



## ADAPTIVE MECHANISMS OF LOCAL IMMUNITY OF THE ORAL MUCOSA IN CORONAVIRUS INFECTION

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### Abstract:

The body's defenses are determined by systemic and local factors. Local protection is provided by the integrity of the oral mucosa, the microbicidal properties of saliva and lymphoid tissue. The integrity of the oral mucosa is the best physiological barrier to infection. The protective factors of saliva are determined not only by its mechanical properties, but also depend on the biological substances dissolved in it, which can cause the lysis of foreign agents. Such substances include lysozyme, immunoglobulin A, and a large number of interleukins with bactericidal and antiviral effects. A powerful factor of local protection is the secretory IgA contained in saliva.

### Key words:

Immunoglobulin, inflammatory diseases, surgical interventions.

Treatment of inflammatory diseases of the mucous membrane of the oral cavity, pharynx and periodontal is an issue that experts discuss a lot. From the point of view of modern clinical immunology, the state of human health is characterized by a decrease in immune reactivity and an increase in the number of acute and chronic diseases of an infectious and inflammatory nature. In such conditions, the determining etiological factor is conditionally pathogenic pathogens, most often associations of viral and bacterial infections.

For the effective development and functioning of the immune system, regular "training" of various types of defense is necessary. This is only possible if there is a constant antigenic load. Today, treatment is often focused on the elimination of not only highly pathogenic infectious agents, but also total pharmacological sterilization of the habitual habitats of symbiotic bacteria. Ignoring the laws of interaction between macro- and micro-organisms leads not only to the appearance of resistant forms of pathogens, but also to the formation of an insufficient number of effective defense mechanisms. Such conditions are one of the reasons for the development of secondary immune insufficiency syndrome (Prokopenko V. D. et al., 2002). The formation of secondary immune insufficiency is determined in chronic recurrent infectious diseases, the causative agents of which are bacteria, viruses, fungi, etc. Anthropogenic factors (products of environmental pollution), therapeutic measures (surgical interventions, irrational prescribing of medicines, the use of drugs and food ingredients that have a depressing effect on the immune system) have a significant impact; chronic stress has a certain significance.

All these factors explain the wide interest in the problem of correcting violations of local and systemic immunity. Immunomodulatory drugs include drugs that have immunotropic activity and restore the functions of the immune system in therapeutic doses. Among the immunomodulators, it is necessary to distinguish bacterial immunomodulatory drugs of local action.

Thus, for the treatment of inflammatory diseases of the oral mucosa, pharynx and periodontal disease, the antigenic polyvalent complex drug IMUDON<sup>tm</sup> produced by Solway Pharmaceuticals (France) is successfully used, which includes inactivated microorganisms that are most often seeded in pathological processes of the oral cavity (*Lactobacillus acidophyllus*, *Lactobacillus helveticum*, *Lactobacillus lactis*, *Lactobacillus fermentum*, *Streptococcus pyogenes* group A, *Enterococcus faecalis*, *Enterococcus faecium*, *Streptococcus sangius*, *Streptococcus aureus*, *Klebsiella pneumoniae*, *Corynebacterium pseudodiphthericum*, *Fusobacterium nucleatum*, *Candida albicans*). IMUDON<sup>tm</sup> is an immunocorrector with the properties of a local vaccine-it stimulates the defenses of the oral mucosa. Acting through a system of immunological mechanisms, it causes the following effects: an

increase in the activity of phagocytes with a qualitative improvement in phagocytosis;

an increase in the content of lysozyme in saliva, which has bactericidal activity, the induction of interferon;

stimulation and increase in the number of immunocompetent cells responsible for the production of antibodies;

stimulation and increase of the content of sIgA, which plays a significant role in the system of protection of the mucous membranes.

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