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THE RELATIONSHIP BETWEEN DISEASES OF THE ORAL CAVITY AND OTHER HUMAN ORGANS

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ABOUT ARTICLE

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Abstract: Bacteria constantly accumulate on human teeth, which have a negative effect not only on the oral cavity, but also on the entire body as a whole. Experts have long established a connection between diseased teeth and various diseases in the human body.

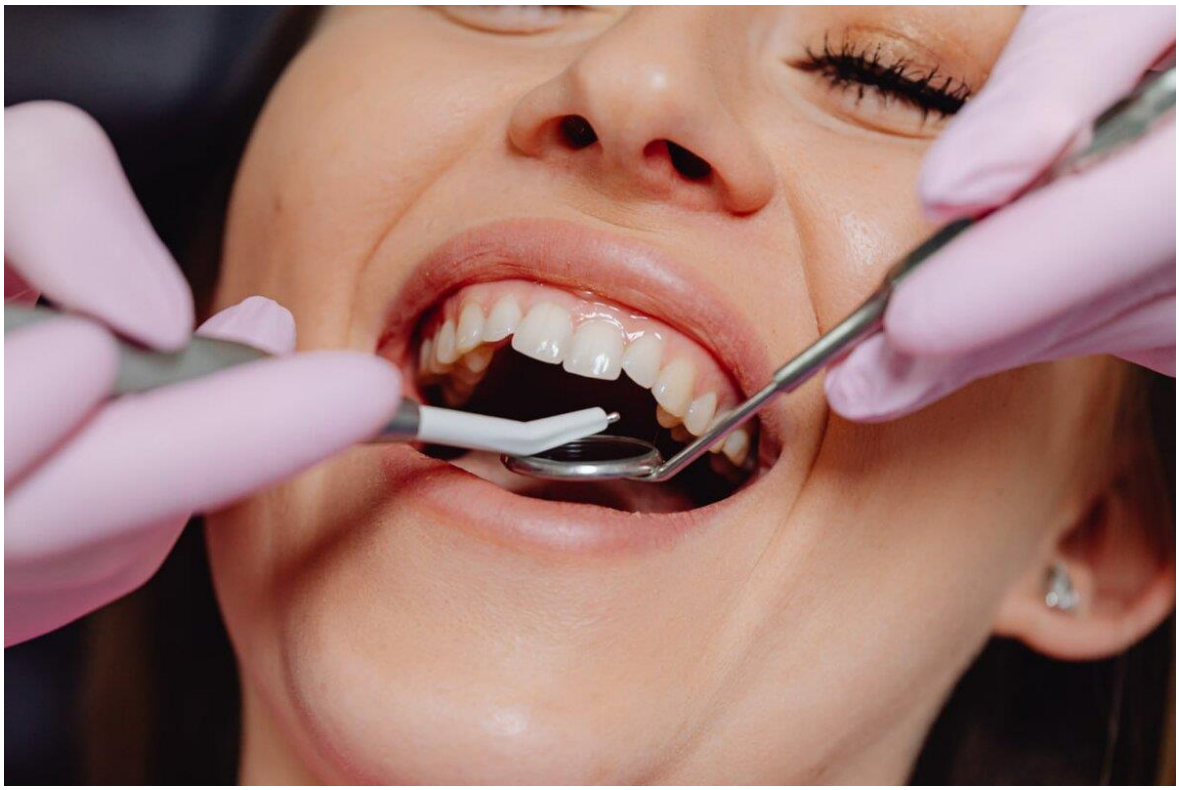
INTRODUCTION

Bacteria constantly accumulate on human teeth, which have a negative effect not only on the oral cavity, but also on the entire body as a whole. Experts have long established a connection between diseased teeth and various diseases in the human body.

The effect on memory

Microbes living in the oral cavity are active, which results in the formation of acids. Acids destroy tooth enamel, which leads to the development of a carious process, which can later turn into pulpitis or periodontitis. Neglected pathologies can lead to the loss of one or even several dental units. Of course, the absence of teeth in the oral cavity will negatively affect a person's appearance and add extra years to him.

In addition, scientists from japan have made a very interesting discovery. They found that the more a person lacks dental units, the more problems they have with memory. Experimentally, a direct correlation was found between pathologies that led to tooth loss and catalysts for the development of inflammatory processes in the brain. Due to infection, neurons begin to die off and memory deteriorates. In addition, there may also be increased irritability and frequent mood swings.



The nervous system

The human body is one interconnected structure. Therefore, it is logical that violations in one part of it can be reflected in another. The nervous system passes through all tissues in the human body, and tooth extraction naturally affects it. The loss of a dental unit leads to a decrease in the sensitivity of certain areas in the brain. The reason for this is the trigeminal nerve, which runs through the upper and lower jaws and the frontal region of the brain. Oral pathology or removal of a dental unit damages one of the parts of the nerve, which leads to changes in the brain.

Tooth loss also affects the work of the jaw muscles and negatively affects the entire neuromuscular harmony in the human body.

Bacteria are the source of various diseases

An affected tooth is a source of infection of the entire body. Common caries negatively affects the entire immune system. Carious cavities can provoke frequent colds and viral diseases.

Approximately three hundred and fifty different types of pathogenic microflora live in the oral cavity. Some bacteria can have an extremely negative effect on the entire body.

It was found that the condition of the oral cavity can determine disorders in the liver, stomach, pancreas and joints.

An important role is played by a bacterium called helicobacter pylori, which is always present in plaque. This bacterium provokes the development of stomach ulcers.

Gingivalis bacteria affect blood clotting and blood clot formation. Due to poor dental and gum care, the likelihood of developing cardiovascular diseases increases by about 70%.

Effect on the lungs

Again, the main evil is plaque, which can provoke the development of not only dental pathologies, but also gums. For example, periodontitis can exacerbate the course of a disease such as pneumonia. Smoking also serves as a catalyst for pulmonary pathologies if the patient has affected teeth.

Diabetes mellitus

Periodontal inflammation in combination with diabetes mellitus can lead to the development of cardiovascular pathologies. But there is also feedback. Diabetes affects gum disease, increasing the likelihood of tooth loss.

Teeth and heart

Research conducted at indiana university has confirmed information about the relationship between oral hygiene and heart function. It's not just about gum inflammation. Plaque and hard dental deposits contribute to an increase in the level of white blood cells in the blood, which can trigger a heart attack. Periodontitis increases the likelihood of stroke and heart attack. Bacterial microflora from the oral cavity spreads throughout the body, making the walls of blood vessels weaker, which over time can lead to heart disease.

Effects on the gastrointestinal tract

Thoroughly chewed food is better processed and absorbed by the digestive tract. Lack of teeth makes it difficult to thoroughly chew food, which, in turn, negatively affects the functioning of the gastrointestinal tract.

Dental health and pregnancy

Hormonal disruptions in the body caused by pregnancy can lead to periodontal inflammation. It is very important to diagnose this process in a timely manner and begin its treatment, since the fetus may be infected by the expectant mother.

In addition to all of the above, an unsatisfactory condition of teeth and gums can cause the development of the following diseases and conditions:

- disorders of the nervous system;
- skin pathologies;
- conjunctivitis;
- problems with the endocrine glands;
- frequent sore throats;
- the appearance of tinnitus;
- decreased immunity.

A healthy oral cavity is the key not only to an attractive appearance, but also to good health of the whole body.

Oral health is an essential part of the overall health of patients. Oral care has a significant impact not only on a person's well-being, but also on their self-esteem. The mouth is the "entrance gate" to the body, so changes in the organs and tissues of the oral cavity can be the first signals of a disorder of the patient's general health.

Lesions on the oral mucosa may be the first symptoms of hiv infection, aphthous stomatitis is associated with diseases of the digestive system, cyanosis of the mucous membrane or, conversely, bleeding gums may be a marker of blood diseases, loss of bone tissue in the jaw bones may indicate the onset of skeletal osteoporosis. The presence of compounds such as alcohol, nicotine, opiates, drugs, hormones, and poisons in the body can be detected in saliva. Periodontal diseases are associated with numerous general somatic diseases.

The condition of the oral cavity affects the health of the body as a whole. A decrease in immunity can lead to the fact that oral bacteria can cause infection of other organs of the human body (for example, infectious endocarditis). At the same time, diseases of organs and body systems and their treatment can affect the condition of the oral cavity, for example, change the microbial balance or disrupt the rate and volume of salivation [1]. It has been proven that caries is associated with the general health of children

in the first year of life. D'oliveira et al. (2005) showed that small children, infants born by caesarean section are susceptible to caries [2]. A link was found between infection of the middle ear, respiratory tract during the first year of a child's life and the development of ecc. According to s.m. alaki et al. (2009), taking antibiotics in the first year of a child's life leads to a sharp increase in the risk of developing caries. Examination of children older than 12 months showed that the risk of developing caries increases in infants who took antibiotics from 13 to 18 months of life [3]. It has been proven that in children with asthma, the prevalence and intensity of caries is higher than in healthy patients [4].

The oral cavity is an ideal environment for microorganisms: an optimal temperature of 37 °c, sufficient humidity, nutrient supply and a variety of surfaces for microbes to attach. More than 1,000 microbial strains are colonized in the mouth. It is estimated that each individual has at least 200-300 strains of microorganisms in the oral cavity. They can colonize in saliva, on the mucous membrane, supra- and subgingival plaque. It is known that 1 mg of microbial plaque can contain up to 1011 microorganisms.

Streptococcus mutans (sm) are microorganisms of the oral cavity, which are the main cause of the initiation and development of dental caries. However, after invasive dental treatment or active flossing, sm can enter the bloodstream, where cells of the immune system usually destroy them, but sometimes, usually with a decrease in immunity, sm enter the tissues of the heart muscle and colonize them (especially heart valves), causing endocarditis. Infectious endocarditis (ie) is an inflammatory disease of the inner lining of the heart, which is a life-threatening pathology of the patient, therefore it is so important to carry out timely sanitation of the oral cavity and prevention of dental caries [5, 6].

The university's center for oral biology team conducted a study of a collagen-bound protein known as cnm, which enables streptococcus mutans to "attach" to cardiac tissues. Laboratory experiments have shown that microbial strains with cnm can colonize heart muscle tissue, while strains without cnm are unable to infect heart tissue. Thus, the cnm protein can serve as a biomarker of the most virulent sm strains, especially in people with chronic heart disease [7].

Streptococcus mutans can cause bacteremia both during treatment of the oral organs, due to damage to the epithelium and the penetration of bacteria into the bloodstream, and in the case of an unsanitized oral cavity. Therefore, maintaining oral health is an important component in the prevention of heart disease.

For timely prevention of diseases of organs and body systems, it is necessary to know the risk factors for the development of oral diseases and common body diseases associated with them. Risk factors include:

- eating disorders (risk of dental caries, diabetes, obesity, heart disease, stroke);
- smoking (risk of periodontal disease, cancer, respiratory, cardiovascular diseases, diabetes);
- alcohol consumption (risk of developing oral cancer, heart disease, liver cirrhosis, injuries);
- stress factor (risk of periodontal disease, cardiovascular diseases);
- socio-economic factor (an independent factor emphasizing the negative impact of other risk factors);
- low level of oral hygiene (risk of periodontal disease, cardiovascular disease and other bacterial diseases) [8].

Numerous studies prove that a low level of oral hygiene is a risk factor for the development of cardiovascular diseases (cvd). One of the first prospective cohort studies published in 1993 (n = 1000) showed that patients with diseases of the hard tissues of the teeth had a 25% higher risk of developing cardiovascular diseases, while men over 50 years of age were more likely to suffer from cvd [9].

Not only cariesogenic microorganisms, but also an infection in the oral cavity that causes periodontal diseases can lead to the development of common diseases of the body. Ebersole et al. It was found that

in patients with periodontal disease, the level of c-reactive protein (a marker of inflammation) is higher than in adults with healthy periodontitis. Thus, the study of blood plasma for the presence of c-reactive protein in 1,043 practically healthy men made it possible to predict the possible development of heart attack and stroke. After treatment of periodontitis, the level of c-reactive protein in the studied patients for 3 months. It decreased by 65% and continued to decrease for 6 months [10].

A study by scannapieco et al. It was shown that people with respiratory diseases (n = 41) had a lower level of oral hygiene than patients who did not suffer from diseases of the ent organs (n = 193; p = 0.044). In addition, people who had the highest index of oral hygiene were 4.5 times more likely to suffer from chronic respiratory diseases than patients with a hygiene index of 0 [11].

A study by loesche et al. With the participation of 350 adults predisposed to the development of aspiration pneumonia, it was shown that patients in whom pneumonia was detected during the study were 3.3 times more likely to suffer from periodontal diseases (95% ci = 1.06 to 10.3; p = 0.05) than those in whom aspiration pneumonia was not confirmed [12].

Thus, prevention of oral diseases plays an important role in maintaining a healthy lifestyle. Daily dental care is the most affordable and widespread method of preventing diseases of the oral cavity and the body as a whole. Patients should be advised to brush their teeth at least twice a day with fluoride-containing toothpastes (except for people living in areas with a high content of fluoride in water), use fluoride-containing mouthwashes, dental floss (from the age of 8, once a day in the evening after brushing their teeth) and additional caries prevention products such as chewing gum, tablets sodium fluoride, toothpicks, etc. For more thorough oral hygiene, in order to maintain the balance of microorganisms in the microbial biofilm, patients should be recommended to use arginine-containing toothpastes (for example, toothpaste based on sugar acid neutralizer technology), which are able to neutralize plaque acids, "revitalizing" the microbial biofilm [13, 14].

Therefore, understanding that oral health and the health of the body as a whole are closely related is essential in the development of preventive programs at the individual and mass levels. Reducing the cariesogenicity of plaque will prevent microbial bacteremia and avoid the development of diseases that threaten the health and life of patients.

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