



IMPROVING LOCAL TREATMENT OF MANDIBULAR FRACTURES IN CHILDREN

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Relevance

Mandibular fractures account for 70-90% of all facial bone fractures. Moreover, approximately 40% of these cases are complicated by various purulent-inflammatory processes. In children, the primary causes of mandibular fractures are domestic injuries and both organized and unorganized sports activities—up to 84%. Mandibular fractures are most commonly observed in boys aged 7 to 14 years. The treatment of mandibular fractures in children, as in adults, involves reliable repositioning and fixation of bone fragments for the entire healing period. The most common method of fixation for mandibular fractures is the use of bimaxillary splints, which provide constant immobilization. However, this method may cause post-traumatic inflammation of the periodontal tissues, negatively affect the oral microflora, and reduce the quality of life. Facial and maxillofacial trauma is one of the most common injuries and shows a continuous growth trend. According to several authors, up to 40% of dental patients in hospitals suffer from maxillofacial injuries. Mandibular fractures can occur in children of any age: during childbirth due to obstetric handling, during the first steps when children fail to maintain balance, as well as in primary school during unsupervised games and in adolescence due to falls from trees or fights. The mandibular body is most commonly fractured, followed by the condylar process (unilateral or bilateral). Complex treatment of patients with mandibular fractures places significant emphasis on oral hygiene. Older children can care for their oral cavity independently, while younger children



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require assistance from adults using a syringe or bulb syringe. In hospitalized children, the application of antiseptic aerosols in the oral cavity is widely practiced, along with physiotherapeutic procedures such as calcium electrophoresis, magnetotherapy, and helium-neon radiation.

Significant progress has been made in the treatment of mandibular fractures, and the principles of surgical and medication-based therapy have been established. However, their effectiveness still does not provide the desired results. In recent years, a decrease or complete absence of efficacy has been noted for a number of therapeutic methods and tools that were previously successfully used. This is attributed to an insufficient level of fundamental knowledge. In medical practice, there has been an increased interest in antiseptic preparations. "Stomatidin" is an antiseptic with a broad spectrum of action.

In this study, the antiseptic preparation "Stomatidin" was used for the local treatment of mandibular fractures in children. Its effectiveness in eliminating inflammation in periodontal tissues is considered relevant and modern.

Purpose of the study:

To enhance the effectiveness of local treatment of mandibular fractures in children using the antiseptic "Stomatidin" after immobilization.

Objectives of the study:

To conduct a comparative assessment of the local application of the antiseptic "Stomatidin" and traditional treatment methods for mandibular fractures in children.

Materials and methods of research:

At the Children's Maxillofacial Surgery Clinic of the Tashkent State Dental Institute, 12 children aged 7 to 18 years with a diagnosis of mandibular fracture were examined before and after immobilization.

Clinical, microbiological, and statistical methods were used in the study. The oral microflora of children was studied before immobilization and after the application of "Stomatidin." The antimicrobial action of "Stomatidin" is associated with the suppression of oxidative reactions in microbial cell metabolism. The preparation has



antibacterial effects against gram-positive and gram-negative bacteria, *Pseudomonas aeruginosa*, and *Proteus* spp., as well as fungicidal effects (including *Candida*).

Results:

Many researchers have identified poor oral hygiene and plaque accumulation, typical for splinted patients, as one of the main factors in the development of periodontal diseases. A significant number of retention points in the oral cavity caused by splinting, difficulty in cleaning teeth, and changes in diet lead to a sharp decline in oral hygiene and the accumulation of a large amount of soft plaque containing aggressive microorganisms. The resulting inflammatory diseases of the periodontal tissues, as well as the exacerbation of chronic periodontitis, significantly increase the risk of purulent complications in fractures of the upper and lower jaws. Prolonged immobilization of the mandible inevitably impairs the function of the salivary glands, significantly worsening oral hygiene, while dental plaque directly contributes to inflammatory processes in the periodontium.

Quantitative analysis of the total microbial contamination of tooth surfaces showed a slight decrease in microbial contamination in the 1st and 2nd patient groups during treatment compared to the 3rd group.

Using the "Stomatidin" solution for local application in patients with mandibular fractures during traditional immobilization improved oral hygiene, reduced the severity of periodontal inflammation, decreased microbial contamination of tooth surfaces, and facilitated faster recovery of OC and CT levels. These effects are associated with the anti-inflammatory properties of "Stomatidin."

Conclusion:

The use of the antiseptic "Stomatidin" in the local treatment of mandibular fractures in children improved therapy effectiveness through its bactericidal and anti-inflammatory action against gram-positive and gram-negative microorganisms, as well as its fungicidal action against pathogenic fungi (*Candida*).



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