

study was attended by 35 girls aged 17-21 who received a pedagogical education in one of the universities in the city of Lviv.

Results. Statistically significant inverse correlation exists between the level of interpersonal emotional intelligence and the tendency to depend and helpless behavior; between the level of inner personal emotional intelligence and the tendency toward victim aggression, dependent and helpless behavior, uncritical behavior, and the level of victimization implemented; between the indicator of understanding of emotions and the tendency to depend and helpless behavior, uncritical behavior and the level of implemented victimity; between the ability to manage emotions and the level of victim aggression and the tendency toward dependent and uncritical behavior; as

well as between the level of general emotional intelligence and the tendency to depend and helpless behavior. The above-mentioned features can be briefly summarized as follows: the higher the indicators are different under the scales of emotional intelligence, the less pronounced is the tendency towards victim behavior that constitutes a threat to the individual and affects their stress-resistance.

Conclusion. The level of emotional intelligence determines the ability to objectively recognize the threat in different situations and increases the potential for confronting various kinds of dangers, in other words, a high level of emotional intelligence reduces the level of victimhood and promotes a constructive socio-psychological adaptation, and thus increases stress tolerance.

## **THE EFFECT OF TRIPEPTIDE T-34 ON NITRIC OXIDE SYSTEM AND LIPID PEROXIDATION PROCESSES IN STOMACH MUCOSA UNDER CONDITIONS OF WATER-RESTRAINT STRESS IN RATS**

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**Key words:** stress, nitric oxide, NO-synthases, gastric mucosa

Stress was shown to involve multiple systems of human body and the search for safe and effective stress-protective compounds is an actual interdisciplinary task of the up-to-date science. Literary data provides increasing evidence on the stress-protective features of the certain regulatory oligopeptides, in particular the tripeptide T-34 (H-Glu-Asp-Gly-OH), although its effect on mucous membranes of gastrointestinal tract is poorly elucidated.

Aim of the study was to evaluate the effect of T-34 on nitric oxide system and lipid peroxidation processes in mucous membranes of the digestive organs under conditions of water immersion-restraint stress (WRS) in rats.

The studies were conducted on white male rats, divided into 3 groups (n=6 per group): 1) control animals; 2) rats, exposed to WRS (5h); 3) rats, intragastrically pretreated with T-34 (10µg) 30 min before WRS exposure.

Afterwards the rats were sacrificed under urethane anesthesia. Gross inspection of the mucous membranes of stomach, small and large intestine was performed and in homogenates of the mentioned above organs nitrite anion and thiobarbituric acid (TBA) products content was determined as well as the activity of NO-synthases (NOS). In blood plasma L-arginine concentration was measured.

WRS resulted in the formation of gastric lesions ( $14.1 \pm 1.7 \text{ mm}^2$ ), accompanied by acute rise of NO-synthase activity ( $p < 0.05$ ), in particular its inducible isoform – iNOS ( $p < 0.01$ ), increased production of NO and TBA products content ( $p < 0.05$ ) in gastric mucosa (GM) compared to control rats. No macroscopically visible changes of the mucous membranes of small and large intestine were noted under conditions of WRS although in small and large intestine mucous membranes homogenates the parameters indicative of nitrosooxidative stress were

also elevated compared to control rats. WRS decreased the concentration of L-arginine, NO precursor, in blood plasma ( $p < 0.05$ ). Pretreatment with T-34 caused 27% ( $p < 0.05$ ) decrease of GM ulceration area, at that NOS activity decreased for 45% ( $p < 0.05$ ), iNOS activity diminished for 60% ( $p < 0.01$ ) compared to the effect of WRS. Decrease of NO ( $p < 0.05$ ) and tendency to decrease of TBA products content in GM were also noted in T-34-pretreated rats on the background of WRS, whereas L-arginine concentration in plasma increased ( $p < 0.05$ ). In mucous membranes homogenates of the small and large intestine of T-34-pretreated rats on

the background of WRS the tendency to decrease of NOS activity was found, whereas TBA products content did not change significantly.

WRS induced an acute rise of nitrosooxidative stress parameters in mucous membranes of the stomach, small and large intestine. Tripeptide T-34 exerted cytoprotective effect towards mucous membranes of the examined digestive organs, mediated mainly by the decrease of inducible NOS activity. The effect of T-34 on GM was superior to its action on small and large intestine.

## NARCOTIC ANALGESICS: ANGIOPATHIC EYE CHANGES IN RATS

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**Key words:** eyeball, narcotic analgesics, vascular tunic, experiment

Pain constitutes up to 90% of all patient complaints in primary health care, so effective pain control and proper drug therapy are relevant problems. However, besides the appropriate use of analgesics for pain control, the gross misuse of analgesics a growing epidemic recent years. The prevalence rate of opioid use (at least once a year) is 61.0/ per 1000 adults in the USA and up to 27.0/ per 1000 adults in Europe (RecoveryBrands, 2013). According to the data of UNODC (United Nations Office on Drugs and Crime) total number of individuals using opioids attained 33 million people in 2014.

Modeling of the long-term effect of narcotic analgesics was performed by using a semi-synthetic opioid analgesic Nalbuphine. The study was carried out on 48 mature white male rats aged 3.0-3.1 months and with the body weight 160-180 g. All experimental procedures were approved by the University Animal Care and Use Bioethical Committee. The studies were conducted with application of morphological, in particular, histological, electron microscopy and morphometric methods of investigation; mathematical; modeling the prolonged effect of the opioid. The research material was presented by the specimens of

the eyeball vascular tunic, consist of the iris, ciliary body and choroid.

After 2 weeks of injecting Nalbuphine to the rats choroid, ciliary body and iris are clearly differentiated both, in the eyeball vascular tunic of the experimental animal such in the control animal. The administration of Nalbuphine to white rats over a 4 week period of time causes the following lesions in the eyes of the rat: in the endothelial and basement membrane of the microcirculation, in the epithelium of the ciliary processes, in the cellular and non-cellular elements of the iris and in the choroid. After 6 weeks of injecting Nalbuphine to the rats there are observed deep destructive changes in the eyeball vascular tunic. Arterioles' walls are thickened due to sclerosis. Thin-walled, elongated venules prevail. Choriocapillar layer is destroyed. Layers of the iris are not clearly differentiated. Ciliary processes are fragmented, epithelium that covers them is disorganized, the processes are thickened, shortened. We have demonstrated changes of restructuring angiarchitectonics of the eyeball vascular tunic which indicates the development of angiopathy, potentially contributing to circulatory disorders of the organ of vision.