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RELATIONSHIP OF CHRONIC TONSILLITIS AND CARIES

1Abduganiyeva I. G.
2Adurashidova D. N.
3Turakhnova F. M.
2 Khujamberdiyeva D. M.
1Tashkent Pharmaceutical Institute
College of Public Health named after Abu Ali ibn Sino
Tashkent State Dental Institute, Uzbekistan

Abstract
Studies have been carried out on the influence of certain diseases of the dent alveolar system on the occurrence of inflammation in the palatine tonsils.

Keywords: Chronic tonsillitis, pain, streptococci, disease, micro flora, dental plaque, caries, research, statistics.

Introduction

Tonsillitis is the most common infectious disease in the world, and sore throat is the most common complaint when seeking medical help. The causative agents of inflammation are bacteria from the group of streptococci. Caries is also a consequence of exposure to such microorganisms. An advanced form of the carious process can lead to the development of other diseases. In this article we will find out whether tonsillitis is one of them.

Chronic tonsillitis is an infectious-allergic disease of the whole body with local manifestations in the form of a persistent inflammatory reaction of the palatine tonsils, morphologically expressed by alteration, exudation and proliferation [1;2;3]. Chronic tonsillitis is considered a polyetiological disease. In cultures from the mucous membrane of the tonsils in patients, microbial associations of streptococcus (the leading role is given to β-hemolytic streptococcus of group A - S.pyogenes), staphylococcus (S.aureus), non-fermenting bacteria, and fungi of the genus Candida are more often detected [1; 4; 5]. Data are provided on the role of viral (adenovirus, Epstein virus Barr, cytomegalovirus), persistent mycoplasma and chlamydial infections [6;7]. It has now been proven that streptococci can not only attach to the cells of a macroorganism, but also penetrate them. Thus, A. Osterlund, examining the palatine tonsils of children with recurrent tonsillitis, identified streptococci located inside the cells, which may be one of the reasons for failures in the treatment of patients with chronic tonsillar pathology [8].

Many bacteria are found in the oral cavity, but in the process of plaque formation and subsequent demineralization of enamel, mainly acid-forming streptococci, which are characterized by anaerobic fermentation and lactobacilli, are involved. In the first 4 hours after professional teeth cleaning, the main colonizers of the surface are streptococci (from 60 to 90% of detected microorganisms); other primary colonizers include microorganisms of the genus Actinomyces, Capnocytophaga, Eikenella, Haemophilius, Veilonella [9]. A formation tightly attached to the

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surface of the tooth, consisting of bacteria located inside an organic matrix - dental plaque. According to bacteriological research, 1 g of dental plaque contains from 100 thousand to 1 billion microorganisms. Within 24 hours, dental plaque acquires cariogenic potential due to the presence of acidogenic (capable of releasing acid during the metabolism of sugars) bacteria, primarily Streptococcus mutans and Lactobacilli. Their waste products (organic acids) cause a local decrease in pH, resulting in demineralization of the enamel, which manifests itself in the form of initial enamel caries in the white spot stage.

Dental caries is a pathological process that occurs after teething, during which demineralization and proteolysis of hard tooth tissues occurs, followed by the formation of a defect in the form of a cavity [9]. Caries is an infectious process that is initiated by specific microflora of dental plaque, which ferment the dietary carbohydrate components of plaque for sufficient time to form acids under conditions of low caries resistance of the host.

Conditions for the occurrence and development of dental caries (Keys, 1963; Koenig, 1971)

- caries susceptibility of the tooth surface,
- cariogenic bacteria,
- fermentable carbohydrates
- time.

The purpose of this study is comparative statistics conducted between a group of people suffering from chronic tonsillitis and a group of people with diseases of the dental system due to the fact that chronic tonsillitis and caries are of the same nature and it follows that one pathology can cause the second.

Material and research methods

The study was conducted on 100 1st year students of the Faculty of Pediatric Dentistry at the Tashkent State Dental Institute. All participants in the statistical analysis, according to the objectives of the study, were divided into groups.

Group 1 (50 people) – at the time of the study, they had a history of chronic tonsillitis, the oral cavity was not sanitized, and they had not undergone professional oral hygiene procedures.

Group 2 (50 people) – at the time of the study, they underwent professional oral hygiene procedures and had a history of chronic dental caries.

Statistical data was collected in the autumn. A social survey, a dental examination and a bacterioscopic examination were conducted, on the basis of which a diagram was drawn up.

Research results and discussion

In group 1, the results of the study showed that clinical signs such as fever and plaque on the tonsils occur equally often in both viral and bacterial forms of tonsillitis. The clinical picture of chronic tonsillitis is expressed by ongoing (permanent) chronic inflammation of the tonsils, which results in the formation of morphological changes in the tonsils themselves, surrounding tissues, regional lymph nodes, and pathogenetic acute tonsillitis associated with this process can also occur [10]. There is also a “familial” nature of chronic tonsillitis, which is associated with a combination of the child’s hereditary characteristics and the influence of similar environmental conditions [10]. Phenotyping by HLA antigens made it possible to identify a genetically determined risk group and predict the course of chronic tonsillitis [11;12]. A pattern has been established for the development

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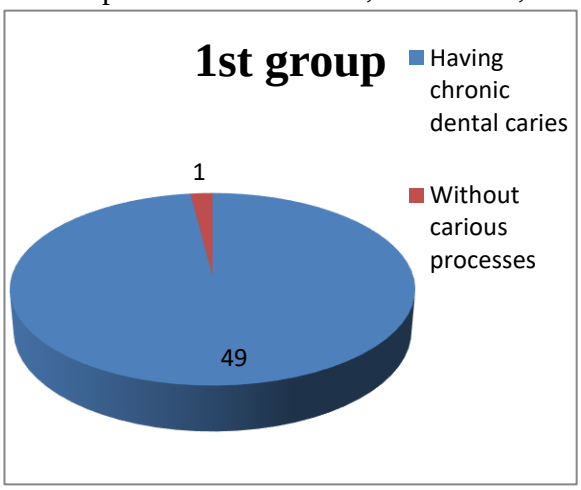
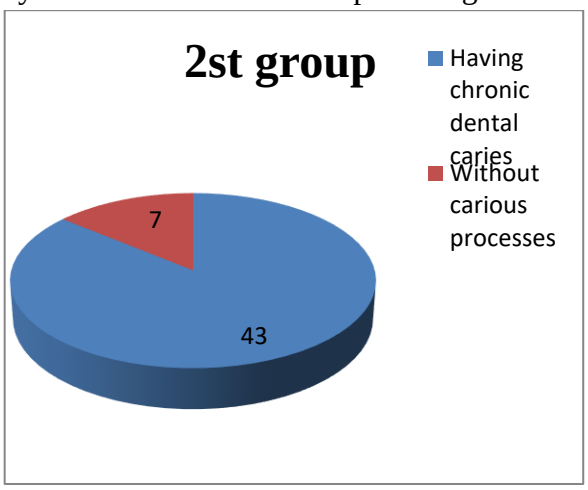
of chronic tonsillitis in generations along the female line and a predisposition to the occurrence of the disease in probands with 0(I) and A(II) blood groups [13]. Endogenous factors: impaired nasal breathing due to a deviated nasal septum, adenoids, chronic rhinitis, chronic inflammatory processes in neighboring areas - inflammatory diseases of the teeth and gums, allergies [8;13]. 49 students from the 1st group had dental plaque and chronic dental caries; the remaining 1st student had dental plaque in the oral cavity, but no carious processes were detected. According to a bacterioscopic study, for each participant who does not comply with the rules of oral hygiene, 1 g of dental plaque contains from 100 thousand to 1 billion microorganisms. In the oral cavity, chronic dental caries is a slow process of destruction of hard tooth tissues. The main reason for its occurrence is the spread of cariogenic microbes, mainly streptococci, which are capable of secreting harmful acids, which in turn make the enamel softer and looser, unable to withstand the onslaught of microbes. The survey identified exogenous factors contributing to the development of the disease - lack of proper oral hygiene, general and local hypothermia, poor nutrition, lack of B vitamins, poor living conditions, professional and household air pollution. Among students living in areas with high levels of environmental pollution, the incidence of chronic tonsillitis is 2.1 times higher compared to areas with a relatively favorable environmental situation.

In the 2nd group, 43 students had chronic caries, there was no plaque, 7 students had no plaque or carious processes in the oral cavity. According to the survey, in the autumn-winter period there were complaints of sore throat, sore throat, but they did not seek medical help for diagnosis.





In comparative statistics for two groups (100 people), the overall prevalence of dental caries is 92%, the intensity is 8 cases per person. The prevalence of caries in the chewing group of teeth is 93%, the intensity is 7.1 cases. The prevalence of caries in the frontal group of teeth is 36.3%, and the intensity is 0.9 cases.

Statistical analysis of the results does not reveal a statistically significant difference between the indicators in both experimental groups.

As part of the discussion of the results obtained, taking into account literature data and the results of our own research , it should be noted that chronic tonsillitis and caries are of the same nature. They are caused by streptococci, and the pathological process begins when factors are favorable for the proliferation of microbes. For example, during a cold, a general deterioration in health, irregular hygiene. This means that one pathology can cause a second. So, if caries treatment is completely absent, a huge number of harmful microorganisms accumulate in the oral cavity. They can cause infection of hard and soft tissues.

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Conclusion

Caries progresses slowly, except in cases of acute carious lesions. The longer a person does not treat caries, the higher the likelihood of other pathologies, including tonsillitis. Chronic tonsillitis is just one of the possible complications of the carious process. Therefore, timely treatment of caries is also the prevention of the development of tonsillitis.

What should you do to prevent tonsillitis and tooth decay? Experts recommend carefully monitoring oral hygiene: brushing your teeth at least twice a day and rinsing your mouth after each meal, using additional oral hygiene items such as floss, brushes, irrigators, tongue brushes, and also using balms and rinses, which have antibacterial properties.

If you already have chronic tonsillitis, strengthen your immune system to avoid exacerbation of the disease. At the first sign of a sore throat or tooth decay, visit a doctor. Don't forget to check with your dentist every 6 months. Children who more often suffer from these pathologies should be brought in for appointments 3-4 times a year.

If caries or tonsillitis is not treated, bacteria will accumulate in the mouth, which can lead to infection of not only the hard but also the soft tissues of the oral cavity.

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