МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ`Я УКРАЇНИ
НАЦІОНАЛЬНА АКАДЕМІЯ МЕДИЧНИХ НАУК УКРАЇНИ
ЗАПОРІЗЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ
ДУ «ІНСТИТУТ ФАРМАКОЛОГІЇ ТА ТОКСИКОЛОГІЇ НАМН УКРАЇНИ»
ВГО «АСОЦІАЦІЯ ФАРМАКОЛОГІВ УКРАЇНИ»

ЗБІРКА ТЕЗ

II НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ З МІЖНАРОДНОЮ УЧАСТЮ

«ФУНДАМЕНТАЛЬНІ ТА КЛІНІЧНІ АСПЕКТИ ФАРМАКОЛОГІЇ»

(пам'яті професора В.В. Дунаєва)

22 листопада 2022 р., м. Запоріжжя

Запоріжжя, 2022

ОРГКОМІТЕТ

ГОЛОВА ОРГКОМІТЕТУ:

ректор ЗДМУ, Заслужений діяч Науки та техникі України, проф. Колесник Ю. М.

ЗАСТУПНИКИ ГОЛОВИ:

проф. Туманський В.О., проф. Бєленічев І.Ф.

ЧЛЕНИ ОРГКОМІТЕТУ:

проф. Білай І.М., проф. Павлов С.В., доц. Бухтіярова Н.В., доц. Морозова О.В.

СЕКРЕТАРІАТ:

доц. Єгоров А.А., ас. к.біол.н, Риженко В.П., ас. Робота Д.В.,
голова навчально-наукового сектору студентської ради Єложенко І.Л.

SOME ASPECTS OF THE NEUROPROTECTIVE ACTION OF ANGIOLIN AND CEREBROCURIN AFTER PRENATAL ALCOHOLIZATION

Popazova O.O., Bukhtiyarova N.V., Varavka I.P.
Zaporozhye state medical university
Zaporizhzhia Regional Council Municipal Institution “Zaporizhsky Medical College”

Introduction The relevance of women's alcoholism is caused by the fact that, in the first turn, causes harm to the health of children born from this group of women.

Methods: Rats from the 5th to the 20th day of pregnancy received ethanol intragastrically using a metal probe at a dose of 6-8 g/kg/day. Angiolin - (S)-2,6-diaminogexane acid 3-methyl-1,2,4-triasolile-5-tyoacetate (50 mg/kg) (SPA "Pharmatron", Ukraine), Cerebrocurin – active neuropeptides derived from the brain of fetal cattle (0.06 mg/kg) (Ukraine) was administered intraperitoneally (int/in) to the offspring of alcoholic rats immediately after birth for 25 days. Cytoplasmic and mitochondrial fractions were isolated by the method of differential centrifugation on a refrigerated centrifuge "Sigma 3-30k" (Germany) at 1000 g for 10 min, then at 14000 g for 10 min at $+4^{oC}$ The activity of superoxide dismutase (SOD), glutathioredectase (GR), glutathioperoxidase (GPR), nitrotyrosine, homocysteine was determined in the cytosol and mitochondria.

Results. The carried out experimental researches it is established, that prenatal alcoholism leads to significant changes glutation`s link of thiol-disulfide system at the expense of reduction of its restored intermediates (significantly decreases the level of cytosole and mitochondrial metabolism, restored thiol`s groups) and growth of oxidized glutathione and total number of oxidized thiols in cytosole and mitochondrial fractions of the brain of rats on the 25 day of life. The appointment of investigational products resulted in an increase of SOD activity, GR and GPR. The most active drug was Cerebrocurin and Angiolin on the background of the leadership of the first, which boosts the activity of SOD – by 91% in mitochondrial fractions, and the GPR – on 25%, respectively. The positive impact of investigational drugs, has been reported on the state of components of glutation`s link of thiol- disulfide system, which manifested in the increase of the number of restored glutathione, methionine, cysteine and reduction of homocysteine, nitritirosine in the brain of animals with prenatal alcohol abuse among. Angiolin and Cerebrocurin reduced the opening of mitochondrial permeability transition pore (MP) on 25 day of the experiment and also contributing to the conservation of the charge in a suspension of the mitochondria.

Conclusion: Found us activity of Angioline in the conditions of the brain damage caused by prenatal introduction of alcohol, is explained by the structure of (S)-2,6-diaminogexane acid 3-methyl-1,2,4-triasolile-5-tyoacetate thiol group, which in our opinion, competes with the SH-groups cystein-depends plot of protein`s of inner mitochondrial membrane for ROS and peroxynitrite, forms with them rack complexes. This allows to prevent the opening of mitochondrial permeability transition pore in the conditions of oxidative and nitrosative stress. Cerebrocurin increases the expression of cytoprotective protein HSP and hypoxia-induced factor HIF-1