

MICROBIOLOGICAL EFFICACY OF TREATMENT OF PURULENT-INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION IN CHILDREN AFTER DIFFERENT METHODS OF TREATMENT

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Abstract

Acute neodontogenic purulent diseases occupy the leading place in maxillofacial surgery. Before the introduction of antibiotics the frequency of these diseases was extremely high in the subsequent period the decrease began, but in recent years there is a tendency to increase and was 59-60%.

Keywords Microbiological efficiency, purulent-inflammatory diseases of maxillofacial region, children.

INTRODUCTION

The main reason for this is the growth of mono and polyresistant microbes, adaptogenic changes in virulent factors, etc. Also significant changes on the part of macroorganisms, which is mainly expressed in changes in the immune status, under the influence of various environmental and social factors has become one of the reasons for the increase in inflammation of this kind. Thus, according to M. Azimov (2013), the number of patients with odontogenic inflammatory diseases of the maxillofacial region treated in the department of paediatric maxillofacial surgery 3 clinic of the Tashkent Medical Academy for the last 10 years has increased 2-fold.

At the same time, in recent years there has been a tendency to increase the number of atypical torpid forms of purulent-inflammatory diseases with frequent transformation of acute processes into chronic ones, the number of complications and recurrences of these diseases has increased

sharply. In the practice of maxillofacial surgery often began to meet sluggishly current abscesses, phlegmons, lymphadenitis, osteomyelitis, chronic sialoadenitis. In addition, several authors have studied the increase in the number of atypical, sluggish inflammatory processes that lead to severe complications such as sepsis, mediastinitis, etc. It is believed that this is due to a change in the species composition of microorganisms causing acute inflammatory diseases of the maxillofacial region and the emergence of resistant strains to antibacterial therapy.

It is well known that the causative agent of odontogenic inflammatory processes, including odontogenic phlegmons, are microorganisms that are considered the main representatives of the permanent microflora of the oral cavity, such as staphylococci, streptococci, enterococci, diplococci, gram-positive and gram-negative bacilli, fungi, mycoplasmas, protozoa, spirochetes and others.

Thus, the infectious-inflammatory process is a manifestation of the interaction of pathogenic flora with the macroorganism in the form of its ability to respond to the impact of this microflora.

At the same time, it is important to emphasise that all nosological forms of odontogenic inflammation in sick children should be considered as a single process in which one nosological form of inflammation is capable of transforming into another more severe form in a very short period of time. As pathogenic microorganisms in phlegmons act not only obligate-pathogenic microbes, but also conditionally pathogenic species that are not sensitive to most of the antibiotics used. According to the research data it was found that in 25% of the examined patients in the course of treatment, in hospital, a change of microbial pathogens to another species or genus was observed, which confirms the increasing etiological role of hospital infection in the formation of modern clinical manifestations of purulent-inflammatory diseases of the maxillofacial region.

As for the issues related to the treatment of OGVZ of the JLL, in modern conditions of pharmacological oversaturation of the organism, decreased sensitivity of microflora to antibiotics, suppression of immune defence by environmental factors, allergenisation of the organism, insufficiently sparing in some cases technique of surgical intervention, low efficiency of generally accepted methods is noted (Tarasenko S.V., 2002). All the above mentioned above says that the problem of treatment of OGVZ of CHLO in children is urgent and requires development and introduction of new technologies.

Methodical principles of quantitative bacteriology of wound infection allowed to establish that the quantitative index of bacteria content in 1g of wound biopsy is an objective laboratory test reflecting the nature of the course of the wound process allowing the doctor to control the completeness of surgical treatment of the purulent focus. Quantitative studies of microbes per 1 cm² of surface and per 1 g of wound biopsy specimen were carried out according to the method developed by (L. Brentonno, Garib F.Y.,

2023).

The results of long-term clinical and bacteriological studies have allowed us to formulate the concept of the leading role of the quantitative factor in the development and generalisation of wound infection. Currently, the method of complex bacteriological analysis of wound biopsy specimens, including the study of the species composition and number of microbes, has found wide application in clinical practice as one of the most informative and objective laboratory indicators.

Many questions of etiology and pathogenesis, prophylaxis and treatment of children with GVZ of BLO remain insufficiently solved to date, which explains the constant interest and attention of researchers to them.

The sensitivity and resistance of pathogenic microorganisms to drugs was carried out in accordance with the accepted and well-known methods. In spite of the leading role of staphylococci in etiology of purulent-inflammatory processes of maxillofacial region and neck at microbiological investigations of pathological contents of purulent foci and phlegmons of maxillofacial region, a high percentage of monocultures - 36% attracts attention. Associations made up 62%, with associations of two associates in 70.5% of cases, the presence of three or more associates was observed in 20.5% of cases.

A large percentage of monocultures and predominance in associations, in our opinion, indicates the chronicisation of the process, because at the late stages of the infectious process, the formation of antibiotic relationships is observed in the gradual displacement of microorganisms with weak symbiotic ties from the association.

Thus, in our observation the predominant part of monocultures were represented by Gram-negative polyresistant strains of *Proteus* spp and *Pseudomonas aurogenesa*, while the study of the etiological structure of complicated infection showed the predominance of *E.coli* and various strains of Gram-positive microorganisms.

Various associations (61.8%) prevailed in the overall structure. Moreover, combinations of E.coli Gram-negative microbes were predominant, representatives of the genus Staphylococcus - 26.8% and Streptococcus - 12.4%.

Purpose of the study: Evaluation of microbiological efficacy of treatment of purulent-inflammatory diseases of the maxillofacial region in children after different methods of treatment.

METHODS

Microbial flora studies were carried out in 72 patients with purulent-inflammatory processes of maxillofacial region. These studies were conducted in the laboratory of "Clinical Microbiology" at the centre of maxillofacial surgery of the Tashkent State Dental Institute.

Children taken for the study were divided into 3 groups:

I gr. consisted of 10 children healthy group with no pathological processes;

II gr. consisted of 15 children who received traditional therapy;

III gr. consisted of 57 children who underwent special treatment. At the same time this group was divided into 3 groups according to the conducted treatment:

1) the first group of 16 children who were treated with microdacin as a special treatment;

2) the second group of 19 children treated with IRS 19;

3) the third group of 22 children who were treated with a complex preparation: microdocin + IRS 19.

All these three groups of sick children receiving special treatment were monitored in dynamics (1-3-5 days).

Material from sick children was taken during the operation of opening phlegmons, disposable sterile syringe by suctioning pus in the volume of 0.1-0.5 ml. The collected material was delivered to the microbiological laboratory within 2 hours. In the laboratory, serial dilutions were prepared from the obtained material. After that a certain volume was

seeded on highly selective nutrient media such as: yolk-salt agar, blood agar, Muller Hinton agar, Sabouraud agar, esculin agar, etc. All these media are obtained from Hei Media, India.

After seeding, all the dishes were brought into the thermostat at 37°C for 24-48 hours. After the expiry of incubation period, the dishes were removed from the thermostat and counting of the grown colonies was done. Identification of the grown colonies was carried out in Gram stained smears, by studying the culture biochemical and serological properties. The obtained quantitative indices were performed in lg /M±m/ KOE/ml.

The analysis of pus sowings from patients on nutrient media gave the following picture: in quantitative terms, the greatest picture was shown by staphylococci, so their number was lg /5,10±0,3/ KOE/ml, the second place was taken by streptococci. At the same time the lowest picture was given by the growth of putrefactive microbe Proteus which was lg 1,0±0,1 KOE/ml. In the same cultures, the frequency of occurrence of microbes, gave the same picture, i.e. the cultures of Staphylococcus aureus (41.5%) and Streptococcus aureus (28.6%) prevailed in terms of frequency of occurrence, i.e. they totalled more than 70%. The lowest frequency of occurrence in these studies was occupied by Proteus cultures (11%).

It is interesting to note that the quantitative data we obtained on the study of the pus flora from patients of children with purulent-inflammatory processes in the maxillofacial region, quite correlate with the available data in the literature.

CONCLUSIONS

Thus, having established the etiological structure of microbes involved in the occurrence of phlegmon and in the maxillofacial region of the face and neck, we conducted a study of the sensitivity of isolated microbes from the wound biopsy to the drugs used for traditional therapy, the widely used antiseptic Furacilin had a reliable antibacterial effect on 3 types of microbes these are: Str.pyogenes, Str.faecalis and Pseudomonas. All other flora had an average effect with diameters ranging from 10.0±0 to 18.0±0.1mm.

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