CHANGES IN THE ORAL CAVITY IN ENDOCRINE DISEASES

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Annotation. One of the problems of modern clinical dentistry is the growth of 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 complex of neurocrine regulation of homeostasis. An important role in the etiopathogenesis of various dental diseases is assigned to the complex multi-functional relationships between the immune, nervous and endocrine systems.

Keywords: oral cavity, Endocrinological aspects, dental caries, hypothyroidism, periodont, dysfunction.

Endocrinological aspects of dental diseases are reflected in a number of fundamental scientific studies [4,5,9], which indicate the close relationship of diseases of the oral organ systems with the pathology of the endocrine system. One of the most common diseases of the endocrine system is hypothyroidism. A number of authors 26. They 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 growth the intensity of caries in children living in the iodine deficiency zone.

However, these data are few and scattered. A comprehensive and in-depth study of the effect of hypothyroidism on the development of oral diseases has not been conducted. An important pathogenetic link in periodontal disease is disorders in the "half-antioxidants" system. It is known that hyperfunction of the thyroid gland increases the intensity of peroxidation processes lipids (SEX) and its effect on the functional state of the periodontium [1,7,10,11]. There are practically no works devoted to the study of the processes in the development of diseases of the oral cavity with hypofunction of the thyroid gland. One of the possible triggers for the formation of disorders in the oral cavity is the activation of the immune system [2.11].

The involvement of cytokines in the development of periodontal diseases is considered proven. There are isolated studies showing an increase in the cytokine content in patients with thyrotoxicosis, however, there are practically no studies devoted to the study of the effect of cytokines on the development of oral diseases against the background of thyroid dysfunction

No. In this regard, the study of the processes of SEX and cytokine content in blood serum during the development of diseases of the oral cavity against the background of hypothyroidism is an urgent task of dentistry, the solution of which will allow to expand understanding of some mechanisms of formation of lesions of the oral cavity in thyroid dysfunction, as well as to develop new effective diagnostic methods.

Research materials and methods. The clinical and laboratory part of the work

is based on the results of the examination of 96 patients with chronic generalized periodontitis. Of these, 22 patients with mild chronic generalized periodontitis, 42 patients with moderate chronic generalized periodontitis and severe chronic generalized periodontitis and 32 people with combined hypothyroidism, respectively. To objectify the clinical assessment, indicators such as the paradontal index, papillary-marginal-alveolar index and the Ketze index. The Schiller-Pisarev test was used to reliably determine the intensity of the inflammatory process. Radiological studies have also been performed to measure the depth of periodontal pockets. The study of the indicators of SEX and antioxidant protection was carried out according to the following method: blood was taken from the vein on an empty stomach into a test tube with EDTA at a final concentration of 1 mg/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-α), interleukin-1 (IL-1β) and interleukin-4 (IL-4), an enzyme immunoassay using HUMAN kits was used. The results of the research. As a result of examination of patients with hypothyroidism, a high frequency of generalized periodontitis was revealed. The chronic course of the disease was mainly noted. 60.1% of people aged

25-45 years old, they noted mainly a moderate and severe form of periodontitis. In patients with thyroid hypofunction.

Diffuse congestive hyperemia of the gums prevailed. 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 pronounced swelling, multiple periodontal pockets with a depth of more than 5-6mm, frequent recurrence 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 tissues. In 12% of patients with generalized periodontitis with hypofunction

The thyroid gland was diagnosed with erosion of the hard tissues of the teeth, wedge-shaped defects in 14%, and pathological tooth abrasion in 10.2%. Relatively often in these patients generalized periodontitis was combined with candidiasis oral mucosa (28.2%). The nature of the course and outcome of non-carious dental lesions were largely determined by the course of the underlying disease. Especially unfavorable dynamics of non-carious dental lesions were observed in severe generalized periodontitis and severe hypothyroidism.

The results carried out It is suggested 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 POL products and the antioxidant system were studied in 96 patients with CGP for hypothyroidism. 18 people were patients with CGP without thyroid pathology (control group). Patients with CGP were also distributed depending on the severity of the disease of the oral cavity. It was revealed that the level of malondialdehyde in the blood serum was significantly increased in patients with HCG combined with hypothyroidism. The studied indicator in the group with CKD and CKD on the

background of hypothyroidism, they practically did not differ from each other and the control group. The data on the antioxidant activity of blood serum in patients with hypothyroidism also did not significantly differ in the group of patients with mild and moderate CGP, whereas in patients with severe CGP, significant (P<00.5) decrease in total blood antioxidant activity when compared with the control group. A peculiar dynamics was noted in the activity of serum catalase in the examined patients. Thus, in severe CGP with associated hypothyroidism, there is a significant increase in serum catalase activity (P<0.05). Then As a result, a different dynamics was noted in red blood cells, i.e. a significant decrease in catalase activity by 15% with an average degree of CGP, with a severe degree of CGP by 20%, when compared with the control group (P<00.5). Thus, persons with thyroid dysfunctions revealed a significant increase in LPO products in blood serum along with a decrease in its antioxidant activity, especially a severe form of CGP. When conducting enzyme immunoassay in patients with CGP of varying severity against the background of hypothyroidism, statistically significant shifts in cytokine status were revealed. The highest content of the studied cytokines in the blood serum was recorded in patients with moderate to severe CGP). Thus, in patients with moderate CGP combined with hypothyroidism, the level of IL 1β in the blood serum increased 1.6 times (P<00.5), and in severe CGP by 1.9 times (P<00.5,) compared with 27 by the control group. The IL-4 content in the blood serum of patients with CGP complicated by hypothyroidism also increased, with an average degree by 1.5 times and with severe by 1.7 times (P<0.05) compared to the control group. Similar The pattern of changes was also noted when studying the level of TNF-α in the blood serum of the studied patients. The content of this cytokine in individuals with HCG complicated by hypothyroidism was 1.5 times higher than the control values, in individuals with HCG by 2 times (P<00.5). Thus, in patients with CGP of varying severity combined with hypothyroidism activation of the immune system is noted, which probably has 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 the inflammatory destructive process in the area of the dentoalveolar junction. It was found that a significant activation of the processes of SEX and a decrease in antioxidant protection was noted in patients with severe CGP against the background of thyroid hypofunction. 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 TNFa, IL-1 and IL-4 was detected in patients with moderate CGP with hypofunction of the thyroid gland.

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