oral and peri-implantation fluid increased in two clinical groups, followed by a decrease in the concentration of the studied inflammatory markers 30 and 90 days after surgery. However, in group 1, the content of acute-phase inflammation proteins C-RP and TNF-α in the biological media of the oral cavity increased with a less pronounced gradient (p<0.05) compared with group 2. Thus, the level of C-RP in the oral fluid compared with the initial value in group 1 in 1, 7 and 14 days after surgery increased by 3.4 (p<0.05), 9.4 (p<0.05) and 2.8 (p<0.05) times, and in group 2 – 5.1 (p<0.05), 14.2 (p<0.05) and 4.6 (p<0.05) times, respectively. The level of TNF-α in the oral fluid compared with the initial value in group 1 in 1, 7 and 14 days after surgery increased by 1.9 (p<0.05), 2.1 (p<0.05) and 1.8 (p<0.05) times, and in group 2 – 2.9 (p<0.05), 4.5 (p<0.05) and 4.7 (p<0.05) times, respectively. In the peri-implantation fluid concentration of inflammatory markers was higher compared to oral fluid.

Conclusion. Use of one-stage dental implantation with immediate loading with non-separable dental implants made of nanostructured titanium was accompanied by less pronounced inflammation in the peri-implantation zone, as was evidenced by measurements of the concentration of inflammatory markers in the oral and peri-implant fluid.

References:

Key words: dental implantation, peri-implantation fluid, oral fluid, C-reactive protein, cytokines.

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XANTHINE OXIDASE ACTIVITY IN PATIENTS WITH CONGESTIVE HEART FAILURE AND CHRONIC KIDNEY DISEASE

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Epidemiological studies show that hyperuricaemia is an independent risk factor for cardiovascular disease, especially chronic heart failure (CHF). But the exact mechanism of high serum uric acid (SUA) levels is not fully understood. It can be a result of increased generation, decreased excretion or a combination of the two. Some experts suggest that elevation of SUA is primarily due to the increased amounts of xanthine after cellular damage, which is catalyzed into uric acid via xanthine oxidase. Another point is that it can be a result of impaired renal excretion of uric acid in patients with concomitant chronic kidney disease (CKD). Our objective was to evaluate xanthine oxidase activity and SUA levels in patients with congestive heart failure and concomitant CKD.

Materials and Methods. The study population consisted of 112 patients (51 men, 61 women) aged (72.5±8.6) years. Depending on a presence of concomitant CKD all patients with CHF were divided into 2 groups: within CKD (72 patients) and non-CKD (40) participants. We used PAP - method with antilipid factor to evaluate SUA levels. XO activity was determined by a coupled enzyme assay, which results in a colorimetric (570 nm)/fluorometric (lex = 535/lem = 587 nm) product, proportional to the hydrogen peroxide generated.
Results. Patients with concomitant CKD had higher XO activity levels compared to non-CKD patients: (7.51±0.77) mU/ml vs (4.69±0.77) mU/ml respectively (p=0.01). The mean SUA levels were not significantly different: (7.63±0.27) mg/dl vs (7.46±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≤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±0.29) mg/dl vs (6.73±0.31) mg/dl (p<0.001) and (8.72±0.8) mU/ml vs (4.15±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.

References.

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