

sulfate, chondroitin-6-sulfate, dermatin-sulfate, and heparin-sulfate. Due to a high negative charge they bind water well and thus regulate water-salt metabolism in tissues. Increased amount of SGAG is a characteristic feature of such typical pathological process as inflammation, since they take part in the formation of tissue swelling. Therefore, increase of these metabolites in children suffering from CCG is quite obvious: in IB group – to (0,16±0,01) g/L and in IIB group – to (0,33±0,01) g/L. Although, in the examined children with DNG twice as much amount of SGAG is found than that of clinically intact periodontium, which is indicative of depolymerization processes in the periodontal tissues under conditions of thyroid gland hyperplasia. The content of non-sulfated GAG (NSGAG) with hyaluronic acid as the main representative did not change considerably in the oral fluid of children. Only in children from IIB group a reliable decrease of NSGAG concentration was registered compared with the examined children in IB group from (0,05±0,005) to (0,06±0,004) g/L ($p<0,05$). It can be an additional negative factor in the development of periodontal pathology, since a decreased content of hyaluronic acid promotes disorders of the barrier functions of the mucous membrane and skin. The correlation analysis determined availability of a moderate positive dependence between general GAG level and SGAG level in the oral fluid of children from IA group ($r=0,59$, $p<0,05$), IB group ($r=0,68$, $p<0,05$) and IIA group ($r=0,54$, $p<0,05$). Interrelations between changes of SGAG and NSGAG amount in the oral fluid of children considering somatic or dental pathology were not found.

Conclusions. The applied biochemical methods of investigation enable to assess the state of the connective tissue components of the dental-maxillary system under different conditions and determine a risk group of children who do not possess clinical changes in the periodontal tissues, but could reliably have them in future.

Prospects of further studies include experimental substantiation and clinical application of chondroprotectors with the purpose to normalize the state of the connective tissue components condition in the dental-maxillary system.

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INTERRELATION BETWEEN LEVEL OF INTERLEUKINS AND DENSITY OF ALVEOLAR BONE IN POSTMENOPAUSAL WOMEN

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Recent studies have showed that interleukins may play significant role in bone metabolism. Meanwhile, little is known regarding correlation of serum concentration IL-1 β , IL-6, TNF- α with density of alveolar bone in postmenopausal women after prosthodontics treatment [1,2,3]. The aim of our study was to assess the correlation of serum concentration interleukins and density of alveolar bone in postmenopausal women with fixed dental prosthesis.

Materials and Methods. We studied 35 women, aged 55-65, an average age 60,2 \pm 1,4 years old. The study had got some groups. The first one consisted of 12 patients with normal density of alveolar bone (T-criteria >1,0 SD), without prosthetic treatment. The other one included 10 patients with fixed dental prosthesis and normal density of alveolar bone (T-criteria >1,0 SD). The third one included 13 patients without prosthetic treatment, they had reduction of alveolar bone mineral density (T-criteria < - 1,0 – 2,5 SD). In the fourth group (12 patients) were produced fixed dental prosthesis and they had reduction of alveolar bone mineral density

(T-criteria < -1,0 – 2,5 SD). The patient's cytokine status (the serum level of cytokines IL-1 β , IL-6, TNF- α) identified by using solid-phase immunoenzyme analysis.

Results. In our study has been shown the absence of significant difference in the interleukin's production in women of the first and second groups. In the patient of the third group the serum level of IL-1 β was in 17,9 times higher, moreover level of TNF- α was in 3,6 times higher than in the first group. In addition, the level of IL-1 β in the fourth group was in 1,4 times higher and level of TNF- α was in 1,5 times higher than in the third group. The high concentration of serum interleukins has important impact on loss of alveolar bone's density. An increase of interleukins concentration is associated with decrease of alveolar bone's density. Also, there is in fact increasing in 1,6 times of IL-6 serum level in women of the first group. And number of IL-1 β in the patients of fourth group declined in 1,4 times compared with third group. We can conclude that the numerical density of alveolar bone goes down and it correlates with serum interleukins concentration in six-eight months term after prosthodontics treatment in postmenopausal women.

Prospects for the further research. To study the level of interleukins and the degree of alveolar bone resorption in patients with reduced alveolar bone density depending on the type of prosthodontics constructions and the material from which it is made. Furthermore, there is need to develop and implement prosthodontic characteristics guidance and indications for remodeling therapy in clinics.

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MATRIX METALLOPROTEINASE -14 AND MATRIX METALLOPROTEINASE -13 ARE THE POTENTIAL MARKERS OF THE CHRONIC PERIODONTITIS

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Destruction of tissues of the supporting apparatus of the tooth goes due to the degradation of the components of the extracellular matrix (ECM) and leads to irreversible loss of connective tissue of the periodontium and alveolar bone resorption. Important role in this pathological process is played by matrix metalloproteinases (MMPs) -Zn-dependent endopeptidases, which are activated in inflammatory and tumor processes and participate in the destruction of all types of ECM proteins. MMP-14 is a membrane-bound enzyme that possesses collagenase activity and activates collagenase MMP-8 and MMP-13. It is of interest as a potential key molecule that plays a role in the pathogenesis and prognosis of the disease. MMP-13 (collagenase-3) is an enzyme which presents in the healing tissue of the gum, pulp, odontoblast. It is known that MMP-13 is capable to activate osteoblasts and thus is involved in many osteodestructive diseases. Previously, an increase of MMP-13 immunohistochemical expression and its concentration in the gingival fluid along with MMP-7, -8, and -9 as well as a parallel increase of the concentration of carboxyterminal peptides of type I collagen during periods of disease progression indicating by the destruction of connective tissue. It is known that the family of MMPs forms a "cascade" of reactions that cause changes in connective tissue with active and chronic inflammation. The purpose of our study was to determine the prognostic significance of immunohistochemical determination of MMP-14 and MMP-13 expression in periodontal tissues of the patients with fast-progressive and chronic periodontitis.

Material and Methods. To assess the MMP-14 and MMP-13 expression a histological study of 75 gingival biopsies of the patients with a clinical diagnosis fast-progressive periodontitis (28 patients, 15 men (53.6%), 13 women (46.4%), average age 31.1 years old) and chronic complex periodontitis (47 patients, 23 men (48.9%), 24 women (51.1%), average age 43.7 years old) was performed. All patients were undergoing with professional hygiene of the oral cavity and closed curettage procedures. A periodontal soft tissue biopsy while indicated procedures was performed. Expression was assessed on immunohistological slides stained with antibodies to MMP-14 and MMP-13. Statistical analysis was performed using Statistica 12 software. The comparison of the groups was carried out with the help of the criterion χ^2 with the Yates correction.

Results. Expression of MMP-14 and MMP-13 occurred in all investigated cases of both fast-progressive and chronic complex periodontitis. The MMP-14 enzyme was characterized by the staining of membrane cells of the basal layer of the epithelium. In stromal cells positive staining was found both in the membrane and cytoplasm of cells. It was found that the expression of MMP-14 was mild and moderate in the fast-progressive