VARIABILITY IN THE ORAL CAVITY IN ENDOCRINE DISEASES

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Annotation. One of the problems of modern clinical dentistry is the increase in inflammatory diseases of the oral cavity, occurring against the background of secondary immune deficiency [3,6,8]. An internal factor influencing the immune response is the endocrine system, which is part of the neurocrine perylation homeostasis complex. An important role in the etiopathogenesis of various dental diseases is played by the complex multifunctional relationships between the immune, nervous and endocrine systems. Endocrinological aspects of dental diseases are reflected in a number of fundamental scientific studies [4,5,9], which indicate a close relationship between diseases of the oral organ systems and endocrine pathology systems. One of the most common diseases of the endocrine system is hypothyroidism. A number of authors indicate a high prevalence of chronic generalized periodontitis with hypothyroidism [2,4,9]. Studies by a number of authors have revealed a high incidence of dental caries and a higher degree of increase in the intensity of caries in children living in areas of iodine deficiency. However, these data are small and scattered. A comprehensive and in-depth study of the effect of hypothyroidism on the development of oral diseases has not been conducted.

Keywords: periodontitis, damage, diseases, hypothyroidism, cytokines, iodine deficiency.

An important pathogenetic link in periodontal damage is a disturbance in the “sex-antioxidant” system. It is known that with hyperfunction of the thyroid gland, the intensity of the processes of lipid peroxidation (LPO) and its effect on the functional state of the periodontium increases [1,7,10,11]. There are practically no works devoted to the study of the processes in the development of oral diseases with hypofunction of the thyroid gland. One of the possible triggers for the formation of disorders in the oral cavity is activation of the immune system [2,11]. The involvement of cytokines in the development of periodontal diseases is considered proven. There are isolated studies indicating an increase in the content of cytokines in patients with thyrotoxicosis, but there are practically no studies devoted to the study of the influence of cytokines on the development of oral diseases against the background of thyroid dysfunction. In this regard, the study of lipid peroxidation levels and the content of cytokines in the blood serum during the development of oral diseases against the background of hypothyroidism is an urgent problem in dentistry, the solution of which will allow us

to expand understanding of some mechanisms of formation of lesions in the oral cavity during thyroid dysfunction lees, as well as develop new effective diagnostic methods.

Material and research methods. The clinical and laboratory part of the work is based on the results of the examination study of 96 patients with chronic generalized periodontitis. Of these, 22 patients with mild chronic generalized periodontitis, patients with moderate chronic generalized periodontitis and severe chronic generalized periodontitis, 42 and 32 patients, respectively, with combined hypothyroidism. To objectify the clinical assessment, indicators such as the periodontal index, papillary-marginal-alveolar index and Ketier index. To reliably determine the intensity of the inflammatory process, the Schiller-Pisarev test was used. X-ray examinations were also carried out to measure the depth of periodontal pockets. The study of lipid peroxidation and antioxidant protection indicators was carried out using the following method: blood was taken from a vein on an empty stomach into a test tube with EDTA at a final concentration of Img/ml. The concentration of malondialdehyde in blood plasma was studied (L.I. Andreeva 1988). The rate of catalase reaction in blood serum and erythrocytes according to the method proposed by M.A. Kovrov. To quantify tumor necrosis factor alpha (TNF-a), interleukin-1 (IL-18) and interleukin-4 (IL-4), an enzyme-linked immunosorbent method was used using kits from HUMAN.

Research results. As a result of examination of patients with hypothyroidism, a high frequency of generalized periodontitis was revealed. The chronic course of the disease was predominantly noted. In 60.1% of people aged 25-45 years, mostly moderate and severe forms of periodontitis were noted. In patients with hypofunction of the thyroid gland, diffuse congestive hyperemia of the gums predominated. There is a significant deposition of tartar, the presence of periodontal pockets with serous-purulent discharge up to 5 mm deep. The leading clinical signs of severe periodontitis in patients with hypothyroidism were hyperemia with severe swelling, multipleperiodontal pockets more than 5-6 mm deep, frequent relapses of inflammation associated with exacerbation of the underlying disease. A characteristic feature of the course of generalized periodontitis in patients with hypothyroidism was the presence of non-carious lesions of dental tissue. In 12% of patients with generalized periodontitis with hypofunction of the thyroid gland, erosion of hard dental tissues was diagnosed, in 14% wedge-shaped defects, in 10.2% pathological abrasion of teeth. Relatively often in these patients, generalized periodontitis was combined with candidiasis of the oral mucosa (28.2%). The nature of the course and outcome of non-karyotic dental lesions were largely determined by the course of the underlying disease. Particularly unfavorable dynamics of non-carious dental lesions were noted in cases of severe generalized periodontitis and severe hypothyroidism. The results suggest that the condition of periodontal tissues in patients is largely determined by the duration and severity of hypothyroidism. As can be seen from the results of the examination

presented in Table 1, the content of lipid peroxidation products and the antioxidant system were studied in 96 patients with XIII on phonetipothyroidism. 18 people were patients with CGTP without thyroid pathology (control group). Patients with CHII were also distributed depending on the severity of the oral disease. It was revealed that the level of minor dnaldehyde in the blood serum was significantly increased in patients with CIPT combined with hypothyroidism. The studied indicator in the group with CHIL and CHPS against the background of hypothyroidism practically did not differ between themselves and the control group. Data on the antioxidant activity of blood serum in patients with hypothyroidism also did not differ significantly in the group of patients with mild and moderate grade XIII, while in patients with severe grade XIII there was a significant (P<00.5) decrease in the overall antioxidant activity of the blood when compared with the control group. A peculiar dynamics was noted in the activity of serum catalase in the examined patients. Thus, in severe forms of CHIP combined with hypothyroidism, a significant increase in serum catalate activity is observed (P<0.05). Whereas, in blood erythrocytes, a different dynamics was noted, i.e. a significant decrease in catalase activity by 15% with moderate degrees of CGTP, and with severe degrees of CGTP by 20%, when compared with the control group (P<00.5). Thus, in persons with thyroid dysfunction, a significant increase in lipid peroxidation products in the blood serum was revealed, along with a decrease in its antioxidant activity, especially in the severe form of CHITI. When carrying out enzyme immunoassay in patients with CGP of varying severity against the background of hypothyroidism, statistically significant changes in the cytokinin status were revealed. The highest content of the studied cytokines in the blood serum was recorded in patients with moderate and severe degrees of XIII). Such patients with moderate CGTP combined with hypothyroidism level. IL-13 in the blood serum of age is 1.6 times (P<00.5), and in severe XII it is 1.9 times (P<00.5) compared to the control group. The content of IL-4 in the blood serum of patients with CGP complicated by hypothyroidism also increased, with a moderate degree by 1.5 times and with a severe degree by 1.7 times (P<0.05) compared to the control group. A similar pattern of changes was noted when studying the level of TNF-a in the blood serum of the studied patients. The content of this cytokine in individuals with chronic hepatitis C complicated by hypothyroidism was 1.5 times higher than the control values, and in individuals with chronic hepatitis 2 times higher (P<00.5). Thus, in patients with CGP of varying severity combined with hypothyroidism, activation of the immune system is noted, which probably has a pathogenetic significance in the development of the underlying disease

Conclusions. Inflammatory diseases of periodontal tissues in patients with hypothyroidism are predominantly chronic and generalized in nature and are characterized by high activity of inflammatory destructive agents. ny process in the

area of the dentogingival junction. It was found that significant activation of lipid peroxidation processes and a decrease in antioxidant protection were noted in patients with severe CGP against the background of hypofunction of the thyroid gland. It has been shown that with thyroid dysfunction there is a pronounced activation of the immune system, manifested by an increase in the level of cytokines in the blood serum. The highest concentrations of TNF, IL-1 and IL-4 were found in patients with moderate CGTP and hypothyroidism.

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