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# THE OCCURRENCE OF TARTAR AND PREVENTIVE MEASURES

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**Annotation**

This article highlights the causes of dental calculus formation, its clinical manifestations, complications, as well as methods of treatment and prevention from a scientific perspective. Dental calculus is one of the most common pathological conditions in dentistry, occurring mainly due to inadequate oral hygiene. Its presence is considered a significant risk factor in the development of periodontal diseases. The study provides detailed information on the mechanisms of calculus formation, etiological factors, symptoms, treatment approaches, and preventive measures, including traditional medicine methods. The article contributes to the development of effective approaches against dental calculus in dental practice.

**Аннотация**

В данной статье научно освещены причины образования зубного камня, его клинические проявления, осложнения, а также методы устранения и профилактики. Зубной камень является одним из наиболее распространённых патологических состояний в стоматологии, возникающих в основном при недостаточном соблюдении гигиены полости рта. Его наличие рассматривается как значимый фактор риска в развитии пародонтальных заболеваний. В исследовании подробно изложены механизмы образования зубного камня, этиологические факторы, симптомы, методы лечения и профилактические мероприятия, включая народные средства. Статья способствует формированию эффективных подходов к борьбе с зубным камнем в стоматологической практике.

**Anotatsiya**

Ushbu maqolada tish toshlarining hosil bo‘lish sabablari, ko‘rinishlari, asoratlari hamda ularni bartaraf etish va oldini olish usullari ilmiy jihatdan yoritilgan. Tish toshlari stomatologiyada keng tarqalgan patologik holatlardan biri bo‘lib, og‘iz bo‘shlig‘i gigiyenasiga yetarlicha rioya qilinmaganda yuzaga keladi. Tadqiqotda tish toshlarining shakllanish mexanizmi, boshlang’ich omillari, alomatlari, davolash jarayonlari va profilaktika choralari, shu jumladan xalq tabobatida qo‘llaniladigan usullar haqida batafsil ma’lumot berilgan. Maqola stomatologiya amaliyotida tish toshlariga qarshi samarali yondashuvlarni shakllantirishga xizmat qiladi.

**Keywords**

Dental calculus, oral hygiene, periodontal diseases, plaque, etiology, prevention, treatment,traditional medici.

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**Ключевые слова**

Зубной камень, гигиена полости рта, пародонтальные заболевания, зубной налёт, этиология, профилактика, лечение, народная медицина.

**Kalit so‘z**

toshlari, dental kalkulus, og‘iz gigiyenasi, parodontal kasalliklar, blyashka, etiologiya, profilaktika, davolash, xalq tabobati.

**Introduction**

The relevance of the topic is determined by its prevalence, the fact that it leads to premature tooth loss, and its inextricable link with general health. Dental calculus is a hard mineral layer of tooth enamel that is formed from calculus that has not been removed in a timely manner[1,7]. It usually consists of calcium and iron salts, salt-phosphates, mainly food debris, bacteria, and dead cells of the gingival mucosa. The process of formation of hard dental calculus can last from several months to six months [1]. Currently, dental calculus is increasingly common in children of primary school age and adolescents[1,2]. This is associated with insufficient compliance with oral hygiene, poor nutrition, and smoking by children. One of the most common problems in dentistry is dental calculus[1,2]. Nowadays, dental calculus is not only an aesthetic defect, but also a leading factor in the development of periodontal diseases[2,7].

Research methodology. This study aims to scientifically study the causes of tartar formation, clinical manifestations, complications, and methods of their treatment and prevention in dentistry. A comprehensive scientific and methodological approach was used during the study. The study was observational, analytical, and comparative in nature and aimed at studying the conditions of tartar encountered in dental practice. The study combined qualitative and quantitative analysis methods.

**Literature analysis**

information on the occurrence and development of tartar was studied based on local and foreign scientific articles, monographs, and dental textbooks. Michael Johnson and Emily Carter. Authors of the study, who scientifically covered the mineralization process of tartar, formation mechanisms, types, clinical risks, and prevention strategies. This article shows the transformation of tartar from biofilm to calculus and the importance of regular dental prophylaxis[3]. Fitri Handayani, Murnisari Darjan, Yuti Malinda, and Lutfi Yondri. Studies the possibility of obtaining information about the oral microbiome and health status of ancient people through the analysis of bacterial DNA in dental calculus. This work considers dental calculus not only as a dental pathology, but also as an anthropological source[4]. Alexander A. (classic study, 1970) A classic clinical study, analyzing dental calculus and bacterial plaque and their relationship with gingival inflammation in a sample of 400 patients. This work shows the stages of the relationship between dental calculus and gum disease[6]. Mominova O.Sh. and Mirvohidova N.M. Clinical observation of dental calculus and periodontal inflammation in 80 patients. Analyzes the effectiveness of professional cleaning - this is a local dental practical study, which provides important information in the context of Uzbekistan[5]. Observation and clinical practice experience - the occurrence of dental calculus in dental practice, its location and clinical signs in patients were analyzed. Comparative analysis The effectiveness of folk remedies and modern dental treatment methods was compared. The influence of oral hygiene, dietary habits and age factors on the formation of tartar was systematically considered. Based

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on these methodological approaches, the factors of origin of tartar, its impact on health and preventive measures were scientifically substantiated.

**Methods of treating tartar**

Cleaning tartar Even thorough brushing with the best toothpaste cannot remove food particles and chemicals from the teeth resulting from the softening process of saliva[1,2]. Gradually accumulating, they form dense stones, which can only be removed from the surface of the teeth mechanically using special hand tools or electronic equipment. Gradually accumulating, they fill the spaces between the teeth and dental pockets[2]. Tartar becomes dark in color and gives off an unpleasant odor, and it is useless to fight the odor without eliminating the cause of this problem[1,8]. Its development is noticeable on external examination by a clear yellow or brown color of dense layers. In addition to aesthetic discomfort, tartar can cause the following symptoms: It causes tooth and gum disease, hides serious damage to the enamel and the interior of the tooth, leads to tooth decay and loss, and leads to a sharp deterioration in oral hygiene [2,7].Causes of tartar formation - The main cause of tartar formation is poor oral hygiene, especially after meals. Food debris accumulates between the teeth and in the gums[2,7]. Due to the moist environment, bacteria develop in them, which can lead to tooth decay and the destruction of tooth enamel. Under the influence of chemicals in saliva and the vital activity of pathogenic microorganisms, layers form soft tartar, the amount of which increases after each meal[1,2]. Gradually, it fills the gaps between the gums and teeth, hardens and thickens. Tartar is formed mainly on the lower teeth in the area of the salivary glands, as well as on teeth that are difficult to reach with a regular toothbrush during morning and evening brushing. An increase in the volume of sugary foods rich in carbohydrates, the predominance of soft foods in the diet, incorrect position of the teeth, incorrect bite, fillings and braces that prevent thorough cleaning of the teeth in the morning and evening, metabolic and salt balance disorders[1]

Symptoms of tartar. Tartar can be seen even during external examination, especially when looking at the inner side of the lower jaw. The pathology is indicated by a yellow or brown layer on the adjacent surfaces of the teeth and along the neck of the tooth root[2,3]. With a large amount of tartar, painful sensations may appear in the gums, which forces the patient to seek medical help. Other symptoms of tartar include bad breath caused by organic elements and sulfur compounds, redness and swelling of the gum tissue, severe bleeding during morning brushing, pain and gum damage during eating, increased sensitivity of the teeth to cold and hot dishes, which is caused by exposure to the tooth root and its reaction to food, and an unpleasant appearance of the teeth due to a noticeable yellow color[1].

Folk methods used to prevent tartar Gargling with salt and soda. Gargling with half a teaspoon of salt and half a teaspoon of soda in warm water. This softens plaque and reduces bacteria[3]. Gargling with black or green tea. Natural tea contains antiseptic substances that reduce microbes in the mouth and slow down the formation of plaque. Pepper and cloves (Chewing or rinsing with a decoction strengthens the gums, cleanses the mouth of bacteria. Chewing birch needles or pine tar[1,2]. Has an antibacterial effect, reduces the formation of stones. Hard vegetables and fruits such as apples, carrots, cucumbers. Mechanical cleaning occurs during chewing, reducing plaque accumulation[2]. Data on the prevalence of dental calculus. According to data collected in the Global Ecological Analysis, dental calculus is one of the most common periodontal conditions, with an estimated prevalence of 50.3% in young people (15–19 years), 44.6% in adults (35–44 years), and 31.9% in the elderly (65–74 years)[7]. Another study found that dental calculus is high in low- and middle-income countries, while in low-middle-income countries this figure is approximately 58.7% Global dental health burden:

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According to the Global Burden (GBD 2021), periodontal diseases were reported in approximately 951 million cases worldwide in 2021, which corresponds to 17,011.6 cases/100,000 population[7]. Other sources indicate that the prevalence of severe periodontitis is around 10% worldwide. Periodontal diseases — including plaque, gingivitis, and periodontitis — are a common and serious medical problem in the population.

**Conclusion**

Dental calculus is one of the most common problems in dentistry, and is not only an aesthetic defect, but also a leading factor in the development of periodontal diseases. The results of the study show that: The main cause of dental calculus is insufficient oral hygiene, poor nutrition, and high levels of minerals in saliva. Dental calculus leads to gum inflammation, bad breath, tooth sensitivity, and premature tooth loss in patients. Preventive measures include regular hygiene measures, eating hard fruits and vegetables, using high-quality toothbrushes and toothpastes, and timely dental checkups. Methods used in folk medicine (rinsing with salt and soda, tea, birch tar, vegetables) partially reduce the formation of stones, but cannot be a complete cure. Effective treatment of dental calculus is carried out only in dental clinics using special tools and devices. Thus, the topic of dental calculus is relevant in dentistry, and the development of scientifically based measures for its prevention and treatment is of great importance in maintaining the oral health of the population.

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