



The Influence of the Hormonal Background of the Body in the Pathogenesis of Chronic Hypertrophic Gingivitis in Adolescents

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Abstract: Therefore, the detection, prevention and treatment of HCG in adolescents is one of the serious tasks that is of great social importance, since treatment initiated at the early stages of the disease allows for the reversibility of the process or its stabilization.

Changes in the hormonal status of the body (endocrine diseases, puberty, pregnancy, menopause) underlie the chronic inflammatory reaction of the gum tissue, accompanied by neoplasm of cells and intracellular structures. With an increase in the amount of sex hormones circulating in the tissues, the influence of the microflora of dental plaque on the gum increases sharply, which leads to the development of gingivitis. Hormones create a good breeding ground for plaque bacteria and inhibit the functions of immune cells: T-cells, macrophages, B-lymphocytes.

The disease passes without destruction of the dentoalveolar attachment and pathological changes in the bone tissue of the alveoli. This disease is called hypertrophic hormone-induced gingivitis.

An increase in the volume of the gums with hormonal changes is observed, as a rule, against the background of poor oral hygiene.

Hypertrophic hormonal gingivitis is observed in children and adolescents, which is associated with hormonal changes in the body. Chronic hypertrophic gingivitis in children, as a rule, has a generalized character.

The surge in morbidity is associated with overloads of the autonomic, endocrine systems, higher nervous activity, and the emotional sphere at this age. The most significant reason in this case is the inharmonious formation of the endocrine function of the developing organism. Less common at this age is hyperplasia with insufficient functional activity of the adrenal cortex, thyroid gland or vegetative vascular dystonia. Gum hyperplasia is especially common in girls with juvenile bleeding.

During puberty, there is an increase in the papillae of the gum more often from the vestibular surface. Gingivitis, which accompanies adolescence and adolescence, is also called "pubertal gingivitis".

However, the above achievements do not allow us to fully solve the tasks assigned to clinicians, which creates the need to search for the most rational, effective and pathogenetically sound diagnostic methods. In the literature, much attention is paid to local risk factors that aggravate the course of chronic hypertrophic gingivitis, while the question of the role of hormonal background is still the subject of discussion [1.3.5].

It should be noted that the mechanism of the onset of pubertal development has not yet been sufficiently studied. In adolescence, there are noticeable changes in the activity of various endocrine glands.

The strengthening of the function of the genital glands during puberty has a significant impact on the activity of other endocrine glands and can disrupt the balance that the child had during childhood. Most children during this period have no clinical manifestations of endocrine disorders.

It is also known that estrogens and androgens, as well as other hormones, have the ability to stimulate or cause the synthesis of various RNAs that transmit information embedded in genes.

Currently, it is assumed that the body's ability to secrete the amount of sex hormones during puberty is genetically determined. The effect of estrogens on the anterior pituitary gland is especially important, indirectly through the hypothalamus, while under the influence of estrogens, the content of growth hormone in the pituitary gland decreases [2.4.6.8].

These aspects of the period of sexual development have a certain significance in the development of changes in the oral mucosa.

According to A. M. Polytun (1964), gingivitis is observed in 40.4% of children in the puberty period, while in 7.1% hypertrophic. I. I. Lasovsky (1969) revealed chronic catarrhal gingivitis in 22% of children, and hypertrophic gingivitis in 11%.

When diagnosing hypertrophic gingivitis during sexual development, it should be borne in mind that it may be caused by juvenile struma, since there is a certain synergy between the functions of the pituitary gland, thyroid gland and sex glands.

The presence of juvenile struma during this period is a contraindication for the use of a surgical method for the treatment of hypertrophic gingivitis in children and adolescents, since a recurrence of gum disease is possible.

Such patients, in addition to therapeutic dental treatment for gingivitis, need to be examined and treated by an endocrinologist (microyoda preparations, diiodothyrosine), and according to indications, surgical treatment of juvenile struma is necessary.

It is known that during puberty in adolescents (from 11% to 40%), thyroid hyperplasia is observed. With an increase in the thyroid gland, the relationship with a more frequent morbidity in the anamnesis was revealed, more frequent deviations in physical development were noted. At the same time, many children have manifestations of violations of the functions of a number of organs, as well as the autonomic nervous system.

Hyperplasia of the thyroid gland during puberty is an individually conditioned compensatory reaction of the body to maintain a state of homeostasis that does not go beyond the normal physiological capabilities of the organ, which leads it to increase and decrease functional reserves.

A. K. Kurmanova found that in 4.8% of cases in girls and 0.4% in boys, hypothalamic syndrome of puberty is observed, while the most constant sign of the disease is hypersecretion of ACTH. Apparently, in these patients, increased secretion of certain hormones of the hypothalamic-pituitary system can lead to the development of gingivitis.

According to the analysis, the literature data of periodontal diseases range from 80 to 100%. Scientists express a reasonable opinion that any change in the hormonal background in women contributes to the development and exacerbation of periodontal diseases.

Violation of estrogen metabolism in the direction of its predominance – hyperestrogenism and reduction of hypoestrogenism - can occur for many reasons: taking synthetic hormonal drugs for contraception or treatment; contact with insecticides and phthalates; intake of artificial hormones with food; excessive alcohol intake; prolonged depression and stress; nutrient deficiency; inadequate physical exertion negatively affect on the general metabolism, including the synthesis of estrogens; taking certain medications - anti-tuberculosis, sugar-reducing drugs, antidepressants, barbiturates, medications that reduce the acidity of gastric juice (omeprazole) they actively affect the overall

metabolism of estrogens, as well as diseases of the liver, biliary tract and intestines. With disorders in the liver and biliary tract, estrogens remain circulating in free form [7.9].

A lot of works have been devoted to the study of periodontal diseases caused by a decrease in the secretion of steroid hormones, including clinical and statistical data on the frequency of periodontal diseases in women of different ages with different functional states of the genital glands. Thus, in women with a normal condition of the genital glands at the age of 15 to 30 years, it is 26.6%, after 30 years the frequency of periodontal diseases doubles and reaches 58.7%, and after 45 years (menopause) it is already 66.6%. With ovarian pathology, the total figures of periodontal diseases reach 87.3%). The high incidence of periodontal tissue in women with secondary amenorrhea (dysmenorrhea), which is often called premature menopause, can also be explained by changes in the body that lead to early withering of the sexual sphere. The frequency of periodontal diseases in women with this pathology is 71.4%.

The conducted study of the mineral saturation of the mandibular bone using ultrasound showed a decrease in the rate of its spread, which is characteristic of low mineralization of tissues. The changes detected in periodontal tissues in this category of examined patients are characterized as predominantly dystrophic processes. The concentration of calcium ions in saliva was reduced, while no changes in the concentration of phosphates in saliva were detected.

The issue of the effect of impaired estrogen secretion on the development of periodontal diseases in the reproductive age is being actively discussed.

A sharp deficiency of estrogen in women resulting from surgical menopause, in the absence of an adaptation phase, according to the conclusion of many scientists, leads to a gradual progression of deterioration of periodontal tissues, which was manifested by an increase in the values of periodontal indices, increased bleeding of the gums and the degree of destruction of bone tissue, as well as a decrease in perfusion of the mucous membrane of the mouth [9].

Estrogens affect the oral mucosa directly or neuroendocrine, changing the condition of the gums in menopausal women. As a result of violation of the regulatory effect of estrogens on the salivary glands, salivation decreases, which contributes to an increase in the incidence of caries, dysesthesia, taste changes, the development of oral burning syndrome, atrophic gingivitis, periodontitis [10].

Conclusion. Among the causes of the development and progression of periodontal pathology in postmenopause, an increase in microbial contamination in conditions of acquired immunodeficiency, a violation of neurotrophic regulation, acquired somatic pathology (diabetes mellitus, diseases of the cardiovascular system) is indicated, but most researchers associate the development of periodontitis with a decrease in the bone mineral density of the axial skeleton, postmenopausal osteoporosis and associated resorption the alveolar bone.

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