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EXPERIENCE OF USING OSTEOPLASTIC MATERIALS FOR PREVENTING BONE ATROPHY AFTER TOOTH EXTRACTION IN WOMEN

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Abstract: This article is devoted to the use of osteoplastic materials for the prevention of bone tissue atrophy after tooth extraction surgery and the assessment of their effectiveness, as well as the determination of optimal conditions for their use. The study showed that the use of these materials allows preventing physiological bone tissue resorption under optimal conditions.

Keywords: osteoplastic materials, tooth extraction, bone tissue atrophy.

INTRODUCTION

The modern stage of development of dentistry is characterized by rapid improvement of methods of replacement of defects of dental rows. Dental implantation has acquired a special role in clinical practice over the last decades [1], in connection with which dentists have faced complex tasks of preservation of surrounding soft tissues and prevention of bone tissue atrophy after tooth extraction. It is known that under functional load in the alveolar bone the process of remodeling constantly occurs: the bone is constantly renewed as a result of resorption and neoplasm.

MATERIALS AND METHODS

Bone resorption occurs under the action of osteoclasts, and new bone matrix is deposited by osteoblasts. The predominance of bone resorption is possible if the bone is subjected to a load that exceeds physiological values in strength and duration. However, the absence of a load on the alveolar bone in the area of a tooth defect after its extraction also leads to bone tissue atrophy. The literature discusses various methods for the prevention of bone tissue atrophy, such as the “root immersion” technique, direct implantation using osteoplastic materials, and orthodontic extrusion [2]. Some authors discuss this issue about the choice of osteoplastic material - auto- or allo-bone, xeno- or alloplastic material, and directed tissue regeneration [3]. Predictable achievement of the optimal treatment result to eliminate the alveolar bone defect after tooth extraction surgery is a pressing issue.

RESULTS AND DISCUSSION

The patients were aged from 19 to 55 years. Of these, 23 were men and 39 were women. All patients were relatively healthy at the time of tooth extraction. A total of 67 teeth were extracted: 52 due to chronic periodontitis and 15 due to longitudinal root fracture.

Under local anesthesia, the tooth extraction was performed atraumatically using an Implantmed drill with a physiodispenser, periotomes and microsurgical instruments. The

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walls and bottom of the socket were examined using a periodontal probe, and the condition of the soft tissues was visually assessed.

According to the classification, there are 4 types of tooth socket defects.

Type 1 - a clean socket of a single-root tooth with intact walls, wall thickness> 1 mm. Thick gingival biotype.

Type 2 — socket of a single-root or multi-root tooth with minor destruction of the walls, partition — 2 mm, thickness of the buccal cortical plate not < 1 mm. Thin gingival biotype.

Type 3 — destruction of one or two socket walls from 3 to 5 mm. Thin or thick gingival biotype.

Type 4 — characterized by the presence of destruction of the socket walls> 5 mm. Thin or thick gingival biotype.

This classification allowed us to choose the optimal treatment plan in each individual clinical case.

Using a random sample, patients were divided into 3 groups after tooth extraction:

Group 1 included 20 patients in whom healing and osteogenesis occurred from a blood clot;

Group II included 21 patients who had their tooth socket defect filled with Bio-Gen Putty bone paste immediately after extraction without separating the mucoperiosteal flap. A cross-shaped suture was applied to the edges of the socket. This xenomaterial is obtained on the basis of horse bone and type I collagen with deantigenization, i.e. with the removal of antigens of animal origin. Group III — 19 patients who had colapol KP-3 inserted into the tooth socket defect immediately after extraction without separating the mucoperiosteal flap. Colapol KP-3 belongs to the group of alloplastic materials based on calcium hydroxyapatite and collagen.

In patients of group I, in 9 cases the parameters were within + 720 H units, in 11 cases — within + 745 H units.

In patients of group II, complete biodegradation of the material in the area of the socket defect was visualized in 19 cases, the bone density was within + 950 H units, and in 2 cases the material biodegradation did not occur completely, the bone density was within + 660 H units.

Results of CT of group III: in 14 patients — the bone density in the area of socket defects was + 790 H units, and in 5 patients — 610 H units.

Analyzing the obtained data from the clinical examination of patients and CT, it was possible to evaluate the effectiveness of the use of osteoplastic materials for the prevention of bone tissue atrophy after tooth extraction.

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During clinical examination of patients of groups I, II, III after 2 months, complete epithelialization of soft tissues in the area of the sockets of extracted teeth and painless palpation were noted. The results of computed tomography (CT) were assessed in patients of groups I, II, III after 6 months. The Hounsfield scale was used to determine the bone density at the site of the socket defect.

CONCLUSION

The use of osteoplastic material in a fresh tooth socket is possible only in the absence of an acute or chronic process in the exacerbation stage of the causative tooth and with atraumatic performance of surgical intervention.

One of the optimal conditions for achieving successful results of surgical treatment of patients with a thin biotype is the use of osteoplastic materials to preserve soft and bone tissues in the area of \u200b\u200bextracted teeth.

The use of osteoplastic materials to replace socket defects after tooth extraction allows preventing physiological resorption of bone tissue.

REFERENCES

1. Ivanov S. Yu., Kuznetsov G. V., Chailakhyan R. K., Panasyuk A. F., Larionov E. V., Panin A. M. Clinical implantology and dentistry. SPb; 2011; 3-4 (17-18): 37-40.

2. Kirilova I. A., Sadovoy M. A., Podorozhnaya V. T. Comparative characteristics of materials for bone grafting. Composition and properties // Spine surgery.–3, 2012.— P. 72-83.

3. Amler MH. The time sequence of tissue regeneration in human extraction wounds. Oral Surg Oral Med Oral Pathol 2014; 27 (3): 309-18.

4. Araujo MG, Lindhe J. Dimensional ridge alterations following tooth extractions. An experimental study in the dog. J Clin Periodontol 2015; 32: 212-8.