World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-50 September 2025
ISSN: 2749-3644

MODERN TREATMENT METHODS FOR PARODONTITIS

Kamilov X.P., Kadirbayeva A.A., Ibodullayeva Sh.A..
Kamilov Xaydar Pozilovich- Professor, Doctor of Medical Sciences, Head of the Department of Therapeutic Dentistry
Kadirbayeva Aliya Arstanovna - , Doctor of Medical Sciences., Associate Professor of the Department of Therapeutic Dentistry
Ibodullayeva Shaxnoza Alisherovna - Department of Therapeutic Dentistry
Tashkent State Dental Institute
Republic of Uzbekistan, Tashkent

Article history:

Received: June 30th 2025
Accepted: July 28th 2025

Abstract:

Periodontal inflammatory diseases are one of the serious and relevant problems of modern dentistry, as there is a steady increase in the incidence of these diseases among young and middle-aged people: more than 50% of people have various clinical manifestations of periodontal pathology by the age of 25-30 (Bakhtimerova O. O., 2016; Blashkova S. L., 2018; Durnovo E. A., 2019; Mizeeva S. M., 2020; Mirsaeva F. Z., 2011). In recent years, there has also been an increase in the prevalence of periodontal diseases with an aggressive, almost continuously recurring course (Bulkina N. V., 2012; Grudyanov A. I., 2017). Features of the development of periodontal pathology and delayed diagnosis lead to the destruction of the human dentition at a young age, psychological and social problems (Bezrukova I. V., 2008; Gazhva S. I., 2013; Gileva O. S., 2013, Zhulev E. N., 2016; Maksimovskaya L. N., 2009). In this regard, it is necessary to improve comprehensive programs for timely diagnosis and treatment of this disease (Averyanov S. V., 2017; Akhmadova M. A., 2016; Barer G. M., 2006; Grigoryan S. S., 2010; Karakov K. G., 2016; Petrova T. G., 2018). The leading etiological factor that triggers the development of inflammatory and destructive periodontal diseases is microbial (Bayakhmetova A. A., 2017; Grigoryan A. S., 2007; Kazarina L. N., 2017; Kruglova N. V., 2015; Romanova A. I., 2017). According to the literature, in addition to the microbial factor, the traumatic, immune, vascular, and local factors also play a special role in the development of periodontal pathology (Alekseenko G. V. 1986).

The above-mentioned positions predetermine the need to include drugs that eliminate the negative effects of oral microflora and the consequences of metabolic disorders in periodontal tissues in the complex treatment of rapidly progressive periodontitis, as well as to increase the duration of the disease's remission

Keywords: Oral mucosa, microbial flora, periodontium, inflammatory periodontal diseases

Today, we can confidently speak of the multifactorial nature of the generalized inflammatory and destructive process in the periodontium, with the combined cumulative effects of genetic and environmental factors. Infection plays a primary role in the development of periodontal pathology. Dental plaque contains a large number of microorganisms, and its untimely removal leads to rapid microbial proliferation and toxic effects on periodontal tissue. Therefore, one of the first goals of therapy is to eliminate the action of pathogenic microorganisms in the periodontium, which facilitates the restoration of its structures. The priority of these measures is due to the fact that early manifestations of inflammatory periodontal diseases (IPD) are typically not accompanied by patient complaints, such as minor gum inflammation or bleeding. According to experts, in most cases, correction of the pathogenic microbiota in gingivitis leads to a complete recovery, even despite existing chronic diseases. Given the multifactorial nature of periodontal disease, the development of new treatment methods, techniques, and approaches remains a pressing issue. However, it should be noted that dentistry is constantly evolving, and the etiology and pathogenesis of inflammatory and destructive processes in the periodontium are now well understood. It has been established that to improve the effectiveness of treatment and prevention of periodontal pathology, a comprehensive approach is necessary, which involves eliminating the local and

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-50 September 2025
ISSN: 2749-3644

general causes that lead to inflammatory periodontal disease.

When treating patients with periodontal disease, it is necessary to address a number of objectives:

1) stopping inflammatory processes in the periodontium;
2) preventing further progression of the pathological process;
3) maintaining and restoring dental function;
4) preventing the development of general and local complications;
5) preventing negative impacts on the overall health and quality of life of patients.

Treatment of periodontal disease should be comprehensive. Comprehensive periodontitis therapy utilizes the following components: therapeutic (non-drug and drug), surgical, orthodontic, and orthopedic. The scope of treatment interventions for various periodontal disease entities depends on the severity of the disease, clinical features, age, chronic organ and system pathologies, and the patient's financial and social status. Etiotropic therapy involves identifying the causes of the disease and eliminating risk factors. Pathogenetic interventions aim to stabilize processes affecting periodontal blood flow, oral immunity, and alveolar bone destruction. Symptomatic treatment helps eliminate clinical manifestations of the disease, such as inflammation, bleeding, tooth mobility, and halitosis.

In most cases, the treatment of gingivitis and periodontitis is based on local medical therapy and surgical interventions. It should be noted that surgical interventions are not performed without prior local medical therapy.

Local treatment of periodontal pathology includes:

1) oral hygiene education with the selection of individual preventative measures (toothpaste, toothbrush, dental floss);
2) treatment of caries and its complications;
3) removal of fillings with overhanging margins followed by the creation of full-fledged fillings;
4) removal of deep-set crowns with subsequent rational prosthetic restoration;
5) thorough removal of supragingival calculus with treatment of periodontal pockets and the oral mucosa with antiseptic solutions;
6) correction of traumatic occlusion by selective grinding;
7) correction of malocclusion through orthopedic or orthodontic treatment;
8) local medication therapy;
9) local physiotherapy.

It is known that in inflammatory periodontal diseases, achieving optimal results with conservative therapy alone is difficult, but relapses and exacerbations can be prevented. Timely, comprehensive therapy in the early stages can slow disease progression, accelerate structural restoration, and thereby avoid the need for surgical interventions later.

In recent years, dentistry, as in other areas of medicine, has begun to utilize minimally invasive treatment methods whenever possible, ensuring patient comfort and motivating them to engage in maintenance therapy, which, in turn, contributes to effective and long-term treatment results.

Research in periodontics has enabled the development and implementation of a new, original, atraumatic, and patient-friendly ultrasound system, Vector (Dürr Dental, Germany). Currently, the Vector device is one of the most popular devices in dental clinics.

However, while gingivitis typically responds to etiotropic treatment to eliminate the inflammation and achieve full recovery, such measures are insufficient for treating periodontitis. Local antibacterial therapy of existing pockets and oral medications during periodontal treatment are the main components of a conservative approach. Local treatment for periodontal disease includes curettage of periodontal pockets, treatment of pockets with antimicrobial and anti-inflammatory medications, and dressing application. These measures are used to restore damaged structures caused by periodontitis.

General treatment includes the systemic use of antimicrobial and anti-inflammatory medications. This is aimed at enhancing the effects of local treatment. Antiseptics, antibiotics, and anti-inflammatory agents are essential and frequently used medications for the treatment of periodontal disease. Some studies also suggest the use of immunomodulators, antioxidants, and ozone therapy. The most popular antimicrobial agents for local treatment of periodontal tissues are antiseptics—chemical compounds with non-selective antimicrobial activity. By interacting with microbial cell proteins, they cause coagulation, inhibiting the vital activity of microorganisms. In practice, the most commonly used are: cationic detergents: chlorhexidine and miramistin. Miramistin is effective against gram-positive and gram-negative aerobic and anaerobic microorganisms, exhibits antiviral (against herpes and human immunodeficiency viruses) and fungicidal (against fungi) activity, and promotes cellular and local immunity, as well as wound healing. A 0.01% solution is classified as a low-toxicity preparation; in bactericidal concentrations, it has no negative impact on the body. Chlorhexidine bigluconate is the most well-known drug in the class of broad-spectrum antiseptics; an organic compound containing approximately 27% active chlorine; it inhibits the activity of vegetative forms of gram-negative and gram-positive bacteria, as well as yeast-like fungi, dermatophytes, and some viruses, in particular the hepatitis B virus; it has an effect on microbial spores at elevated temperatures; it promotes cleansing and disinfection of the skin and mucous

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-50 September 2025
ISSN: 2749-3644

membranes without damaging them. - Dioxidine is a 1% solution that acts against pathogenic microorganisms such as anaerobes, streptococci, staphylococci, and Pseudomonas aeruginosa. It is effective as an antiseptic in conditions of hypoxic processes in periodontal tissues. However, the literature contains data on its characteristic teratogenic, mutagenic, and allergenic effects.

- Herbal preparations are widely used in periodontology. Herbal preparations possess a wide range of beneficial properties: antiseptic, analgesic, bactericidal and bacteriostatic, anti-inflammatory, wound-healing, decongestant, etc.

Therefore, the development and practical application of medicinal products containing herbal and natural components that address the key links in the etiology and pathogenesis of periodontal diseases is a pressing issue today. Recently, combination medications such as Asepta, Lesnoy Balsam, Parodium, Parodontotsid dental gels, Tonzinal, and Listerine, which contain plant extracts as well as chlorhexidine, salicylates, and other substances, have become increasingly popular.

It is also worth noting that the use of antibiotics alone for antibacterial treatment of periodontal pathologies is inappropriate. This is due to the following factors:

1) Uncontrolled use of antibiotics leads to the emergence of antibacterial-resistant forms of microorganisms;

2) the impossibility of efficient application and distribution of the medication across the entire affected area due to oral fluid.

Therefore, comprehensive treatment of periodontal diseases requires combining mechanical treatment of hard dental tissues with antibacterial treatment using appropriate medications through applications, irrigations, and instillations. This helps reduce inflammation in the periodontal tissues. Using antimicrobial agents alone produces only a short-term effect due to the fact that the structure of the biopolymer film on the tooth and other oral organs does not allow the required amount of antibiotic to reach the sublingual plaque. Therefore, antibacterial therapy should be used as a complement, and not as an alternative to scaling, i.e., mechanical treatment of periodontal tissues.

However, it should be noted that using only topical antiseptics and antimicrobials will not improve the condition of periodontal tissues, which will result in frequent exacerbations and relapses.

Inflammatory processes disrupt hemodynamics, triggering intensive microvascular growth, leading to the formation of numerous immature vessels that are tortuous and fragile, lacking a strong elastic wall. Clinically, this manifests as bleeding gums. Therefore, it is advisable to incorporate pathogenetic therapy into the treatment of inflammatory periodontal diseases. Therefore, nonsteroidal anti-inflammatory drugs should be used during treatment to improve vascular and tissue permeability, improve microcirculation in the periodontium, and provide analgesia.

Recently, preference has been increasingly given to the use of natural remedies, such as hyaluronic acid. This unbranched polysaccharide is a crucial component of the matrix of connective, epithelial, and neural tissues, and is present in embryonic mesenchyme, heart valves, the cornea, and other organs and tissues of the body. HA is also a crucial element of periodontal tissues: the gums, periodontium, as well as alveolar bone and cementum, leading to a significant number of clinical trials of hyaluronic acid-based products in dentistry, particularly for the treatment of patients with periodontal disease. Numerous studies on the use of hyaluronic acid in the treatment of inflammatory periodontal diseases have proven effective and yielded positive results.

Therefore, the search for new, possibly combined, treatment methods that improve the effectiveness and quality of care without side effects is undoubtedly relevant. Physiotherapeutic factors play a significant role in the comprehensive treatment of periodontal pathology, alongside medication, surgical, and orthopedic methods. In our country, photodynamic therapy (PDT) has been widely used for the past few decades. It is effective in treating a number of inflammatory diseases. Photodynamic therapy (PDT) has disinfectant properties and affects tissues and organs through a photosensitizing component and a laser beam of a specific wavelength.

Photodynamic therapy involves injecting a special drug (photosensitizer) into the site of inflammation. This dye solution is adsorbed onto the bacterial cell membrane. Subsequent exposure of the photosensitizer to light of a specific wavelength activates the conversion of molecular oxygen in the environment into singlet oxygen and other active short-lived species, which destroy the bacterial cell membrane, leading to its death (photochemomodification of microorganisms). Cell death occurs almost instantly, and resistance to this treatment is impossible. Photodynamic therapy combines the controlled bacteriotoxic action of a laser-activated photosensitizer on the site of inflammation, exerting a biostimulating effect and increasing treatment effectiveness. In recent years, photodynamic therapy has increasingly been used in the treatment of inflammatory periodontal diseases. This method overcomes many of the disadvantages of drug treatment and offers several advantages over other hardware-based methods of targeting periodontopathogenic microflora. It can also be used in conjunction with these methods to enhance the effectiveness of comprehensive treatment for inflammatory periodontal diseases.

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-50 September 2025
ISSN: 2749-3644

REFERENCES:

1. Видовой состав анаэробной микрофлоры пародонтального кармана в зависимости от стадии пародонтита / Н. В. Зырянова, А. С. Григорьян, А. И. Грудянов [и др.] // Стоматология. - 2009. - № 4. - С. 43-47.
2. Давыдова, Т. Р. К проблеме дисбиоза в стоматологической практике / Т. Р. Давыдова, Я. Н. Карасенков, Е. Ю. Хавкина // Стоматология. 2011. - № 2. - С. 23-24.
3. Обоснование выбора бактериофагов для лечения воспалительных заболеваний пародонта / И. В. Желудева, Е. Л. Жиленков, Л. Н. Максимовская [и др.] // Пародонтология. - 2002. - № 12. - С. 46-50.
4. Сивовол, С. И. Клинические аспекты пародонтологии / С. И. Сивовол. - 2-е изд., перераб. и доп. - Москва : Медицина, 2001. - 168 с.
5. Гринхальх Т. Основы доказательной медицины : Пер. с англ. / Т. Гринхальх. - М.: ГЭОТАР-МЕД, 2014. - 240 с.
6. Лайпанова Ф.М. Выбор антимикробных средств для лечения заболеваний периодонта //Научный альманах. 2016. № 5-3 (19). С. 262- 267.
7. Митронин А.В., Вавилова Т.П., Жилкина О.Е., Островская ИГ. Оценка эффективности лечения хронического пародонтита с применением антимикробных и антиоксидантных средств //Пародонтология. 2011. Т. 16. № 4 (61). С. 52-56.
8. Орехова Л.Ю., Лобода Е.С., Яманидзе НА., Галеева А.Р. Применение гиалуроновой кислоты в комплексном лечении заболеваний паро
9. донта //Пародонтология. 2018. Т. 23. № 3 (88). С. 25-30.
10. Аринина Л.В., Булкина Н.В., Мартынова Е.Ю., Башкова Л.В., Терещук О. С. Иммуномодулирующая терапия в комплексном лечении больных хроническим генерализованным пародонтитом //Фарматека. 2014. № 15-3. С. 27-28.2.
11. Гаража С.Н., Гришилова Е.Н., Хацаева Т.М., Демина К.Ю., Батчаева ДД. Моргоева 3.3. Влияние лечения пародонтита иммобилизованными противовоспалительными препаратами на гемодинамику в тканях пародонта // Современные проблемы науки и образования. 2013. № 5. С. 281.3.
12. Демина К.Ю., Гришилова Е.Н., Бражникова А.Н. Влияние фотодинамической терапии на гемодинамику в тканях пародонта при лечении хронического генерализованного пародонтита //Фундаментальные исследования. 2014. № 10-6. С. 1094-1097.
13. Свирин В.В.. Богданова В.О., Ардатская М.Д. Динамика микробиоценоза полости рта при воспалительных заболеваниях пародонта и оценка возможности его коррекции //Медицинский алфавит. 2018. Т. 2. № 8 (345). С. 14- 20.
14. ЩербаковаД.С., Левкович Д.В., ОреховаЛ.Ю., Доморад А.А., Тец В.В. Действие антисептиков на бактериальные биопленки у пациентов с воспалительными заболеваниями пародонта //Пародонтология. 2011. Т. 16. № 4 (61). С. 65- 69.
15. Pawlaczyk-Kamiehska T, Borysewicz-Lewicka M, Sniatala R. Periodontal condition and periodontal risk assessment in adult patients with cystic fibrosis.//Ann Agric Environ Med. 2020 Jun 19:27(2):235-239 aaem/106087.
16. Xue D, Tang L, Bai Y, Ding 0, Wang P, Zhao Y. Clinical efficacy of photodynamic therapy adjunctive to scaling and root planing in the treatment of chronic periodontitis: A systematic review and meta-analysis. //Photodiagnosis.