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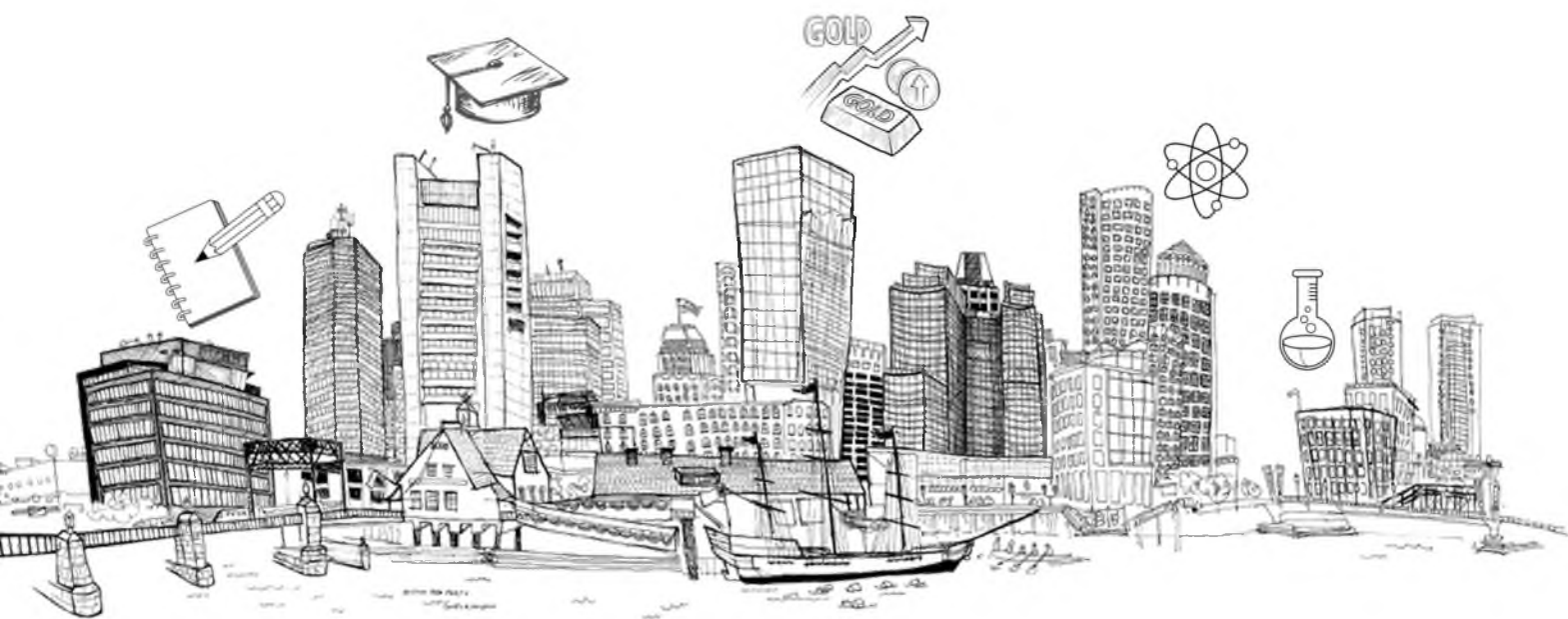
THE ART OF SCIENTIFIC MIND

COLLECTION OF SCIENTIFIC PAPERS

WITH PROCEEDINGS OF THE IV INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE

## SCIENTIFIC PRACTICE: MODERN AND CLASSICAL RESEARCH METHODS

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Boston, USA  
«Primedia eLaunch»  
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## THE EXPRESSION OF THE ENDOGENOUS METABOLIC INTOXICATION SYNDROME AND LIPID PEROXIDATION IN THE PATIENTS WITH ESSENTIAL HYPERTENSION IN COMBINATION WITH DUODENAL PEPTIC ULCER IN DIFFERENT TERMS OF OUTPATIENT OBSERVATION AND TREATMENT

### SCIENTIFIC RESEARCH GROUP:

**Burmak Yurii H.**

Doctor of Medical Sciences, Professor,  
Professor of the Department of Internal Medicine #3  
*Bohomolets National Medical University, Kyiv*

**Petrov Yevhen Ye.**

Candidate of Medical Sciences, Associated Professor,  
Assistant Professor of Department of Propaedeutics to Internal Medicine with Care  
of Patients, General Practice (Family Medicine)  
*State Medical University, Poltava*

**Ivanytska Tetiana A.**

Associate Lecturer  
Department of Propaedeutics to Internal Medicine with Care of Patients, General  
Practice (Family Medicine)  
*State Medical University, Poltava*

**Ivanytskyi Igor V.**

Candidate of Medical Sciences, Associated Professor,  
Assistant Professor of Department of Family Medicine and Therapy  
*State Medical University, Poltava*

*UKRAINE*

Now the role of endogenous intoxication syndrome (EIS) as the cause of non-specific manifestations of many diseases is known [1, 2]. The role of lipid peroxidation (LP) as a factor in the formation of internal organs' pathology is also well known [3]. The results of the study established their role and ways of influence, including on the formation and course of diseases of the cardiovascular and digestive systems [3, 4, 5, 6]. It is possible to predict that comorbid conditions accompany metabolic disorders, which are characterized by the presence of certain their features.

Taking into account the above, the aim of our work was to investigate the peculiarities of the dynamics' changes in LP and EIS in patients with essential hypertension (EH) in combination with duodenal peptic ulcer (DPU) at the stage of outpatient observation and treatment and determine the need to optimize the treatment strategy.

The study included 35 patients (males-18, females-17, mean age -  $44,3 \pm 2,9$  years) with EH of the II stage (medicamentous control) combined with DPU (after exacerbation); the threatment met the requirements of the protocol. The presence and severity of EIS was assessed by the content of medium-mass molecules (MmM)

in the blood, LP intensity – by the content of the intermediate (diene conjugates - DC) and the final (malondialdehyde – MDA) products in blood serum; the activity of the enzyme link of antioxidant protection was assessed by the activity of superoxide dismutase (SOD) and catalase (Ct) by means of spectrophotometry with the calculation of the antioxidant capacity (AC) of blood serum (the ratio of result SOD·Ct to MDA). 25 practically healthy people of the same sex and age formed a control group. Statistical proceeding of the results was carried out using the license programs packages Microsoft Office 2003, Microsoft Excel Stadia 6.1/ prof. The significance of differences (p) for the all indices is marked in this way: \* - <0.05, \*\* - <0.01, \*\*\* - <0.001.

It should be emphasized that during the whole period of observation, blood pressure control of patients with EH and combined DPU was adequate, and probable changes in cardiohemodynamic parameters (the stroke and cardiac indices, the ejection fraction and the total peripheral vascular resistance by means of echocardiography) were not determined, and clinical manifestations of comorbid duodenal pathology' exacerbation were not diagnosed.

At the beginning of the observation we diagnosed the presence of EIS and significantly increased activity of LP of cell membranes. An increase of the MmM content more than in 3.5\*\*\* times (in the control group –  $0.52 \pm 0.08$  g/l), as well as an increase of the DC and MDA content by almost in 2\*\*\* times (in the control group, respectively,  $9.22 \pm 0.09$   $\mu\text{mol/l}$  and  $3.25 \pm 0.06$   $\mu\text{mol/l}$ ) was the reason for that; it was accompanied by an decrease of AC in 2.3\*\*\* times (in the control group –  $3014.8 \pm 38.3$ ), which, among other things, was due to a decrease in the activity of enzymes of the antioxidant protective system (SOD and Ct).

The data of the examination carried out in a month of observation showed the dynamics of a moderate increase in the activity of SOD and Ct with a decrease in the content of LP products - MDA and DC, respectively, in 1.16\*\* and 1.13\*\* times. Besides an increase of AC by 16%\*\*\* and a decrease in the content of MmM in 1,4\*\*\* times was noted. It reflected the dynamics of a decrease in LP activity and severity EIS.

The determined direction of metabolic indicators' changes was also observed by us in the future. In 3 months of observation there was a further decrease in both DC (by 6%) and MDA (by 21%\*\*\*), increase in the activity of SOD, Ct and AC (in 1.46\*\*\* times) as well as a decrease in MmM content (by 21%\*\*\*) in comparison with previous data. It is necessary to note that although the direction of dynamics of changes in the analyzed indicators was positive, their complete recovery did not occur (the truth of differences with control group remained).

In the sixth moth of observation of patients with comorbid pathology, the dynamics of changes in indicators took the opposite direction and indicated the activation of the LP and a more significant expression of EIS. So, there was an increase in the content of DC (by 11%\*), MDA (by 18%\*\*), a decrease in the activity of SOD and Ct and AC (by 41%\*\*\*), as well as an increase (by 43%\*\*\*) of MmM content.

Thus, EIS, the reduction of AC and the activation of LP, revealed by us in patients with EH and combined DPU, are the most pronounced immediately after exacerbation of duodenal pathology. Certain positive dynamics of the analyzed indicators during the follow-up indicates the absence of complete recovery of metabolic changes and is not long-lasting. We express an opinion concerning the need to consider the above-mentioned violations as a risk factor for the development of complications of this comorbid pathology. It should provide for pathogenetically

substantiated correction of the treatment of such patients and optimization of secondary prevention measures.

### References:

- [1] Radchenko, O.M. (2009). Syndrome of endogenous intoxication in the clinic of internal diseases (review and personal date). *Medical hydrology and rehabilitation*, (3), 25-32. [in Ukrainian] [https://truskavets.ua/wp-content/uploads/2022/06/T7\\_Ne3.pdf](https://truskavets.ua/wp-content/uploads/2022/06/T7_Ne3.pdf)
- [2] Wolley, M., Jardine, M. & Hutchison C.A. (2018). Exploring the clinical relevance of providing increased removal of large middle molecules. *Clinical Journal of American Society of Nephrology*, (13), 805-814. doi: 10.2215/CJN.10110917
- [3] Psareva, V. G. (2019). Activity of the system of oxidative stress as antioxidant protection in hypertension with different classes of obesity. *Ukrainian Journal of Medicine, Biology and Sport*, (4), 124-129. [in Ukrainian] <http://essuir.sumdu.edu.ua/handle/123456789/73917>
- [4] Kondratyuk, M.O., Sorokopud, O.O., Stril'chuk, L.M. et al. (2019). Chronic heart failure course prognosis depending on body weight and endogenous intoxication syndrome. *Wiadomości Lekarskie*, (4), 527-531. [in Ukrainian] <https://www.ncbi.nlm.nih.gov/m/pubmed/31055526/>
- [5] Skrypnyk, I., Neporada, K., Gopko, O. (2017). The role of stress in the pathogenesis of peptic ulcer of the gastroduodenal zone. *Bulletin of problems in biology and medicine*, (4, part 1), 70-73. [in Ukrainian] <https://repository.pdmu.edu.ua/handle/123456789/8492>
- [6] Ma, J., Li, Y., Yang, X. et al. (2023). Signaling pathways in vascular function and hypertension: molecular mechanisms and therapeutic interventions. *Signal Transduction and Target Therapy*, (8, 168), 1-30. <https://doi.org/10.1038/s41392-023-01430-7>