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MODERN METHODS OF TREATMENT OF NON-CARIOUS DISEASES

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Anotation:
Non–carious dental lesions are a group of diseases, the occurrence of which is not associated with the influence of a microbial factor. The main complaints are reduced to the appearance of an aesthetic defect. Non-carious lesions of the teeth are accompanied by the destruction of hard tissues. Diagnosis is based on complaints, medical history, clinical examination data and the results of additional research methods. Treatment of non-carious dental lesions is aimed at restoring the mineral composition of hard tissues, eliminating aesthetic defects, and normalizing the function of chewing.

Keywords: non-carious dental, treatment, medical help, modern methods.

Non–carious dental lesions are diseases accompanied by progressive destruction of enamel and dentin, impaired chewing function, and an aesthetic defect. There is an obvious steady increase in this pathology with age. In people aged 18-25, the intensity of acquired non-carious dental lesions is 5%, whereas at the age of 45-65, pathological abrasion, hyperesthesia and wedge-shaped defects are detected in every second patient. Enamel erosion is more common in older men. Fluorosis is diagnosed in regions where the level of fluoride in 1 liter of drinking water exceeds 1.5 mg. The population frequency of imperfect amelogenesis is 1:7 000-1:14 000, type 1 imperfect dentinogenesis is 1:50 000, type 2 imperfect dentinogenesis is 1:8 000. The prognosis for non-carious lesions is determined both by the nature of the pathology and the time of occurrence, and by the timeliness of patients' treatment at a medical institution.

Non-carious dental lesions have been increasingly common in recent decades. In most cases, non-carious lesions of the teeth are localized in the cervical zone and are more often observed in patients over 30 years of age. Conditionally, non-carious lesions of the teeth are divided into erosions, necrosis and wedge-shaped defects. But in the modern international classification of diseases, there is only

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"tooth erosion". These lesions are often observed in patients with periodontal diseases when the root of the tooth is exposed. Dentists do not have a consensus on the occurrence and development of these defects. Among the possible causes of non-carious dental lesions are the following:

-enamel erosion caused by chemical causes due to the consumption of acidic food, as well as the release of acidic contents from the stomach into the oral cavity in some gastrointestinal diseases;

-increased load on teeth due to malocclusion, bruxism;

-organic disorders in tooth tissues, underdevelopment of enamel;

-increased abrasion and abrasion of the tooth due to excessive and uncontrolled dentist's fascination with whitening pastes.

The tooth defect was eliminated with a light-curing seal. Since the defect was of non-carious origin, the filling was performed by a microinvasive method without drilling a large cavity.

Failure at the stage of formation, mineralization can occur both during the period of follicular development of teeth and after their eruption. The main causes of systemic hypoplasia are considered to be metabolic disorders, acute infectious diseases, diseases of the digestive system. Local hypoplasia develops as a result of injury or as a complication of chronic periodontitis of baby teeth. Fluorotic non-carious dental lesions occur in people who live for a long time in an area with high levels of fluoride in drinking water. Fluorosis in childhood can be caused by the use of fluoride-containing toothpaste for brushing teeth that does not correspond to the age of the child.

Hereditary non-carious lesions of the teeth (imperfect dentinogenesis, imperfect amelogenesis) develop due to mutation of genes responsible for the formation of hard tissues. With hemolytic disease of infants, porphyria, as well as as a result of taking antibiotics from the tetracycline group by a pregnant woman or child, discoloritis (endogenous pigmentation of teeth) may occur. Enamel discoloration is also possible during teething after injury, when using silver amalgam as a filling material, in the case of canal obturation with a resorcinol-formalin-based siller. If a non-carious tooth lesion is detected, it is important not only to cure the tooth in time, but also to find and eliminate the cause of the defect. Otherwise, the disease will return after some time or manifest itself on neighboring teeth. Therefore, the patient was given recommendations on following a proper diet and taking vitamins, the doctor also recommended that she consult a hygienist to select the

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right oral care products and teach proper hygiene techniques. In addition, the patient is recommended to undergo an initial examination by an orthodontist in order to exclude the influence of malocclusion on the occurrence of non-carious tooth damage.

The causes of the wedge-shaped defect are considered to be improper brushing of teeth, the use of a brush with stiff bristles, and a paste of high abrasiveness. Multiple wedge-shaped defects are one of the symptoms of periodontal disease. Pathological tooth abrasion occurs in endocrine disorders (dysfunction of the parathyroid glands) as a result of articulatory overload of the incisors with terminal defects of the dentition. Such a form of non-carious tooth damage as enamel erosion is often detected in patients with thyrotoxicosis. The development of enamel necrosis can provoke diseases of the central nervous system, intoxication of the body, increased production of thyroid hormones.

Non-carious lesions are conditionally divided into two groups:

Congenital non-carious lesions of the teeth. This category includes systemic and local hypoplasia, enamel hyperplasia, fluorosis, genetically determined abnormalities of the development of hard tissues (imperfect amelogenesis, imperfect dentinogenesis, dentin dysplasia), endogenous tooth pigmentation. Acquired non-carious dental lesions. This group includes fluorosis, wedge-shaped defects, pathological abrasion, necrosis and erosion of enamel, exogenous pigmentation of teeth.

In systemic hypoplasia, symmetrically located spots of yellow or chalky color are revealed on the vestibular surfaces of the anterior teeth, the tubercles of the molars and premolars. With hypoplasia, there may be areas completely devoid of enamel. Hyperplasia, on the contrary, is characterized by additional enamel formation in the form of droplets up to 4 mm in diameter located in the cervical zone. Pathology is detected in both temporary and removable occlusion. With fluorous non-carious lesions of the teeth, painless pigmented areas appear, the color of which, depending on the concentration of fluoride in drinking water, can vary from chalky, light brown to black. When probing, the enamel is hard, there is no loss of gloss. With chalky-speckled, streaked, spotted forms, enamel loss does not occur, whereas erosive and destructive forms of fluorosis occur with pronounced signs of pathological erasability.

In patients with hereditary non-carious lesions of the teeth, namely with imperfect amelogenesis, the enamel becomes thinner. There are cases of complete or partial

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enamel aplasia. Multiple depressions are revealed on the vestibular surfaces. With imperfect dentinogenesis type 1, only the color of the teeth changes (the enamel becomes watery gray), the size and shape remain within the normal range. Root fractures are often diagnosed. With imperfect dentinogenesis of type 2, teeth acquire an amber hue. Calcification of the pulp chamber and root canals begins even before the eruption. The loss of hard tissues leads to a decrease in the lower third of the face. Patients experience pain in the temporomandibular joint.

Hemolytic disease of the newborn, erythropoietic uroporphyria, tetracycline intake can lead to non-carious lesions of the teeth. Due to Rhesus conflict, the color of the enamel changes from gray-blue to brown. At the same time, the enamel structure is imperfect, there are signs of systemic hypoplasia. Red staining of teeth is observed in porphyria. Yellow-gray pigmentation is detected after taking tetracyclines. Wedge-shaped defects occur in the cervical zone on the vestibular surface of the teeth, have the shape of a triangle with a vertex directed towards the occlusal surface. When probing, the enamel is dense. When erosion occurs on the enamel from the vestibular side of the front teeth, symmetrical defects of a rounded shape appear. In patients with enamel necrosis, spots form on the teeth with a softening area in the center, the color of the spots varies from chalky to dark brown. There is an increased sensitivity to various stimuli.

Diagnosis of non-carious dental lesions is reduced to collecting complaints, compiling a medical history, conducting a physical examination and additional research methods. During the examination of a patient with hypoplasia, the dentist identifies single symmetrical matte or yellow spots on the surface of the teeth. In some areas, enamel aplasia may be observed. The vestibular, oral surfaces, as well as the tubercles of the molars and premolars are affected. With fluorosis, multiple stripes, spots or dots of yellow color are detected. With erosive and destructive forms, enamel chipping occurs, signs of pathological abrasion are expressed, and a decrease in hard tooth tissues is observed. Hyperplasia occurs with the formation of enamel droplets up to 4 mm in diameter in the cervical zone.

With hereditary non-carious lesions of the teeth (imperfect amelogenesis), the enamel quickly thinns, cup-shaped depressions appear on the cheek surfaces. As a result of pathological erasability, the bite height decreases. In patients with imperfect dentinogenesis, the teeth have an amber color. The shape and size are usually within the normal range. The X-ray reveals progressive obliteration of the root canals, a decrease in the volume of the pulp chamber. The wedge-shaped

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defect is localized in the cervical zone from the vestibular surface of the teeth, has the shape of a triangle with the base facing the gingival margin. The enamel in the affected area is dense and smooth.

During erosion, symmetrical saucer-shaped defects are found, which are localized on the buccal surface of the front teeth. Unlike erosion, with acid necrosis of the enamel, a softening zone is determined in the central part of the defect. When applying methylene blue staining, non-carious lesions of the teeth are not observed. During probing, the enamel is dense. The result of EDI in patients with non-carious dental lesions indicates the viability of the pulp. A decrease in indicators is observed with imperfect dentinogenesis, tooth pigmentation due to injury. Differentiate non-carious lesions of teeth with a carious process. The examination is performed by a dentist-therapist.

The primary task in identifying non-carious lesions of the teeth is to restore the mineral composition of hard tissues. Topically, applications of calcium- and fluoride-containing drugs are prescribed. Electrophoresis procedures are also shown for this purpose. To eliminate the aesthetic defect formed as a result of non-carious tooth damage, glass ionomer cements are used in childhood, characterized by high biocompatibility, good adhesion to enamel and dentin, no need for acid etching, and a caries-protective effect. Later, lamination with composite or ceramic veneers is used in dentistry to restore teeth.

In case of non-carious lesions of the teeth of a hereditary nature, prosthetics is indicated to preserve hard tissues. Patients with fluorosis are advised to limit the use of fluoride-rich foods. Calcium-containing drugs are prescribed inside. Fluorotic spots are to be sanded with subsequent restoration of teeth with composites, ceramic crowns and veneers. To eliminate pigmentation, combined (external and intra-channel) bleaching is performed. The prognosis for non-carious dental lesions is determined by both the nature of the pathology and the time of occurrence, as well as the timeliness of patients' treatment at a medical institution, as well as the level of treatment.

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