

Results. Patients with concomitant CKD had higher XO activity levels compared to non-CKD patients: $(7,51 \pm 0,77)$ mU/ml vs $(4,69 \pm 0,77)$ mU/ml respectively ($p=0,01$). The mean SUA levels were not significantly different: $(7,63 \pm 0,27)$ mg/dl vs $(7,46 \pm 0,39)$ mg/dl respectively ($p=0,73$). Comparison of mean GFR in patients with and without hyperuricemia revealed significantly lower GFR in patients with asymptomatic hyperuricemia: (59.9 ± 2.95) ml/min/1.73m² and (76.6 ± 6.05) ml/min/1.73 m² respectively ($p < 0.01$). Data also showed that patients with $eGFR \leq 60$ ml/min/1.73 m² have significantly higher SUA levels and XO activity compared to those with $eGFR > 60$ ml/min/1.73 m² : $(8,21 \pm 0,29)$ mg/dl vs $(6,73 \pm 0,31)$ mg/dl ($p < 0,001$) and $(8,72 \pm 0,8)$ mU/ml vs $(4,15 \pm 0,56)$ mU/ml respectively ($p < 0,001$). The kidney function significance in the development of the xanthine metabolism violations proves the revealed inverse correlation between eGFR and XO activity ($r = -0,7$, $p < 0,05$) as well as SUA levels in patients with chronic HF ($r = -0,3$, $p < 0,05$).

Conclusion. Our analysis established that patients with concomitant CKD had higher serum uric acid levels and XO activity. These data suggest the negative impact of the decreased filtration and urinary excretion on the xanthine metabolism. Further high quality clinical trials with long-term follow up should be conducted to clarify correlation between uric acid, XO activity and severity of chronic heart failure and kidney disease.

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Key words: xanthine metabolism, asymptomatic hyperuricemia, xanthine oxidase activity.

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CORRELATION BETWEEN CLINICAL AND BIOCHEMICAL INDICATORS IN WHITE RATS IN THE TREATMENT OF EXPERIMENTAL GENERALIZED PERIODONTITIS

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Studying the mechanism of action and clinical application of polypeptides remains actual in modern medicine. The aim of our study was to examine clinical parameters and the state of free radical oxidation in blood and periodontal tissues of white rats in the treatment of spontaneous generalized periodontitis with the use of polypeptides.

Materials and Methods. Experiments were performed on 280 six-month-old Wistar line's rats of both sexes weighing 120-130 g. During the study, animals were kept under vivarium conditions in individual cells, food and water were not limited. All animals were divided into the following groups: Group I – intact animals ($n=70$), Group II – animals with spontaneous periodontitis ($n=70$), Group III – animals with spontaneous periodontitis, treated with thymalin polypeptide preparation in a dose of 0.1 mg / kg i / m daily, for 10 days ($n=70$), Group IV – animals with spontaneous periodontitis, treated with parodontylin polypeptide preparation at a dose of 1 mg / kg i / m, daily for 10 days ($n=70$). Indicators of free radical oxidation were determined in blood and periodontal tissues. Resorption of bone tissue of the alveolar process was evaluated.

Results. Treatment of experimental spontaneous periodontitis with thymalin lead to regression of symptoms of the disease on the 7th day of observations. Hyperemia and

edema, bleeding gums had remitted. Whereas under the influence of thymalin there was a regression of dental symptoms by 3.8 times, under the influence of parodontylin – by 7.2 times. Condition of periodontal tissues in animals improved more significantly on the 20th day of observation, the scale assessment of dental status indicated that in animals, treated with thymalin, it was 1.1, and by parodontylin – 0.3 points per animal. In studying the processes of lipid peroxidation in periodontal tissues, their significant reduction in rats with spontaneous periodontitis after administering parodontylin has been established. We also observed an increase in the activity of antioxidant enzymes. Hence, the activity of SOD was twice as high, catalase – by 1.95 times. Reactions of lipid peroxidation had the same dynamics in the blood of animals after administering periodontal polypeptides and thymalin, as in periodontal tissues. Significant decrease in the level of conjugated dienes, the concentration of the latter reaches the value of indices of intact animals was found. Similar results were obtained with regard to the level of TBA-active products, accumulation of MDA, spontaneous hemolysis of erythrocytes. Parodontylin reduced lipid peroxygenation of blood to a greater extent than thymalin. Also increased activity of SOD was observed. On the other hand, concentration of ceruloplasmin decreased by 25.4%.

Prospects for the further research. Administering periodontal polypeptides during spontaneous periodontitis leads to decrease in the responses of lipid peroxidation in periodontal tissues and blood. To a greater extent this effect is characteristic of parodontylin in comparison with thymalin.

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Key words polypeptides, periodontitis, antioxidant enzymes, parodontylin, thymalin

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SIGNIFICANCE OF GENE POLYMORPHISM IN THE DEVELOPMENT OF UTERUS LEIOMIOMA

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Uterine leiomyoma is a benign tumor of the myometrium and develops as a result of proliferation of muscle cells and connective tissue elements. When comparing the ultrastructure of collagen fibrils in the leiomyoma tissue and normal myometrium, it was found that leiomyoma contains collagen fibrils of an atypical structure and orientation compared to normal myometrium [1]. This indicates the leading role of matrix metalloproteinases in the pathogenesis of leiomyoma. Molecular genetic mechanisms of the effect of the altered hormonal background on the activity of the corresponding enzyme systems in the uterine tissue are poorly understood. More than 20 types of matrix metalloproteinases that carry out various stages of the degradation of collagen, elastin and other extracellular matrix proteins are known. Among them, matrix metalloproteinase-1 (MMP-1) plays a special role, which carries out the primary degradation of collagen molecules, after which they further decompose under the influence of other metalloproteinases [2]. Subsequent degradation of collagenolysis