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IMPROVING THE TECHNIQUE OF COMPLEX TOOTH EXTRACTION USING OSSEOTOUCH

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Abstract: This article analyzes the use of the Osseotouch system, one of the modern piezosurgical technologies, in the practice of complex tooth extraction. In complex extractions, it is important to preserve bone tissue and surrounding soft tissues as much as possible, reduce intraoperative trauma, and prevent postoperative complications. The use of the Osseotouch device provides high precision during complex tooth extraction and improves the effectiveness of the surgical procedure.

Keywords: complex tooth extraction, Osseotouch, piezosurgery, osteotomy, dental surgery, atraumatic extraction.

Introduction

Complex tooth extraction is one of the most common and responsible procedures in dental surgery. In particular, the extraction of impacted and dystopic wisdom teeth, teeth with curved roots, or teeth with hypercementosis may sometimes lead to significant tissue trauma when conventional methods are used. In such cases, postoperative complications such as pain, swelling, trismus, and alveolitis may develop.

In recent years, piezoelectric technologies have been widely introduced into dental surgical practice. The Osseotouch system is an advanced example of this technology and allows highly precise cutting of bone tissue.

Aim of the Study

The aim of the study was to improve the technique of complex tooth extraction using the Osseotouch device and to evaluate its clinical effectiveness.

Materials and Methods

The study was conducted in 2025–2026 at the private dental clinic “Baltayev Family Stom” in Urgench. The Osseotouch device was used in 25 patients aged 18–40 years who had indications for complex extraction of impacted and semi-impacted mandibular third molars. All patients underwent clinical and radiological examinations before surgery.

Table 1

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

Sex	18–28 years	29–40 years	Impaction	Semi-impaction
Female	10	2	10	2
Male	7	6	9	4
Total	**17**	**8**	**19**	**6**

The surgical procedure was performed in the following stages:

1. Local mandibular block and infiltration anesthesia were administered.
2. Access to the impacted tooth was obtained by raising a mucoperiosteal flap.
3. Atraumatic osteotomy of the bone tissue was performed using the Osseotouch device.

4. In some cases, the tooth was sectioned when necessary.
5. The tooth was extracted using elevators and forceps.
6. The extraction socket was inspected, and sutures were placed on the wound.

Results and Discussion

The results of treatment in the patients included in the study were evaluated according to the duration of the operation, preservation of bone tissue, degree of soft tissue trauma, reduction of pain and swelling, and the presence of postoperative inflammatory complications.

The use of the Osseotouch device resulted in the following clinical advantages:

- improved preservation of bone tissue during surgery;
- reduced trauma to the surrounding soft tissues;
- shortened duration of the surgical procedure;
- decreased postoperative pain and swelling;
- lower incidence of alveolitis and other inflammatory complications.

Due to its piezoelectric effect, the Osseotouch device acts primarily on mineralized tissues and reduces the risk of injury to blood vessels, nerves, and mucous membranes. This is especially important during the extraction of wisdom teeth located close to the mandibular canal.

The use of atraumatic osteotomy allows the surgeon to work more precisely in anatomically difficult areas. Compared with conventional rotary instruments, piezosurgical technology provides better control of the surgical field and reduces the risk of accidental damage to adjacent soft tissues. Therefore, the use of Osseotouch may be considered a clinically justified method in complex mandibular third molar extractions.

Conclusion

Osseotouch technology significantly improves the procedure of complex tooth extraction. It ensures atraumatic surgical intervention, helps preserve bone and soft tissues, and reduces postoperative complications. Therefore, the use of the Osseotouch device in complex tooth extraction can be considered one of the promising directions in modern dental surgery.

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