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Modern Methods Of Postoperative Rehabilitation In Patients With Purulent-Necrotic Complications Of The Maxillofacial Region

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ABSTRACT

Purulent-necrotic complications of the maxillofacial region remain among the most severe infectious and inflammatory conditions in oral and maxillofacial practice. These disorders are associated with rapid tissue destruction, pain, restricted oral function, prolonged hospitalization, and a high risk of recurrent infection and systemic complications. The aim of this study was to evaluate the effectiveness of a comprehensive postoperative rehabilitation program in patients with purulent-necrotic complications of the maxillofacial region. A total of 64 patients were observed. The patients were divided into two groups: 32 patients received standard postoperative treatment, while 32 patients underwent an optimized comprehensive rehabilitation program. The program included correction of antibacterial therapy, local wound care, functional exercises, protein-enriched nutrition, and remote monitoring.

Keywords: Maxillofacial region, purulent-necrotic complications, postoperative rehabilitation, wound healing, functional recovery.

INTRODUCTION

Purulent-necrotic processes of the maxillofacial region are clinically important because odontogenic and deep soft-tissue infections can progress rapidly, involve multiple fascial spaces, and lead to severe local or systemic complications. Recent reviews and retrospective studies show that necrotizing soft-tissue infections require prompt recognition and multidisciplinary management, while odontogenic infections remain a frequent cause of hospitalization and resource-intensive care.

In maxillofacial surgery, postoperative recovery in patients with purulent-necrotic lesions is often complicated by tissue ischemia, impaired microcirculation, delayed wound cleansing, recurrent necrosis, and prolonged pain. In severe cervicofacial infections, these factors may substantially worsen outcomes and prolong rehabilitation.

Relevance

The relevance of this study is determined by the need to optimize postoperative rehabilitation in patients with purulent-necrotic complications of the maxillofacial region. Standard postoperative management does not always ensure rapid wound sanitation, early granulation, adequate pain control, and prevention of early complications. At the same time, current perioperative literature emphasizes the value of multidisciplinary recovery pathways, nutritional optimization, and structured postoperative surveillance for improving surgical outcomes.

Materials and Methods

The study included 64 patients with purulent-necrotic complications of the maxillofacial region who underwent surgical treatment. To evaluate the effectiveness of postoperative rehabilitation, all patients were divided into two equal groups. The first group consisted of 32 patients who received standard postoperative treatment according to conventional clinical protocols. The second group included 32 patients who underwent an optimized comprehensive rehabilitation program.

The clinical effectiveness of the rehabilitation program was assessed using several outcome measures. These included the time required for wound cleansing, the time to appearance of granulation tissue, pain intensity according to the Visual Analogue Scale, duration of hospital stay, and the frequency of early postoperative complications. The comparative analysis of these parameters made it possible to determine the clinical value of the optimized rehabilitation strategy.

Results

The application of the comprehensive rehabilitation program was associated with improved postoperative outcomes across all evaluated parameters. Patients in the comprehensive rehabilitation group demonstrated a more favorable course of wound healing and faster overall recovery compared with those who received standard postoperative treatment.

The mean time required for wound cleansing in the standard treatment group was 8.6 ± 1.7 days, whereas in the comprehensive rehabilitation group this indicator was reduced to 5.9 ± 1.3 days. Similarly, the onset of granulation tissue formation occurred earlier in the main group, averaging 8.1 ± 1.6 days, compared with 11.4 ± 2.1 days in the standard treatment group. These findings indicate that the optimized rehabilitation strategy promoted faster local wound repair.

A particularly important finding was the reduction in the rate of early postoperative complications. In the standard treatment group, early complications were observed in 31.3% of cases, whereas in the comprehensive rehabilitation group their frequency decreased to 12.5%. Thus, compared with standard treatment, the optimized rehabilitation program provided faster wound cleansing by 2.7 days, earlier granulation by 3.3 days, lower postoperative pain intensity, and a 4.2-day reduction in hospital stay, while also significantly decreasing the proportion of early complications.

Overall, these results demonstrate that a multimodal rehabilitation approach has a positive effect on both local wound healing and general postoperative recovery in patients with purulent-necrotic complications of the maxillofacial region.

Conclusion

Comprehensive postoperative rehabilitation in patients with purulent-necrotic complications of the maxillofacial region demonstrated clear clinical advantages over standard treatment. The optimized program accelerated wound cleansing and granulation, reduced pain intensity, shortened hospitalization, and lowered the rate of early complications.

The wider introduction of comprehensive rehabilitation protocols into routine maxillofacial surgical practice is advisable.

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