



PERIODONTITIS

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ABSTRACT

Periodontitis is a disease in which the periodontal tissue connecting the tooth root and jawbone becomes inflamed.

Without treatment, this condition can lead to severe toothache, pathological mobility of teeth, up to their loss, and purulent-inflammatory diseases of the jaw.

This article provides information about periodontitis, its causes, symptoms, factors causing periodontitis, treatment and prevention measures.

Introduction. Periodontitis is one of the most common causes of inflammatory diseases of the maxillofacial area and the main cause of tooth loss throughout the world. As a rule, advanced caries leads to periodontitis, but this does not always happen.

A tooth affected by periodontitis in the initial stages, as a rule, does not bother, but even when there is no discomfort, the irreversible process of destruction continues in the dental cavity. If the pain increases, discomfort spreads to the area of the ear, jaw or temple, and swelling of the cheeks is also noted, then an acute stage of the disease has arrived. As a result, a person may lose a tooth. In addition, the infection can reach the systemic bloodstream and cause the life-threatening condition of sepsis.

Periodontitis is divided according to the form of the disease into acute apical (apical) and chronic apical. In the first case, inflammation develops rapidly, the disease manifests itself in severe pain and swelling. In chronic periodontitis, the inflammatory process is sluggish and can develop asymptotically for years.

Symptoms of periodontitis.

Sometimes periodontitis is asymptomatic. This inflammation is often chronic. As a rule, it is discovered by chance during a preventative visit to the dentist or during an X-ray of the jaw.

Indirect signs of chronic periodontitis may include plaque on the teeth, the appearance of dark spots on them, toothache that is felt only in one tooth, and bad breath.

Chronic periodontitis can turn into acute periodontitis spontaneously, after injury or hypothermia. For example, if a person was blown out by the air conditioner, he swam in a mountain river or froze while skiing.

The acute form of periodontitis is accompanied by striking manifestations:



- severe toothache, which intensifies when a person bites or chews food, and sometimes simply clenches the jaw;
- redness and swelling of the gums on which the damaged tooth is located;
- darkening of the enamel;
- dark spot or purulent discharge at the base of the tooth;
- increased tooth mobility.

The pain intensifies when chewing, as well as if a person consumes sweet, cold or hot foods and drinks.

With advanced periodontitis, the bone tissue and ligaments that hold the teeth weaken. Because of this, the teeth become loose and can change their position in the jaw.

Causes of periodontitis.

In most cases, periodontitis develops against the background of untreated caries. Caries occurs due to dental plaque, which includes components of saliva, food debris and oral bacteria, which convert free sugars from foods into aggressive acids and damage the integrity of tooth enamel.

Plaque forms on the surface of the teeth, at the edge of the gums and on the tongue. This is an ideal environment for harmful bacteria *Streptococcus mutans*, which feed on free sugars and produce acids during their life processes. The acidic environment destroys tooth enamel, a hole or depression appears at the site of destruction, that is, caries develops. If plaque is not removed in a timely manner, it will mineralize. As a result, tartar is formed - hard particles in which microorganisms settle. Unlike plaque, stone cannot be removed with a regular toothbrush; professional cleaning by a dentist will be required.

Bacteria penetrate through carious cavities into the inner part of the tooth - the pulp, it becomes inflamed and pulpitis occurs. Without treatment, the infection spreads further and can reach the periodontium, around which serous fluid and pus begin to accumulate. Periodontitis develops.

In addition to advanced caries, infection can enter the periodontium for other reasons, for example due to injury, poor-quality dental treatment, and concomitant diseases.

Injury. A blow to the jaw, for example during a fight or a fall, can cause spontaneous death of the pulp. When it begins to decompose, metabolic products are released, which trigger the inflammatory process in the periodontium.

Poor quality dental treatment. If pulpitis is not treated carefully, caries can remain under the filling, reach the pulp and gradually lead to periodontal inflammation. Additionally, strong drugs or irritating dental materials can penetrate the pulp. This usually happens if the medicine comes into contact with the tooth for a long time, for example, if after installing a temporary filling a person does not come for a follow-up appointment on time.

Sometimes periodontitis develops in people with sinusitis or sinusitis because bacteria from the sinuses spreads deeper into the facial tissue. As a rule, such periodontitis occurs due to pathogenic streptococci and staphylococci.

Risk factors for developing periodontitis:

- poor quality oral care, which can contribute to the formation of tartar and caries;
- genetic predisposition: some people are more susceptible to periodontal inflammation from birth;



- smoking – nicotine destroys tooth enamel, making teeth more vulnerable to bacteria;
- excess sugar-containing foods in the diet. Frequent consumption of foods rich in sugar allows bacteria in the mouth to multiply more actively and can contribute to the formation of caries;
- associated diseases, such as cardiovascular diseases, diabetes and some forms of arthritis. The increased risk of developing periodontitis in these patients is most likely due to a chronic inflammatory response in the body;
- hormonal changes, such as those associated with pregnancy or menopause;
- chronic stress, which weakens the immune system. As a result, the body's resistance to the effects of bacteria decreases and the risk of developing diseases increases.

Development of periodontitis.

If the affected tooth is not treated in time, caries will continue to destroy it layer by layer. When destruction reaches the periodontium, it becomes inflamed. Because of this, the blood vessels supplying the tooth with nutrients cease to function normally, and a local tissue response occurs: the periodontium becomes inflamed and swells.

In rare cases, the inflammation resolves spontaneously, but more often the inflammatory process progresses and enters the chronic phase. Relapses occur in response to hypothermia or an acute infectious disease. Because of this, immune cells again rush to the site of chronic inflammation, the area where the tooth attaches to the jaw swells, and purulent contents can accumulate around it. If nothing is done, the jawbone becomes brittle and cannot hold the tooth tightly.

If periodontitis is not treated, you can lose a tooth. In addition, nearby healthy teeth may become damaged and fall out because the bone tissue surrounding the roots has become thinner.

Complications of periodontitis:

- periostitis – inflammation of the periosteum of the jaw;
- abscess – a purulent focus that forms mainly in the perimandibular soft tissues;
- phlegmon – diffuse purulent inflammation of the subcutaneous tissue on the face in the jaw area;
- sinusitis – inflammation of the sinuses, which occurs due to the spread of infection from the periodontium;
- lymphadenitis – inflammation of the lymph nodes, mainly submandibular and cervical, caused by the spread of infection from the periodontium;
- osteomyelitis – purulent inflammation of the jaw bone and death of some of its areas;
- skin fistulas – pathological channels that extend under the jaw or into the cheek in the form of a purulent ulcer or wound;
- gingivitis - inflammation of the gums, in which they increase in size, become painful, and bleed when eating and brushing your teeth.

In addition, bacteria that provoke an inflammatory process in the jaw can enter the bloodstream and spread throughout the body. As a result, a person experiences problems with joints, heart, and lungs. In pregnant women, advanced periodontitis can lead to obstetric complications, including premature birth and the birth of low birth weight babies.



The diagnosis and treatment of periodontitis is carried out by a dentist-therapist and a dentist-endodontist.

At the first appointment, the specialist will ask about complaints: find out when and under what circumstances the tooth hurt, what is the severity of the pain, whether there is a reaction to sweet, sour, cold or hot. He will then examine your teeth and gums to look for signs of inflammation. In most cases, a dark carious cavity or an extensive filling will be clearly visible on the diseased tooth, and the tooth itself may become loose. To check sensitivity, a specialist taps the tooth with a probe or tweezers.

You may also need to take an X-ray of your jaw. With its help, the dentist clarifies the diagnosis, excludes other diseases and accurately determines the condition of the internal tissues, the volume and location of inflammation.

In some cases, a pulp tester is additionally used for electroodontodiagnosis - a device with a probe or hook at the end through which a low-power electric current is supplied. The tip of the device is brought to the diseased tooth and it is determined whether the pulp is alive and whether the nerve endings are still functioning. This is necessary for choosing further treatment. Normally, during the procedure a person experiences slight discomfort, this indicates that the pulp is alive.

Treatment of periodontitis.

Depending on the severity of periodontitis, the disease can be treated with surgery or conservatively.

To completely get rid of inflammation, the doctor needs to eliminate its cause. So, in case of drug-induced periodontitis, the drug that provoked the inflammatory process is removed from the tooth cavity and the root canals are washed with antiseptic solutions; in case of infectious periodontitis, the infected tissue is removed and antibacterial and anti-inflammatory drugs are used to wash the canals.

Any toothache is a reason to consult a doctor as soon as possible. While waiting for your appointment, you should not chew on the sore side of your jaw or drink very hot or cold drinks.

Conservative treatment of periodontitis.

The treatment of inflammation is carried out by an endodontist. The specialist will try to eliminate the infection in the endodont - a complex of tissues affected by inflammation, including the pulp, dentin (the main hard part of the tooth) and the root canal.

Under local anesthesia, the doctor removes hard tooth tissue or filling material that blocks access, removes infected tissue and rinses the root canals with anti-inflammatory and antibacterial agents. When the inflammation is eliminated, the specialist fills the root canal again and restores the tooth using filling material or a crown. It is possible that for a complete cure you will have to come to the doctor more than once.

If this does not help and the inflammation continues, surgical treatment will be required.

Surgical treatment of periodontitis.

As a rule, with progressive periodontitis and ineffective treatment, apicoectomy is used - a small surgical operation in which the doctor opens the gum and removes the tip of the tooth root, as well as infected tissue. After this, the root is covered with a filling, and the gum is sutured.



However, sometimes this treatment method does not help. In this case, the doctor has to remove the tooth. Also, removal is resorted to if the tooth root is destroyed or broken, or inflammation occurs again after filling.

Prevention of periodontitis.

In rare cases, it is impossible to prevent periodontitis, for example, if periodontal inflammation occurs as a result of an accidental injury. However, more often the pathological process occurs due to advanced caries, the development of which everyone can prevent. The most important thing is not to ignore the first signs of tooth decay (toothache or discomfort), because in the early stages, caries is easy to treat. In addition, it is necessary to take daily care of the condition of your teeth and undergo preventive examinations at the dentist 1-2 times a year.

Periodontitis often occurs due to improper oral care. For example, if a person rarely brushes his teeth or does it incorrectly.

Conclusions and recommendations.

To maintain healthy teeth, you should brush them with a toothbrush in the morning and evening, always after meals. If you do this before eating, plaque from food will remain on your teeth. If it is not removed, microorganisms will feed on plaque until the next cleaning and release acids that destroy teeth.

In addition, experts advise brushing your teeth not immediately, but at least 30 minutes after eating, so that the acid-base balance in the mouth is restored. This is due to the fact that almost all foods contain acids, which slightly soften the enamel during eating. If you brush your teeth right away, you can further injure it and make it vulnerable to bacteria. Especially a lot of acids that destroy teeth are found in berries, fruits and dairy products.

It doesn't matter what kind of brush a person uses to brush their teeth, regular or electric, the main thing is to follow the correct technique. There are two of them - the Bass technique, which involves brushing teeth from top to bottom (from the gum to the edge of the teeth) at an angle of 45 degrees, and the Stillman technique - it involves guiding the brush from bottom to top (from the edge of the teeth to the gum) with soft sweeping movements. The first technique is suitable for everyone, regardless of the condition of their teeth and gums; the second is recommended for people with inflamed or regularly bleeding gums.

A toothbrush does not remove food particles between teeth well, so in addition to classic brushing, doctors advise using dental floss, a dental brush or a irrigator. They help remove food debris from hard-to-reach places. In addition, you should use a mouthwash after meals to prevent the formation of tartar. Thanks to these simple manipulations, you can reduce the formation of plaque and prevent the development of gum disease.

Tongue cleansing. In addition to the teeth, bacteria settle on the tongue, from where they easily move onto the teeth and into the interdental spaces. To remove strangers, it is better to clean it as well. To do this, use a special scraper, not a toothbrush. The fact is that a brush cannot remove plaque from a soft and porous surface, but only smears it across the tongue. The scraper easily removes plaque if you make one movement from the root of the tongue to the tip.



Preventative visits to the dentist. You should visit your doctor at least once a year, if possible once every six months. During the appointment, in addition to the examination, it is recommended to have professional teeth cleaning, which removes tartar and plaque.

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