

Origin, Diagnostics and Modern Clinical Diagnosis of Periodontitis, In a Modern Interpretation

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Abstract: Periodontitis is an inflammatory disease affecting the periodontal tissues. In dentistry, there is another disease with a similar name - periodontosis. It is characterized by the same changes, but they develop without an accompanying inflammatory process.

Periodontal tissues include gums, blood vessels, ligaments and bones. All of these structures firmly fix the teeth and provide them with normal nutrition. As the inflammatory process progresses, these functions are disrupted, which leads to the appearance of characteristic symptoms. The main danger of periodontitis, like periodontitis, is the development of tooth mobility with subsequent loss of teeth. Therefore, both diseases require early diagnosis and effective treatment.

Keywords: Classification and types of periodontitis, Acute and chronic periodontitis, treatment, prevention, pathogenesis.

Introduction: The acute course of the disease is characterized by the sudden onset of severe symptoms that cause great concern. Therefore, acute forms of periodontitis are considered relatively benign, as patients often seek medical attention.

Chronic periodontitis, on the contrary, remains asymptomatic for a long time. Symptoms are mild and patients may not notice them. During the period of exacerbation of the disease, the clinical picture becomes more pronounced, but not everyone consults a dentist. At the same time, the disease continues to progress, so sooner or later such patients will still need medical care.

The degree of damage to periodontal tissues can be different. If the inflammatory process spreads to one area of the jaw, we are talking about localized periodontitis. As a rule, in such cases, one or several teeth located nearby are affected. Even with a long course, the localized inflammatory process, as a rule, does not spread to neighboring teeth.

In generalized periodontitis, all periodontal tissues (or most of them) of the upper or lower jaw are affected. This form is very dangerous, because without proper treatment it can lead to the loss of most of the teeth. However, even if the patient seeks medical help in a timely manner, it will not be possible to quickly solve the problem. Treatment of generalized periodontitis of the gums is usually long-term and complex.

In mild cases, the general condition of the body remains unchanged. Local manifestations include periodontal pockets up to 3.5 mm deep, inflammation, redness and swelling of the gums. Pathological mobility of the teeth is not detected.

Moderate periodontitis is characterized by an increase in the depth of periodontal pockets to 5 mm, a decrease in the height of the interdental folds and the appearance of pathological mobility of the teeth. At this stage, the patient experiences exposure of the tooth neck, gaps between the teeth, traumatic crowding and displacement of the teeth. The general state of health also changes. Patients may complain of weakness, fatigue and poor appetite.

In severe periodontitis, the manifestation reaches its maximum. The depth of periodontal pockets is 6 mm or more. Due to significant bone resorption, severe mobility of the teeth and fan-shaped divergence develop. Complications in the form of abscesses also often develop, which affects the general condition.

The severity of periodontitis plays an important role in treatment planning, so it is always determined at the diagnostic stage.

Localized periodontitis is limited to one or a few teeth, so it develops under the influence of local unfavorable factors. These include: Periodontitis causes

Localized periodontitis is a common form, but has a favorable course and rarely leads to the development of complications.

Research object and materials: The generalized form, on the contrary, is less common, but more severe. The main reason for the development of generalized periodontitis is poor oral hygiene. This contributes to the deposition of plaque on the enamel surface and gums. This plaque is a favorable environment for the vital activity of microorganisms living in the oral cavity. Under such conditions, bacteria actively multiply and release toxins and other aggressive substances. The latter provoke an inflammatory reaction, which ultimately leads to the development of generalized periodontitis.

A group of risk factors is also identified, the presence of which increases the likelihood of developing periodontitis. The most important of them are vitamin deficiencies in the diet and associated endocrine diseases. It is known that vitamin C deficiency contributes to the development of inflammatory and destructive changes in the periodontium, increases the fragility of blood vessels and slows down the process of collagen synthesis. Vitamin A is involved in the epithelialization of the gums, so if it is deficient, the resistance of the mucous membrane to various irritants decreases, which increases the likelihood of complications.

If we talk about endocrine diseases, periodontitis often develops in patients with diabetes mellitus, thyroid diseases, and gonadal diseases. These diseases themselves do not lead to the development of inflammation, but at the same time they create favorable conditions for the vital activity of microorganisms and contribute to a decrease in the nutrition and blood supply of periodontal tissues.

The risk of developing periodontitis increases with pathologies of the immune, digestive and circulatory systems. Therefore, patients with such diseases are at risk and need regular dental examinations.

Signs and symptoms of periodontitis

Mild stages of periodontitis are usually asymptomatic. The patient may experience moderate discomfort, slight bleeding of the gums and their redness. These symptoms are often ignored and therefore are not a reason to consult a doctor.

In the later stages, the symptoms of periodontitis become more pronounced. These may include:

- a. severe bleeding gums;
- b. pain when pressing or eating;
- c. bad odor that is difficult to get rid of with home remedies;
- d. increasing the spaces between the teeth;
- e. significant tooth mobility;
- f. removal of pus from gingival pockets;
- g. increased sensitivity to hot and cold foods;
- h. visual lengthening of the teeth due to the effect of the neck.

These signs may be combined with general symptoms, including elevated body temperature, weakness, fatigue, and poor appetite.

If you have symptoms related to your gums and teeth, you should see your dentist. The early stages of periodontitis respond well to conservative treatment, while advanced forms require long-term, complex, and expensive treatment.

Diagnosis begins with a consultation with a general dentist or periodontist. The doctor will examine the oral cavity and prescribe additional tests, which may include the following methods:

X-ray of the jaws. This basic examination provides general information about the condition of the teeth and bone tissue.

Rheoparodontography. This method is used to determine the condition of the vessels of the periodontal tissues.

Ultrasound osteometry. The study shows the density of bone tissue.

Schiller-Pisarev test. This involves staining the mucous membrane with a special solution that identifies areas of inflammation.

Microbiological culture from the oral cavity. Allows you to determine the composition of microorganisms and their sensitivity to antibacterial drugs.

Determination of periodontal index and bleeding index.

A comprehensive examination allows you to determine the degree of periodontitis, identify concomitant diseases and complications, and based on this information, plan further treatment.

Treatment of periodontitis Before treating periodontitis, it is necessary to carry out preparatory measures. These include the removal of supragingival and subgingival deposits, as well as sanitation of the oral cavity. Removal of soft plaque and tartar is a mandatory step, since in this case one of the main causes of periodontitis is eliminated. Professional hygiene methods are used to clean teeth: ultrasonic cleaning, Airflow cleaning, scaling, mechanical cleaning.

Oral hygiene involves the elimination of all associated dental diseases. As a rule, most patients with periodontitis have caries and its complication - pulpitis. In case of improperly installed fillings, deformations and fractures of dentures, correction is also carried out. The main task of the preparatory stage is to create the most favorable conditions for healing. This, in turn, affects the effectiveness of treatment.

Anti-inflammatory therapy, splinting, and surgical treatment are used to eliminate the signs of periodontitis and restore normal tooth anatomy.

Anti-inflammatory drugs can be used locally or systemically. Local treatment includes rinsing the mouth and periodontal pockets with antiseptic solutions and applying special gels to the gums. These procedures can be performed both in the dentist's office and at home. General therapy includes tablets, injections or intravenous administration. The main groups of prescribed drugs are non-steroidal anti-inflammatory drugs and antibiotics.

Splinting is used to eliminate tooth mobility and prevent the development of periodontitis. In this case, temporary and permanent methods of fixing the teeth can be used.

Temporary splinting is used in the presence of severe mobility, which is characteristic of severe forms of periodontitis. The goal of treatment in this case is to urgently fix the teeth and prevent their loss. Today, modern and aesthetic materials are used as temporary splints - composite and acrylic. They are fixed with the help of adhesive compounds and hold the teeth firmly for several days. Temporary splinting does not require any preparation and can be performed in a minimum amount of time. However, this design has a short service life. Therefore, in the future, temporary splints must be replaced with permanent splints.

Permanent braces can be used to fix teeth for a long time. Such structures are installed after preparation, which consists in preparing (grinding) the teeth. Typically, the dentist makes a small recess on the inner surface of the tooth row, into which a strong reinforcing thread is inserted and covered with a composite material. To increase strength, several threads can be used, laid in a special way (in several rows or in the form of a "figure eight"). The service life of permanent braces is on average several years.

Results: Another method is semi-permanent splinting. It is usually used to correct the front teeth. The structures can be removable or non-removable. Fixed splints are made of composite material and are attached to previously prepared teeth with adhesive compounds. Removable splints look like partially removable dentures with clasps. They are usually worn at night and are used after surgical treatment. The service life of semi-permanent splints is from several months to a year.

Surgical treatment is used to eliminate infected periodontal pockets remaining after conservative treatment. Typically, this condition is observed with large pocket depths, intraosseous defects and other complications. Another group of surgical treatment methods allows you to get rid of defects in the gum and bone tissue. Three main methods are used to achieve these goals:

Closed curettage. This treatment allows the removal of granulation tissue from periodontal pockets and the cleaning of the oral cavity from subgingival deposits. Closed curettage involves mechanical scraping without incisions. The disadvantages of this treatment include the lack of visual control. Therefore, closed curettage is not used for deep periodontal pockets due to its low efficiency.

Open curettage. Unlike the previous method, it is performed with the separation of the gum, which allows you to significantly increase the effectiveness of the intervention. First, incisions are made on the mucous membrane, which allows you to separate the gums and remove granulations and plaque from periodontal pockets under visual control. If there are defects in the bone tissue, they can be eliminated in one stage, which is a significant advantage. However, open curettage is a more traumatic operation and has more contraindications for operation.

Discussions: Patchwork operations. As the name suggests, their essence lies in the formation of a flap from the gum. This opens access to the underlying bone tissue and the neck of the tooth. Depending on the characteristics of periodontitis, the dentist can perform bone grafting, removal of non-viable mucous membranes, and root planing.

After surgical treatment, the patient needs postoperative care, which includes rinsing the mouth with an antiseptic, anti-inflammatory treatment, and in some cases, prophylaxis with antibiotics. To consolidate the results of treatment, it is important to give up bad habits and eat right. An individual list of recommendations is drawn up for each patient, which must be followed precisely.

Conclusion: Prevention of periodontitis in children and adults is based on eliminating the causes that lead to the development of this disease. The most important point is regular and proper oral hygiene. For this, regular brushing of teeth with a toothbrush is not enough. To effectively remove hard and soft dental plaque, you need to use dental floss, special brushes and an irrigator. You should also visit the dentist at least twice a year and undergo professional oral hygiene.

When the first signs of gingivitis or other dental diseases appear, you should immediately seek qualified medical help and not self-medicate.

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