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*Ilenko N.M., Popovych I.Yu., Marchenko A.V., Lytovchenko I.Yu., Nikolishyna E.V.***THE METHOD OF TREATMENT OF PRIMARY ULCERATIVE GINGIVITIS**

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The paper has been written within the research scientific work, carried out at the Ukrainian Medical Stomatological Academy, MOH of Ukraine, entitled "The development of pathogenetic prophylaxis of oral lesions in individuals with internal diseases" (State registration number 0121U108263).

Periodontal disease is one of the most complex and important problems of contemporary dentistry. Numerous epidemiological studies made in different countries have shown that periodontal diseases are the most common dental diseases to date with the prevalence of 99-100% in adult population with a tendency to increase with age. The structure of inflammatory diseases of periodontal tissues is dominated by catarrhal gingivitis (74.2%), and the prevalence of ulcerative gingivitis is only 2 to 5% [1]. Despite the relatively low prevalence, necrotizing ulcerative gingivitis is the most severe among gingivitis, associated with microflora of dental biofilm and very rapid tissue destruction [2].

In the etiology of the disease the leading role is played by fusospiral symbiosis: fusobacteria (gram-negative anaerobic rods) and spirochetes. When the immunity defenses are reduced, pathogenic microorganisms progress in the development and increase in their numbers, which leads to inflammation. Exacerbation and development of necrotizing ulcerative gingivitis are influenced by the general and local factors. Local negative factors include poor daily oral hygiene, systematic trauma by the sharp edges of the teeth, chronic foci of infection in the oral cavity, malocclusion, retained wisdom teeth, dental errors when installing braces, improperly installed implants and crowns. General causes of weakened host defense include chronic emotional stress, systemic insomnia, chronic fatigue, deficiency of vitamins and minerals in the body, hypothermia of parts of the body or the whole body, chronic diseases of organs and systems, acute viral infections in the past medical history complicated by comorbidities, intoxication of the body of various etiologies, malnutrition, bad habits – smoking, alcohol and drug abuse. The development and exacerbation of the disease is often influenced by the combination of several factors [1].

Bacteria-related changes in the reactivity of the organism, in particular, oral mucosa, are crucial in the pathogenesis of primary ulcerative gingivitis. Patients with necrotizing ulcerative gingivitis are sensitized to streptococcal lesions. Hemolytic streptococcus vegetates in association with fusospiral symbiosis. The disease progresses as a hyperergic

alternative inflammation with areas of necrosis.

It is known that necrotizing ulcerative gingivitis is mainly an acute inflammation of the gums, in which the processes of alteration and exudation prevail, and has typical signs of an infectious disease. It begins with lethargy, malaise, headache, low-grade fever, aches in the joints. Over time, the general symptoms increase, and the pain and discomfort in the oral cavity are exacerbated by the slightest touch. The marginal area of the gums and interdental papillae are particularly affected. The gums are swollen, hyperemic, sharply tender, easily bleeding. First, necrosis affects the top of the interdental papilla, then the body, then the marginal area of the gums. Over time, necrotic masses become white-gray, impregnated with fibrin and are quite firmly held on the surface of the gingival papillae. Interdental papillae resemble a truncated cone [2].

Comprehensive treatment of patients with primary ulcerative gingivitis is aimed at antibacterial, anti-inflammatory, hyposensitizing therapy and immunological correction. General treatment is based on the use of current antibacterial agents that have a detrimental effect on anaerobic microorganisms. Simultaneous use of oral anti-inflammatory, hyposensitizing drugs, vitamins and immune correctors is rational [3].

However, the effectiveness of treatment of this disease is primarily determined by the topical therapy. Topical medication therapy is an important component of the comprehensive treatment of gingivitis and is aimed at analgesia, reduction of microbial contamination, elimination of inflammation, restoration of normal homeostasis, stimulation of regeneration processes and restoration of periodontal tissue functions. Currently, the search for new methods of treatment of primary ulcerative gingivitis with the use of drugs that have anti-inflammatory action with analgesic and anti-exudative properties and convenient to use is relevant. In this regard the use of Tantum Verde spray can be considered an alternative treatment approach.

Purpose

The paper was aimed at increasing the effectiveness of treatment of patients with primary ulcerative gingivitis by the use of Tantum Verde spray in the complex therapy.

Methods and Material

The study involved 12 patients, aged 22-27

years, with acute necrotizing ulcerative gingivitis (ANUG). The past medical history revealed that 4 individuals (34%) had recently experienced acute respiratory diseases; two patients (17%) had hypothermia. The condition of patients' periodontal tissues was objectified according to the classification of M.F.Danylevskii (1994) and using the oral hygiene index OHI-S (J. Green, J.Vermillion, 1964), quantitative and qualitative Schiller-Pisarev's test, PMA index in the Parma modification (1960). All patients underwent laboratory testing: microscopic identification of smears-scrapings from foci of necrosis, complete blood count and urinalysis, blood glucose test. Written informed consent was obtained from all patients.

The new treatment approach, that was developed and tested by the authors, was used in the therapy of all ANUG patients [3]. The treatment technique was performed in the following steps: at the first visit, patients used antiseptic oxidizing rinses; Tantum Verde spray was used topically to treat damaged areas; necrotizing tissues and non-mineralized dental plaque were removed manually; the algorithm for individual oral hygiene was developed.

The treatment regimen was as follows: antiseptic oxidizing rinses 3-4 times a day, treatment of damaged areas with Tantum Verde spray at a dose of 4-8 sprays per day. For general treatment: Augmentin orally at a dose of 500 mg / 125 mg, 3 tablets per day for 5-7 days; Erius orally 1 tablet once a day for 10 days.

Results and Discussion

The findings of the comprehensive clinical examination have revealed that the level of oral hygiene in all patients was unsatisfactory, the PMA index was $56.4\% \pm 5.0$; the Schiller-Pisarev's test was negative – the absence of glycogen in the gums confirms the acute course of the disease. The results of laboratory tests showed in CBC elevated WBS and ESR, which indicated presence of inflammatory process in the body. Urinalysis and blood glucose test showed no clinically significant abnormalities. The findings of microscopic examination verified the presence of fusobacteria and spirochetes *Bucallis* in all cases.

Treatment regimen of all patients of the study group included the therapy with nonsteroidal anti-inflammatory Tantum Verde spray. From our experience, the use of topical agents in the form of sprays is convenient for patients. This allows the use of the agent in doses with more accurate and atraumatic application to the desired areas of the gums. In this aspect, Tantum Verde spray with its non-steroidal anti-inflammatory effect with analgesic and anti-exudative properties is worthy of attention. When applied topically, the therapeutic effect is achieved due to the accumulation of the concentration of benzydamine in the inflamed tissues due to the ability to penetrate through the oral mucosa. Agent of the Tantum Verde spray is absorbed by the tissues, with 50% of the dose being absorbed

within the first minute and the remainder within the next five minutes. Benzydamine restores the integrity of the epithelium of mucous membranes and increases its resistance to local pathogenic factors, especially biological ones, namely, viruses, bacteria, fungi [4].

The treatment was considered effective in achieving positive results in the clinical picture of the disease and laboratory tests. On day 3 of gingivitis treatment, all patients subjectively noted a significant improvement in general condition, alleviation of pain. In the oral cavity, minor swelling and redness of the gums in the affected areas and ulcers healing was observed. On day 7 following the treatment, subjectively, all patients had no complaints, and, objectively, the absence of edema and redness in the affected areas of the gums was noted in 9 (75%) patients; in 3 (25%) patients, a slight redness of the gums of the marginal area was detected, as well as the presence of non-mineralized dental plaque.

The resulting data are consistent with research studies on the use of Tantum Verde spray in the treatment of diseases of the oral mucosa and periodontal tissues. The use of Tantum Verde medication in the form of a solution or aerosol in such patients is more effective than traditional antiseptics [4,5,6]. The methods of treatment of ulcerative gingivitis using Tantum Verde spray are known [7], however, the authors of the present paper proposed the new method of treatment of primary ulcerative gingivitis (Patent of Ukraine for utility model №137572 priority from 04/19/2019 "Method of treatment of necrotizing ulcerative gingivitis" Popovych I.Yu., Lytovchenko I.Yu., Petrushanko T.O., Ilenko N.M., Nikolishina E.V.) with complex system approach and includes antibacterial, anti-inflammatory, hyposensitizing, local analgesic therapy. Generally, treatment regimen involves the use of "Augmentin", "Erius" medications and Tantum Verde spray is used topically. In addition, repeated use of the spray on the affected areas of gums in the process of necrectomy [7], in our opinion, does not comply with the instructions for use of Tantum Verde medication. According to the clinical studies, made by the authors of the paper, the patients are recommended with antiseptic oxidizing rinses 3-4 times a day, treatment of damaged areas with Tantum Verde spray at a dose of 4-8 sprays per day [3].

Conclusion

The findings of the study have shown that the use of Tantum Verde spray is appropriate in the topical medication treatment of ulcerative gingivitis. The analgesic effect of the agent in the form of spray ensures keeping the gums with disintegrated epithelium maximal immobile, alleviating the pain. The proposed method of treatment with the use of Tantum Verde spray as part of the complex therapy is effective, easy to use and can be recommended for use in dentistry as the anti-inflammatory therapy of primary ulcerative gingivitis.

Perspectives of further research will encompass the follow up search for the effective methods of comprehensive treatment of patients with uncreative gingivitis.

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Резюме

Незважаючи на відносно невисоку поширеність виразково-некротичного гінгівіту, це найтяжчий стан серед гінгівітів, пов'язаний із мікрофлорою зубної біоплівки і стрімкою деструкцією тканин. У дослідженні взяли участь 12 пацієнтів віком 22-27 років, із гострим первинним виразково-некротичним гінгівітом. Застосовували розроблений і апробований авторами новий спосіб терапії. Лікування пацієнтів вважали ефективним при досягненні позитивних результатів у клінічній картині захворювання й даних лабораторних обстежень. На третю добу терапії гінгівіту всі пацієнти суб'єктивно відчували значне покращення загального стану, послаблення больових відчуттів. На сьому добу після лікування всі пацієнти не мали скарг, об'єктивно визначалась відсутність набряку й гіперемії в ділянках ураження ясен у 9 (75%) хворих, у 3 (25%) – незначна гіперемія ясен маргінальної зони й наявність немінералізованих зубних відкладень. Отже, запропонований метод лікування первинного виразкового гінгівіту з використанням у комплексній терапії спрею «Тантум верде» ефективний, простий у виконанні, може бути рекомендований до застосування в стоматології з метою запобігання ускладненням і прискорення клінічного одужання пацієнтів. Перспективи подальших досліджень: планується подальший пошук ефективних методів комплексного лікування пацієнтів із виразковим гінгівітом.

Ключові слова: виразковий гінгівіт, лікування, Тантум верде.

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Summary

Despite the relatively low prevalence, necrotizing ulcerative gingivitis is the most severe among gingivitis, associated with microflora of dental biofilm and very rapid tissue destruction. The study involved 12 patients, aged 22-27 years, with acute necrotizing ulcerative gingivitis (ANUG). The new treatment approach, that was developed and tested by the authors, was used in the therapy of all ANUG patients. The treatment was considered effective in achieving positive results in the clinical picture of the disease and laboratory tests. On day 3 of gingivitis treatment, all patients subjectively noted a significant improvement in general condition, alleviation of pain. On day 7 following the treatment, subjectively, all patients had no complaints, and, objectively, the absence of edema and redness in the affected areas of the gums was noted in 9 (75%) patients; in 3 (25%) patients, a slight redness of the gums of the marginal area was detected, as well as the presence of non-mineralized dental plaque. The proposed method of treatment with the use of Tantum Verde spray as part of the complex therapy is effective, easy to use and can be recommended for use in dentistry as the anti-inflammatory therapy of primary ulcerative gingivitis. Perspectives of further research will encompass the follow up search for the effective methods of comprehensive treatment of patients with uncreative gingivitis.

Key words: ulcerative gingivitis, treatment, Tantum Verde.