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PREVENTION OF POSTOPERATIVE COMPLICATIONS AFTER COMPLEX TOOTH EXTRACTION

Azimova M.L.,
Baltaev S.B.,
Khajiev Sh.R.,
Suvonov K.J
International Asia University
Urgench RANCH Technological University

Abstract: Complex tooth extraction is one of the most commonly performed procedures in oral and maxillofacial surgery. In particular, the removal of impacted, semi-impacted, and dystopic teeth requires a highly qualified approach, accurate diagnosis, and a properly planned surgical technique. During the postoperative period, complications such as pain, swelling, bleeding, alveolitis, infection, and inflammatory reactions of the soft tissues may occur. This article analyzes the prevention of complications after complex tooth extraction, modern preventive methods, atraumatic surgical techniques, antiseptic treatment, and rehabilitation measures for patients.

Keywords: complex tooth, extraction, complications, alveolitis, prevention, oral and maxillofacial surgery, rehabilitation.

Introduction

The extraction of complex teeth, especially impacted and dystopic wisdom teeth, is one of the most significant procedures in oral and maxillofacial surgery. During such operations, the anatomical position of the tooth, the shape of the roots, its relationship with bone tissue, proximity to neurovascular bundles, and the general condition of the patient are of great importance.

Postoperative complications negatively affect the patient's quality of life, increase pain and discomfort, and may prolong the treatment period. Therefore, the prevention of complications after complex tooth extraction is one of the important tasks of dental practice. Preventive measures include preoperative preparation, atraumatic surgical intervention, strict adherence to the rules of asepsis and antisepsis, as well as proper explanation of postoperative recommendations to the patient.

Aim of the Study

The aim of this study was to investigate the main causes of complications after complex tooth extraction and to analyze modern approaches to their prevention.

Materials and Methods

The study was conducted in 2025–2026 at "YANGIARIQ NEW STOMA SERVICE" LLC, located in the Yangiariq district of Khorezm region. A total of 30 patients aged 18–40 years were included in the study. Complex teeth located in the lower jaw, including impacted, semi-impacted, and dystopic teeth, were extracted.

In addition to standard treatment and preventive measures, povidone-iodine solution was used as an antiseptic agent. Before surgery, the general condition of the patients was assessed, allergic history was collected, and laboratory examinations were performed when necessary. During the surgical procedure, atraumatic surgical techniques were used, and the rules of asepsis and antisepsis were strictly followed.

Table 1

Distribution of Patients Included in the Study by Sex, Age, and Diagnosis

Sex	18–28 years	29–40 years	Impaction	Semi-impaction	Dystopia
Female	9	5	8	5	1
Male	11	5	11	3	2
Total	**20**	**10**	**19**	**8**	**3**

Of the 30 patients included in the study, 14 were female and 16 were male. According to age groups, 20 patients were aged 18–28 years, while 10 patients were aged 29–40 years. According to diagnosis, impaction was detected in 19 patients, semi-impaction in 8 patients, and dystopia in 3 patients.

Applied Preventive Measures

The following preventive measures were applied in the patients included in the study:

1. **Preoperative preparation.**

Before surgery, the general condition of each patient was assessed, allergic history was collected, and additional examinations were performed when necessary. Particular attention was paid to the sanitation of infectious foci in the oral cavity in order to reduce the risk of postoperative infectious complications.

2. **Atraumatic surgical technique.**

When extracting complex teeth, it is important to avoid excessive trauma to bone and soft tissues. For this purpose, minimally invasive methods, microinstruments, and modern surgical technologies were used. These approaches help reduce postoperative pain, swelling, and inflammatory reactions.

3. **Prevention of infection.**

During and after surgery, the rules of asepsis and antisepsis were strictly followed. Povidone-iodine solution was used as a local antiseptic agent. When necessary, antibiotic prophylaxis was recommended, taking into account the patient's general condition, the extent of the surgical procedure, and the risk of infection.

4. **Prevention of alveolitis.**

Preservation of the blood clot in the extraction socket is essential for preventing alveolitis. Therefore, patients were advised not to rinse the mouth vigorously after surgery, not to consume hot food or drinks, not to touch the wound area with the tongue or foreign objects, and to avoid smoking.

5. **Reduction of pain and swelling.**

Cold compresses were recommended during the first 24 hours after surgery. Nonsteroidal anti-inflammatory drugs were used to control pain syndrome. Medications were prescribed taking into account the patient's general condition and possible contraindications.

6. **Patient education.**

Patients were given detailed explanations regarding postoperative care rules. Written recommendations were also provided. Patient compliance with these recommendations is an important factor in proper wound healing and in reducing the risk of complications.

Results

The results of the study showed that a comprehensive preventive approach plays an important role in preventing complications after complex tooth extraction. Preoperative preparation, atraumatic surgical technique, antiseptic treatment with povidone-iodine, measures aimed at reducing pain and swelling, and proper explanation of postoperative recommendations helped reduce the risk of complications.

Clinical observations demonstrated that proper management of the postoperative period contributes to better wound healing, reduction of pain and swelling, and a decreased risk of infectious complications and alveolitis.

Discussion

Postoperative complications after complex tooth extraction depend on several factors, including the anatomical position of the tooth, duration of the operation, degree of tissue trauma, general condition of the patient, and compliance with postoperative recommendations.

Atraumatic surgical technique reduces excessive injury to bone and soft tissues. This helps decrease postoperative inflammatory reactions, pain, and swelling. Proper use of antiseptic agents, including povidone-iodine, is important in the prevention of infectious complications. However, when using antiseptic agents, it is necessary to take into account possible allergic reactions, thyroid diseases, and other contraindications in the patient.

Informing the patient about postoperative care rules is one of the main components of prevention. Vigorous mouth rinsing, smoking, consumption of hot food, or mechanical irritation of the wound area may disrupt the blood clot and lead to the development of alveolitis.

Conclusion

Prevention of postoperative complications after complex tooth extraction requires a comprehensive approach. Preoperative preparation, assessment of the patient's general condition, use of atraumatic surgical techniques, strict adherence to aseptic and antiseptic rules, rational drug therapy, and patient compliance with postoperative recommendations significantly reduce the risk of complications.

The wide implementation of preventive measures in modern dental practice improves the effectiveness of complex tooth extraction procedures, promotes faster patient rehabilitation, and helps reduce the incidence of postoperative complications.

References

1. Zokirov L.Sh., Suvonov K.J., Mannonov J.J. Clinical significance of Stomatofil and Tess paste preparations in reducing inflammatory complications after wisdom tooth extraction. **Bulletin of Fundamental and Clinical Medicine.** 2026; 5(25): 15–22.
2. Stamatov R.I. **Surgical Dentistry.** Moscow, 2021.
3. Robustova T.G. **Surgical Dentistry.** Moscow, 2020.
4. Vercellotti T. **Piezoelectric Surgery in Implantology and Oral Surgery.** Quintessence Publishing, 2020.
5. Troedhan A., Kurrek A. Piezosurgery in Oral and Maxillofacial Surgery. **International Journal of Oral Surgery.** 2021.
6. Pedulla E. et al. Piezoelectric Bone Surgery Compared with Conventional Rotary Instruments. **Journal of Cranio-Maxillofacial Surgery.** 2022.