

Clinical Experience with the use of Bacterial Lysates in Modern Medicine

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Annotation

One of the promising areas in the treatment and prevention of many diseases is the use of immunocorrective agents. Zoryan E.V. (1999) believes that one of the promising areas that increase the effectiveness of therapy, allowing for the prevention of many diseases, including inflammatory ones, and their relapses, is immunostimulants (levamisole, prodigiosin, T-activin).

They have a greater effect on general immunity and when using them, one should take into account the initial immune status of the patient and, if necessary, consult with immunologists.

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In this regard, immunostimulants of biological origin are of interest. Among drugs that stimulate immune processes and specifically activate immunocompetent cells (T- and B-lymphocytes) and additional immunity factors (macrophages, secretory immunoglobulins, etc.). There are immunomodulators of microbial origin containing lipopolysaccharide complexes (prodigiosan, pyrogenal), bacterial ribosomes in combination with membrane proteoglycans (ribomunal) [1].

Among immunocorrective drugs, immunomodulators of microbial origin are of interest, which are divided into three main groups - purified bacterial lysates, immunostimulating membrane fractions and bacterial ribosomes in combination with membrane fractions. New generation immunomodulators that can activate the formation of antibodies and stimulate the defenses of the oral mucosa deserve special attention. Among them, first of all, the drug Imudon should be mentioned [1,2].

Specially created for dental practice, Imudon (manufactured by the international pharmaceutical company Solvay Pharma) belongs to the group of purified bacterial lysates. The drug is made from a mixture of lysates of strains of the most common bacterial and fungal pathogens of pathological processes in the oral cavity. Among them are *Lactobacillus acidophilus*, *Str. aureus*, *Kl.pneumoniae*, *Corinobacterium*, *Pseudodiphthericum*, *Candida albicans* and others. The drug is a polyvalent complex of antigens that can cause the formation of antibodies. Imudon increases FAN, increases the content of lysozyme in saliva, stimulates the formation of immunocompetent cells and the amount of sIgA [3].

Grigoryants L.I. and Badalyan V.A. (2000) recommend taking up to 10 tablets per day for an acute process in the oral cavity with an average duration of up to 10 days. In chronic diseases - up to 6 tablets per day for 10-20 days, for the prevention and treatment of postoperative complications

within one week before and after surgery, 8-10 tablets per day. It is possible to conduct repeated courses, but not more often than 2-3 times a year [2,1].

The results of experimental and clinical studies allowed V.Yu. Sergeev, A.V. Karaulov (2000) to recommend the use of Imudon as a drug [1,4]:

- increasing local immunity of the oral cavity in acute and tonic inflammatory diseases of the oral mucosa;
- as monotherapy for the treatment of catarrhal inflammations, aphthae and ulceration caused by dentures;
- for preoperative preparation of the patient;
- with purulent-inflammatory, fungal and herpetic lesions - the oral cavity as part of complex therapy;
- in case of severe purulent-inflammatory processes, combine its use with antibacterial therapy;

A number of authors explain the therapeutic effect of Imudon by its effect on the immune system, which is expressed in an increase in phagocytic activity, an increase in the level of lysozyme, stimulation and an increase in the number of immunocompetent cells responsible for the production of antibodies in saliva, and a slowdown in the oxidative metabolism of PMNs. The therapeutic effect of Imudon is directed against the main symptoms of inflammation, namely pain, erythema, edema, bleeding, ulceration. This was the basis for the use of Imudon in the treatment of 51 patients with recurrent herpetic stomatitis, lichen planus and dysbacteriosis. Recovery was achieved in 15 patients (31%), significant improvement in 30 (59%), and simple improvement in 5 patients (10%). This gives the authors the opportunity to conclude that the drug Imudon: 1. Is an effective tool for the complex treatment of diseases of the oral mucosa. 2. The effectiveness of the drug is due to an increase in the activity of factors of specific and nonspecific protection of the oral cavity.

Imudon, being a local drug, does not enter the bloodstream and does not affect metabolism [5,6]. All this made it possible to recommend Imudon for testing in dental practice [2,6]. The earliest effect caused by Imudon is an increase in phagocytic activity and lysozyme activity, which explains its anti-inflammatory effect. An increase in the number and activity of immunocompetent cells, the production of antibodies and secretory immunoglobulin determines the long-term therapeutic effect of the drug. The anti-relapse effect of Imudon makes it possible to use NJIO in monotherapy of inflammatory diseases in children with high clinical efficacy in more than 80% of patients [4,6,7]. The drug was used for gingivitis, periodontitis, stomatitis, herpes and other diseases of oral mucosa, as well as in surgical practice for preoperative preparation of patients and in the complex therapy of postoperative complications. When taking the drug - Imudon tablets are kept in the mouth until completely dissolved, without chewing.

Microbiological studies by A.I. Grudyanova et al. (2000) showed that in patients with inflammatory diseases of the jaw of the mouth, as a result of the use of Imudon, stabilization of the microflora was observed, which was expressed in an increase in the resistance coefficient (the ratio of immobile and mobile forms of microorganisms) [5,7]. The most pronounced were changes in the microflora in patients with acute catarrhal and acute desquamative gingivitis, as well as ulcerative necrotic gingivitis. The authors noted less pronounced changes in the micro flora in patients with generalized periodontitis.

The antimicrobial and anti-inflammatory activity of the drug determines its use both for the treatment of diseases of the oral cavity and for the prevention of their recurrence [3,4,7].

A number of authors [7,8] studied the effectiveness of the use of bacterial lysates in diseases of the JIOP organs (otitis media, sinusitis, tonsillitis, adenitis) in outpatient and inpatient children. As a bacterial immunocorrector, intranasal dosed aerosol IRS-19 was used.

The introduction of IRS-19 through the mucous membranes of the upper respiratory tract is justified by the anatomical, physiological and immunological conditions in the nasopharynx. Due to these anatomical and physiological conditions, IRS-19 can penetrate extremely quickly and intensively through the mucosa into the body, thereby causing an immediate mobilization of defense mechanisms in the mucosa and triggering the effective production of antibodies [8].

The local immune system responsible for protection against infection on the surface of the mucous membranes can also be subject to a wide variety of disorders. These disorders can be either primary or secondary.

Along with primary disorders of the immune system, secondary disorders are the most common cause of chronic recurrent respiratory tract infections in children [8,9]. The risk of infection is particularly increased due to the fact that the factors responsible for impaired mucociliary defenses also impair the immune system. This applies to both external factors and infectious pathogenic microorganisms, which include bacteria and viruses. When immunity is deregulated under the action of a bacterium, suppression of the immune system can occur, due to both secretion products and endotoxins released during bacteriolysis.

As a result of the use of IRS-19 in patients with diseases of the upper respiratory tract and certain dental diseases, a number of authors have achieved a high therapeutic effect and reduced the development of disease relapses [10].

Since the drug IRS-19 has a good therapeutic effect in diseases of the upper respiratory tract and ENT organs, it would be advisable to investigate the effect of this drug in diseases of the oral cavity, in particular, odontogenic periostitis of the jaws in children, because diseases of the oral cavity are caused by the same microorganisms that occur and for the diseases mentioned above. In addition, children after surgery in the oral cavity refuse to suck imudon. In the available literature, we did not find information on the study of the effectiveness of the IRS-19 drug in the treatment of odontogenic periostitis of the jaws. In this regard, the study of the effectiveness of the drug IRS-19 in children with odontogenic periostitis of the jaws was of particular interest to us.

Conclusion: The mucous membrane of the upper respiratory tract has a large surface, is extremely intensively supplied with blood and penetrated by lymphatic vessels. Being very active physiologically, it forms the entrance gate for most infectious agents and serves as a kind of collection point for them in case of congenital or acquired immune deficiency. Due to the indicated anatomical and physiological conditions, IRS-19 can penetrate the mucous membrane extremely quickly and intensively, thereby causing an immediate mobilization of the protective mechanisms in it, triggering the effective production of antibodies. Only with the help of surgical intervention can the damaging factor itself be eliminated and, thus, the body's defenses be given the opportunity to recover.

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