CLINICAL AND PATHOGENETIC ASPECTS OF DISEASES OF HARD TISSUES OF TEETH AND PERIODONTAL IN PATIENTS WITH THYROID DYSFUNCTION

Ruzimuradova Zilola Shukhratovna

Samarkand State Medical University

ANNOTATION

The endocrine system is a system of endocrine glands localized in the central nervous system, various organs and tissues, and is one of the main regulatory systems. The endocrine system exerts a regulating influence through hormones. Thyroid pathology ranks second among all endocrine diseases after diabetes mellitus. This is due to the influence of exogenous factors: lack of iodine in the environment, the effect of various strumogenic factors, deterioration of the environmental situation, improved diagnosis of thyroid nodules.

Keywords: genetic abnormalities, injuries, blood supply disorders, components of hormonal regulation, etc.

INTRODUCTION

Endocrine diseases can be associated with genetically determined abnormalities, inflammatory and tumor processes in the body, disorders of the immune system, injuries, impaired blood supply, damage to various parts of the nervous system, impaired tissue sensitivity to hormones. The loss of any of the components of hormonal regulation from the general system disrupts the unified chain of the functional system of the body and leads to the development of various pathological conditions. The pathology of the endocrine system is expressed by diseases and pathological conditions, which are based on hyperfunction, hypofunction and dysfunction of the endocrine glands. Changes in the function of the glands of the internal system lead to endocrine disorders and cause certain changes in the oral cavity.

Diabetes mellitus ranks third after cardiovascular and oncological diseases. In the first months of life in newborns, this pathology is rare, the peak incidence occurs at the age of 5 and puberty. According to statistics, diabetes mellitus is the most important medical and social problem of mankind due to its high prevalence and chronic course. Insulin-dependent diabetes mellitus is most common in children. Approximately 2 out of 1000 children aged 5-18 years suffer from this disease. The development of insulin-dependent diabetes occurs due to viral or toxic lesions of the pancreas in children who are genetically predisposed to the development of the disease. There is also an assumption about an autoimmune mechanism of destruction of insulin-producing B cells. Diseases of the oral cavity on the background of diabetes mellitus according to literature is observed in 87% of patients. With this disease, there are regular changes in the tissues of the oral cavity, depending not only on age, but also on the duration of the disease, the degree of metabolic control and the presence of diabetic complications. Hyperglycemia and "jumps" in blood glucose levels during the day often lead to inhibition of salivation and a feeling of dryness in the oral cavity. Xerostomia is the first sign of diabetes mellitus in the oral cavity. Saliva is involved not only in the processes of remineralization, but also plays a huge role in maintaining homeostasis in the oral cavity. Reduced salivation creates favorable conditions for the development of symbiosis; this manifests itself in the form of an increase in the number of microorganisms, especially hemolytic streptococci, staphylococci. In patients with diabetes mellitus, there is a rapid and significant deposition of plaque of a soft consistency and tartar. MJ Campbell explains the presence of a significantamount of plaque by a high concentration of glucose in saliva (from 0.44 to 6.33 mg of glucose per 100 ml of saliva, with a norm of 0.24 to 3.33 mg), which contributes to the reproduction of microorganisms. According to LW Burket, a decrease in alkaline reserves in diabetes contributes to the formation of tartar.

The compensated form of diabetes mellitus entails a violation of mineral metabolism, a decrease in the formation and activation of destruction of bone

tissue, which affects the condition of the hard tissues of the tooth. In case of violation of mineral metabolism, calcium begins to be washed out of the body, and then fluorine. When calcium and fluoride are not enough, the enamel becomes brittle. Acid secreted by bacteria penetrates it faster, which contributes to the formation of caries, high speed its progression is due to the fact that the dentine tubules are expanded, and this contributes to the spread of the process deeper. Diabetes mellitus affects the condition of periodontal tissues, about what a number of reviews and studies testify. With this pathology, there is a violation of regional hemodynamics. Vascular disorders in diabetic patients develop not only due to spastic changes in blood vessels and capillaries, but also due to changes in the function of the blood itself (an increase in the diameter of red blood cells, the accumulation of glycated hemoglobin).During the above processes, the vessel wall thickens, which leads to a slowdown in the intake of nutrients and a decrease in the resistance of tissues by microorganisms. Considering the hormonal system as a whole, it is impossible not to pay attention to the state of the thyroid and parathyroid glands in diabetes mellitus. At the stage of diabetes mellitus compensation, these glands work under altered conditions, but retain dynamic constancy. However, in childhood, these glands have not yet fully formed.

Thyroid hormone thyrocalcitonin has hypocalcemic effect and inhibits bone resorption. The thyroid gland has a great influence on the process the deification of enamel and dentin. Function formation the thyroid gland coincides with the period of differentiation of the rudiments of milk teeth, so at the 10th week of embryonic development amnioblasts are formed, at the 12th week odontoblasts, and at the 16th week the period of dentin and amylogenesis begins, whereas during the same period other glands are in a state of development and begin to function only at 20—26th week of pregnancy. With diffuse toxic goiter, characterized by diffuse hyperplastic changes in the thyroid gland, the body is intoxicated by excessively produced and secreted thyroid hormones into the blood. The disease is 5 times more common in women and more often occurs at the age of 12 to 14 years [6]. Patients with toxic goiter have various changes in the hard tissues of the teeth.

The hard tissues of the teeth have increased transparency on the cutting edge. There are white chalky spots on the labial surface, the severity of which depends on the prescription and severity of the disease. Tooth pulp is more common in patients with thyrotoxicosis, according to the literature, almost 3 times [22].

There is a close functional relationship between the salivary glands and the thyroid gland. Toxic goiter leads to changes in the physico-chemical composition of saliva, while its viscosity decreases, which leads to a decrease in the absorption of organic substances on the surface of the teeth, weakening the mechanism of enamel protection from demineralizing factors.

Hypofunction of the thyroid gland can be either congenital (cretinism) or acquired (juvenile myxedema). Thyroid hormone deficiency is most often secondary to primary thyroid disease and is sometimes associated with dysfunction of the hypothalamus or pituitary gland. Cretinism is rare. Juvenile myxedema can develop for many reasons, such as thyroidectomy, thyroid irradiation, autoimmune diseases, infection or medication.

Hypothyroidism leads to a change in the trace element composition hard tooth tissues. Histologically, degenerative changes in the structure of enamel and dentin are detected, formed osteodentin, the formation of enamel and dentin slows down, late mineralization of the rudiments of teeth. With hypofunction of the thyroid gland, the shape of the crown of the teeth changes, the incisors can be round in cross-section, the teeth on the cutting edge. Canines and molars can have the shape of incisors, crowns are shortened. Sometimes they can be doubled (fused rudiments). With hypothyroidism, vascular fullness, perivascular hemorrhages are detected, separate epithelial cells with dystrophic cellular changes appear in the multilayer flat epithelium, collagen fibers are impregnated with edematous fluid, swell and homogenize, swelling of the main substance of connective tissue with areas of metachromia is noted.

The parathyroid glands produce substances of a protein nature – parathyroid hormone, or parathyroid hormone, which participates in the regulation of mineral,

primarily calcium and phosphorus metabolism, affects the processes of calcification and decalcification in bones. Parathyroid hormone maintains a constant content of calcium in the blood serum (2.2 – 2.5 mmol / L), circulating in the bloodstream in the form of complexes with proteins, usually inactive. With a lack of parathyroid hormone in the body , phosphorus metabolism is disrupted and calcium. Vitamin D plays an important role in maintaining a normal level of calcium in the blood, which affects the intake of calcium from the intestine into the body, stimulates the deposition of calcium in bone tissue.

REFERENCES

1. Sharipovna N. N., Shukhratovna R. Z. MORPHOLOGICAL AND FUNCTIONAL FACTORS OF PARODONTAL AND HARD TISSUES DISEASES //The American Journal of Medical Sciences and Pharmaceutical Research. – 2022. – Т. 4. – №. 09. – С. 27-34.

2. Shokirovich M. O., Shukhratovna R. Z. PECULIARITIES OF ANTIBACTERIAL DRUG CONSUMPTION IN THE COMPLEX TREATMENT OF PATIENTS WITH PURULENT INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION //EDITOR COORDINATOR. – 2020. – С. 1272.

3. Mussinov O., Ruzimurodova Z. PECULIARITIES OF ANTIBACTERIAL DRUG CONSUMPTION IN THE COMPLEX TREATMENT OF PATIENTS WITH PURULENT INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION //InterConf. – 2020.

4. Nazarova N., Ruzimuradova Z. CHANGES IN TOOTH PULP TISSUE IN DIABETES //STUDENT SCIENCE RESEARCH WORKS. – 2020. – С. 24.

5. Мусинов О. Ш., Рузимуродова З. Ш. Возможности препарата «траумель с» у больных с гнойно воспалительными заболеваниями челюстно-лицевой области //Scientific progress. – 2021. – Т. 1. – №. 6. – С. 493-498.

6. Botirovna S. J., Shuhratovna R. Z., Rustambekovna S. A. Tooth pulpitis //Texas Journal of Medical Science. – 2021. – Т. 3. – С. 40-41.

7. Abdunosirovich R. R., Shuhratovna R. Z., Norjigitovna B. S. A Comprehensive Approach To The Prevention Of Caries Of Permanent Teeth In Children //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 09. – С. 138-141.

8. Назарова Н., Рузимуродова З. Клинико-функциональные аспекты заболеваний пародонта и твердых тканей зубов у больных с гипотиреозом //Профилактическая медицина и здоровье. – 2022. – Т. 1. – №. 1. – С. 83-91.