in the cardiac nitroxidergic system plays a role in the pathophysiology of posthypoxic cardiomyopathies in the postnatal period.

Purpose of the study: to assess the cardioprotective effects of medications that alter the NO system on the electrocardiogram (ECG) of rats that are two months old following prenatal hypoxia.

Methods: The experiments were conducted on white mongrel rats, including 50 females and 10 males, weighing 220-240 g and aged 4.5 months. Prenatal hypoxia (PH) was induced by daily intraperitoneal injections of sodium nitrite solution to pregnant female rats from day 16 to day 21 of gestation at a dose of 50 mg/kg. The offspring were divided into the following groups: 1 - Healthy pups from females with a normal pregnancy, which received a physiological solution; 2 - Control group of pups subjected to prenatal hypoxia (PH), which received a physiological solution daily; Groups 3 and 6 consisted of pups subjected to PH that received daily drug treatments from postnatal day 1 to day 30: Thiotriazoline (Morpholinium-3-methyl-1,2,4-triazolyl-5-thioacetic acid) at 50 mg/kg, Angiolin (3-methyl-1,2,4-triazolyl-5-thioacetate [S]-2,6-diaminohexanoic acid) at 50 mg/kg, L-arginine at 200 mg/kg, and Mildronate (2-(2-carboxyethyl)-1,1,1-trimethylhydrazinium) at 100 mg/kg. ECG recordings were performed using the ECG TUNNEL system, which allows for measurement without anesthesia. The recordings were taken simultaneously in six leads: standard (I, II, III) and augmented (AVR, AVL, AVF).

Results and Conclusions: Prenatal hypoxia (PH) results in a reduction in heart rhythm and a decline in the dominance of parasympathetic innervation in the regulation of cardiac electrical activity. This may be due to sinus blockade, indicating a shift from sympathetic to parasympathetic control of cardiac electrical activity. To comprehensively assess the therapeutic effects of the drugs on the heart's electrical activity, the radical indices were ranked, and comparisons among experimental groups were made using the nonparametric rank criterion U (Wilcoxon-Mann-Whitney test). The effectiveness of the therapeutic interventions was evaluated using a one-sided criterion, focusing on the extent to which the treatments approximated normal parameters. The drugs' efficacy, in descending order, was as follows: Angiolin > Thiotriazoline > Mildronate. Angiolin was more effective than Thiotriazoline in normalizing cardiac electrical activity and restoring neurogenic regulation of sinus node function. L-arginine did not show effectiveness in mitigating the effects of PH on cardiac electrical activity.