



EFFECTIVE METHODS OF TREATING APHTHOUS STOMATITIS AGAINST THE BACKGROUND OF GASTROENTEROLOGICAL DISEASES

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Abstract:

In modern medical practice, the disease causing irritation of the oral cavity occupies an important place. These diseases become even more complex when they manifest themselves as chronic gastroenterological pathologies. Studies show that patients with chronic gastroduodenitis (CGD) are likely to develop various inflammatory and infectious diseases of the oral cavity. This article presents modern methods and approaches to the treatment of individual chronic recurrent diseases.

Keywords: Chronic gastroduodenitis, chronic recurrent aphthous stomatitis, ozone therapy, laser therapy, immunomodulators.

Introduction

Chronic recurrent aphthous stomatitis (CRAS) holds a unique and significant place among diseases of the oral mucosa. The lack of precise information about the etiology, pathogenesis, and clinical symptoms of these conditions, which can precede the objective signs of the main disease and be detected during dental examinations, complicates the restoration and treatment of oral mucosal diseases. Studies have shown that in patients with chronic gastroduodenitis, changes in the composition of the microflora and alterations in intestinal enzyme activity occur. Disruptions in normomicrobiota lead to intestinal dysbiosis, which, in turn, affects the quality and quantity of resident oral microflora, causing a restructuring of the oral biocenosis. This reduces the body's nonspecific resistance and antioxidant defense, making the oral mucosa more susceptible to infectious and inflammatory processes, thereby accelerating the development of related diseases. Many authors



have noted that dysbiotic disorders suppress obligatory normal flora while promoting the growth and colonization of coagulase-negative staphylococci, non-hemolytic streptococci, lactobacilli, corynebacteria, aerobic gram-negative bacilli (non-pathogenic fungi), and *Neisseria* species. The prolonged persistence of such pathogenic microflora in the oral mucosa contributes to the onset of CRAS.

In patients with chronic gastroduodenitis, disruptions in intestinal microflora and the development of dysbiosis promote the proliferation of pathogenic microflora in the oral cavity. An imbalance of microorganisms such as coagulase-negative staphylococci, non-hemolytic streptococci, and lactobacilli leads to weakened immunity and increased inflammatory processes. In such conditions, the oral mucosa becomes vulnerable, creating a predisposition for CRAS development. CRAS significantly reduces the patient's quality of life and complicates treatment. Ozone has strong disinfecting properties, eliminating 99.9% of pathogenic microorganisms. The local application of ozonated water using the Prozone device reduces the need for conventional antiseptics. Ozone therapy reduces inflammation, prevents aphthae formation, and accelerates mucosal healing.

Helium-neon laser irradiation is used to eliminate inflammatory processes in the mucosa. Laser therapy reduces pain, accelerates epithelialization, and enhances the mucosal immune response. This method minimizes the adverse effects of medications and shortens the treatment duration. Strengthening immunity is a crucial part of CRAS treatment. The Imunal preparation, based on bacterial lysates, boosts local immunity. It is recommended to be used as a mouth rinse and taken orally after diluting in a 1:5 ratio with 50 ml of water.

Materials and Methods

To accomplish the study objectives, we used comprehensive research methods. The study focused on the clinical characteristics of CRAS in patients with chronic gastroduodenitis, the biochemical parameters of unstimulated oral fluid, and microbiological changes associated with CRAS. A total of 118 patients aged 24 to 56 were examined, including 70 men and 48 women. Among them, 34 individuals were practically healthy without somatic pathology, while 84 patients were diagnosed with chronic gastroduodenitis. Diagnosis was confirmed by gastroenterologists in accordance with ICD-10 codes: K29 ("gastritis and duodenitis") and K29.9 (unspecified gastroduodenitis).



Results

Many researchers emphasize the role of metabolic disturbances and chronic inflammatory processes in the development of CRAS, which exacerbate body intoxication. Eliminating systemic intoxication enhances therapeutic effects, leading to prolonged remission in chronic periodontitis. This suggests that detoxification, combined with local immunomodulation using Imunal, significantly improves treatment efficacy. The concept of oral tolerance refers to the immune system's state of specific unresponsiveness to antigens first encountered through the enteral route. Disruptions in oral tolerance to food antigens can result in food allergies, celiac disease, and other enteropathies.

It is important to note that oral tolerance is not only related to immediate hypersensitivity reactions (Type 1 reactions, according to Gell and Coombs classification) but also to other immunopathological responses. Research on this phenomenon must be well-substantiated and clinically applicable, as much of the existing knowledge is based on animal experiments. Oral tolerance induction occurs after the first contact of an antigen with the gut-associated lymphoid tissue (GALT). Antigens interact directly with GALT or influence the immune system after absorption. Even though food antigens undergo partial digestion in the small intestine, studies show that some of them are absorbed intact. This is particularly significant when large doses of antigens are consumed. The oral mucosa acts as a protective barrier against various antigens, including microbes, viruses, carcinogens, and toxins. The disruption of this barrier function contributes to the onset of numerous oral diseases due to the vast surface area of the oral mucosa. A key characteristic of the oral epithelium is its high mitotic turnover rate, forming a multilayered structure. The mucosal environment is constantly moist, which facilitates microbial growth while also activating immune cells, growth mediators, and biologically active substances. The oral cavity harbors a diverse range of microorganisms, including *Streptococcus*, *Neisseria*, *Veillonella*, *Staphylococcus*, *Fusobacterium*, *Corynebacterium*, *Haemophilus*, *Lactobacillus*, and *Bacteroides*. *Actinomyces* (*Candida albicans*) fungi and protozoa (*Entamoeba gingivalis*) are also present. Among the urgent challenges in modern dentistry, diseases of the oral mucosa are among the most prevalent. The incidence of periodontitis and gingivitis in adults ranges from 53% to 97.5%. Apart from trauma-induced inflammatory conditions, gingivitis is primarily of infectious origin, with anaerobes and



actinomycetes dominating the local microflora. With the proliferation of pathogenic and conditionally pathogenic microorganisms, the concentration of normal microflora sharply decreases. Therefore, an essential approach to treating inflammatory diseases of the oral mucosa is the development and use of agents that restore normal oral microflora and tissues, which is a necessary condition for improving CRAS treatment efficacy. One promising strategy is the use of biopreparations containing representatives of normal oral microflora. Adverse environmental conditions, increasing stress, irrational antibiotic use, gastrointestinal dysbiosis, chronic bacterial infections, and allergic sensitization contribute to dysbiosis and immune deficiency, which, in turn, complicate the diagnosis, treatment, and cost of oral diseases.

Beyond treatment and prosthetic-related discomfort and costs, the microorganisms responsible for these conditions often serve as a source of endogenous infections. Recent studies confirm that the most significant role in the pathogenesis of common oral diseases (gingivitis, periodontitis, stomatitis, caries) belongs to resistant temporary microflora rather than traditional pathogens.

Conclusion

In patients with chronic gastroduodenitis, the treatment of chronic recurrent aphthous stomatitis (CRAS) is most effective when combining ozone therapy, laser therapy, and immunomodulators. These methods reduce inflammation, accelerate mucosal healing, and improve patient quality of life. Such comprehensive approaches are expected to be widely implemented in future dental practice.

Practical Recommendations

1. Patients with CRAS associated with chronic gastroduodenitis should undergo testing for oral fluid pH and secretion rate.
2. The use of immunomodulators in comprehensive therapy enhances treatment effectiveness.
3. Repeating the treatment course every six months prevents CRAS recurrence.



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