

**CLINICAL EVALUATION OF THE EFFECTIVENESS OF THE USE OF
THE DRUG IRS-19 IN THE COMPLEX THERAPY OF ACUTE
PURULENT PERIOSTITIS IN CHILDREN**

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ABSTRACT

It has now been proven that various types of microorganisms play a certain role in the etiology and pathogenesis of inflammatory diseases of the oral cavity. This can be explained by a number of factors - endogenous infection, microbes that were in the oral cavity of a healthy person, and, in addition, in association, microbes can stimulate or inhibit certain properties of each other.

KEYWORDS: *Endogenous Infection, Oral Cavity, Microflora, Body Defenses, Odontogenic Infection, Tooth, Sensitization.*

INTRODUCTION

The human oral cavity is an ecological system in which autochthonous microflora is formed. Optimal pH values for microbes, temperature, constant humidity and abundance of nutrients favor this [1]. A lot of microbes enter through the mouth from the external environment. Most of them don't last long. It is known that a person swallows with saliva during the day 1 billion microorganisms, which are washed off the surface of the oral cavity [1,2]. The normal microflora of the oral cavity is mainly composed of strict or obligate anaerobes (microbes that have the ability to multiply at a low partial pressure of oxygen) and microaerophiles, the reproduction of which requires an increased concentration of carbon dioxide, but do not die in the presence of oxygen [3,4].

According to various researchers, the share of obligate-aerobic and microaerophilic flora of the oral cavity accounts for 80-90% of the microbial landscape [5,10]. The main part is made up of facultative anaerobic species of staphylococci, streptococci, some enterobacteria, as well as strictly anaerobic gram-negative diplococci, bacteria *Haemophilus influenzae* [6]. These microbes constitute the resident microflora of the oral cavity and form a rather complex and stable ecosystem. Under normal conditions, changes in the existing ecosystem are likely to proceed depending on the time of day, year, etc. and only in one direction, i.e. only the number

of representatives of several or most species changes, but the species representation remains practically constant in a particular individual for a long period [7,8,9].

Purpose of the study: To evaluate the clinical efficacy of IRS-19 in the complex therapy of acute purulent periostitis.

Materials and Methods: To assess the clinical efficacy of IRS-19 in the complex therapy of acute purulent periostitis in children, we studied the dynamics of changes in the clinical signs of the disease in each age group. In children aged 2-5 years who received traditional treatment at admission, the sum of general signs was 199 ± 9.55 points (average for 1 child - 12.4 points). On the 3rd day of treatment, the score was 148 ± 7.98 (mean 9 points per 1 child). When compared with the baseline, the total scores decreased by 25.6%. This happened due to such signs as weakness, malaise, headache, excitability, and a decrease in temperature. On the 6th day, the sum of points of general clinical signs decreased to 96.0 ± 5.49 points (average 6 points per 1 child), which amounted to 51.8%. Although the children's condition improved significantly, a number of signs of the disease, such as subfebrile temperature, moderate leukocytosis, elevated ESR, and a high rate of LII remained in 1/3 of the children.

The sum of points of local signs of acute purulent periostitis at admission was 94.0 ± 3.98 points (average for 1 child 5.87 points). On the 3rd day of traditional treatment, they amounted to 34.0 ± 1.48 (average per 1 child 2.1), which is 63.8% less than the initial one. By this time, edema, inflammatory infiltrate, skin hyperemia, infiltration of the transitional fold have decreased.

By day 6, a number of signs of acute purulent periostitis, such as collateral edema, skin hyperemia, discharge from the wound and holes disappeared, the score was 10.0 ± 1.22 , that is, relative to the initial symptom of the disease, they decreased by 89.4%.

Summing up the general and local signs of acute purulent periostitis in the dynamics of traditional treatment, it should be noted that when children with acute purulent periostitis were admitted, the total score was 18.3, on the 3rd day of treatment 11.7%, on the 6th day 6.6 points. Despite the positive dynamics, it should be noted that a number of general and local signs of the disease persist and children require further monitoring.

In children with acute odontogenic purulent periostitis aged 2-5 years, who received IRS-19 along with complex drug treatment, a more favorable course of the disease was established. So, on the 3rd day of treatment, a decrease in the total score by 42.8% was noted relative to the state at admission. Improvement of the general condition due to the complete disappearance of such signs as weakness, malaise, restlessness, pain in the jaw and teeth.

On the 6th day of treatment relative to the baseline, a significant (by 58.2%) improvement in the general condition of children was established due to the normalization of the child's body temperature, a decrease in LII.

When analyzing local signs of acute purulent periostitis, a more favorable course of the disease was found in children who received IRS-19. So, on the 3rd day, local signs of periostitis decreased by 80%. In children treated with IRS-19, on the 3rd day, skin hyperemia, discharge of pus from the wound, breath odor disappeared, and the hygienic condition improved. By day 6, almost all local signs of acute periostitis were completely eliminated.

For a clinical assessment of the effectiveness of the use of IRS-19 in the complex therapy of acute purulent periostitis, depending on age, we conducted a comparative analysis of the results of treatment of children aged 6-9 years. In children of this group, the sum of general signs of periostitis at admission was 141 ± 8.49 points (while in children 2-5 years old - 199 ± 9.55). After the traditional therapy on the 3rd day, the scores decreased by 19.1% (while in children 2-5 years old they reached 25.6%). As our observations showed, in children 6-9 years old on the 6th day of traditional treatment, the total score decreased by 40.4%, while in children 2-5 years old they decreased by 51.8%.

Comparing these data, it can be stated that acute purulent periostitis is more severe in children aged 2-5 years, and traditional therapy has a more pronounced effect. In children aged 6-9 years who received complex treatment with the inclusion of IRS-19, already on the 3rd day, the amount of general signs of periostitis decreased by 35.9%, while with the traditional one it decreased by 19.1%.

Improvement in the general condition of children came due to a decrease in such signs as weakness, malaise, headache, pain in the jaw. In a significant part of the children, body temperature and the number of leukocytes returned to normal. On the 6th day of treatment with the inclusion of IRS-19 in the complex, the amount of general signs of periostitis decreased by 52.4% relative to the initial one (with traditional treatment by 40.4%), which indicates a significant effect of the IRS-19 preparation on the child's condition. When analyzing the effectiveness according to local signs of the disease, it was found that with traditional treatment on the 3rd day, the decrease in the total score relative to the original amounted to 56.6%.

Basically, the improvement was due to the resorption of the inflammatory infiltrate, the reduction of purulent discharge from the wound, and the reduction of skin hyperemia. On the 6th day, local signs of periostitis decreased by 78.3%, mainly due to the elimination of skin hyperemia, inflammatory infiltrate, collateral edema, infiltration of the transitional fold.

CONCLUSION: Thus, the inclusion of the drug IRS-19 in the complex treatment of acute purulent periostitis produced a pronounced clinical effect, which manifested itself in different age groups to varying degrees. The greatest clinical effect was manifested in children aged 2-5 years, apparently due to the fact that it had an impact not only on local factors protecting the oral cavity, but also on the immune system in general and prevents the development of complications such as osteomyelitis, odontogenic abscesses, phlegmon and adenoabscesses.

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