ANALYSIS OF LONG-TERM RESULTS OF IMPLANTATION IN PATIENTS WITH OSTEOPOROSIS DURING MENOPAUSE

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Annotation

Frequent referral of elderly patients, especially women, for removal of dental defects with the use of implants makes this problem especially important because asymptomatic, inconspicuous course of osteoporosis can be the cause of complications during treatment with the use of intraosseous implants.

Keywords: osteoporosis, systemic osteoporosis, dental implantation, menopause

Introduction

According to the World Health Organization, one of the most important public health problems is osteoporosis, which ranks fourth in importance after cardiovascular diseases, cancer and diabetes mellitus (WHO; 2018). Due to its multifaceted nature, this pathology affects doctors of all specialties, and diagnosis of local manifestations of systemic osteoporosis in the jaw bone tissue is also an urgent problem for dentistry. This is due primarily to the increasing prevalence of systemic osteoporosis, both in Europe and in America (Rozhinskaya L.Y., 2017; Mulligan R., Sobel S., 2015). It has been established that the violation of the structure'and function of the alveolar bone at osteoporosis extremely negatively affects the state of the periodontium (Povoroznyuk V.V. et al., 2013; Mukhamedjanova L.R., 2015; Shtorina G.B. et al., 2015), due to which, in combination with other adverse factors, contributes to accelerated tooth loss. Subsequently, rapidly progressing atrophy of the alveolar processes of the jaws significantly complicates orthopedic treatment with intraosseous dental implants (Kulakov A.A. et al., 2013; Guluk A.G. et al., 2016).

Assessment of the initial state of bone tissue is important not only for the placement of implants in accordance with the chosen treatment plan, but also to predict the results of their osseointegration (Becker W. et al., 2020; Chuang S. et al., 2012). Until recently, systemic connective tissue diseases were a

contraindication for implantation (Ivanov S.Y. et al., 2013), although it is believed that osseointegrated contact between the surface of the unloaded implant and the surrounding bone tissue is also possible in osteoporosis (Soroka I.F., 2016). However, the effectiveness of implantation in such cases is very doubtful (Langer B. et al., 2013), since a decrease in bone mineral density and changes in its metabolism often leads to increased destruction processes, which leads to pathological bone remodeling (Baxter J., Fattore L., 2013).

Research methods: To assess the results of orthopedic treatment with the use of dental implants in patients with osteoporosis, we invited patients with very low bone density (200 to 500 units on the Hounsfield scale) and jawbone osteoporosis of varying severity at the preoperative stage, according to spiral CT scanning. Out of 60 patients who underwent dental implant surgeries, we were able to examine 53 patients who received a total of 96 implants, while 7 people did not show up for the examination for one reason or another.

Analysis of the results of implantation in different types of jawbone architectonics showed that in patients with osteoporosis, only 66% of implants retained the ability to function within 1.5 to 10 or more years after intraosseous implantation surgery, whereas in cases of normal jawbone architectonics, the implant efficiency was 95%.

As a rule, the main cause of disintegration was the development of inflammation around the implant (peri-implantitis) or the occurrence of implant mobility without symptoms of inflammation. In the pre-functional period, 13% of all implants were removed, including 6% because of peri-implantitis and 7% because of functional instability without signs of inflammation. B

In the early functional period, 21% of implants were removed, including 12% because of inflammation in the surrounding tissues and 9% because of functional instability without signs of inflammation. Implant disintegration occurred more frequently on the upper jaw (of the total number of lost implants, 58% were removed just on the upper jaw).

Complications often occurred because the existing contraindications were concealed by the patient or underestimated by the physician in the preoperative phase. In some cases, due to a desire to help the patient, surgery was performed when there were obvious contraindications to implantation, despite the high risk of implant disintegration.

The complications were also caused by mistakes made at the stage of preoperative examination of patients when a decision was made about the possibility of implantation under unfavorable anatomical conditions. This was due to an insufficiently complete examination of the patient. The condition of the jaw bone tissue was assessed using radiological methods of examination, which did not

always provide complete and reliable information on the structure and mineral density of the bone tissue. Unfortunately, ultrasound densitometry of the jaw bone tissue was not performed in these patients at the stage of preoperative diagnosis.

At the postoperative stage in patients with osteoporosis the conditions for full-fledged bone regeneration were not always observed, although the absence of proper implant fixation in the bed was an indication for extending the period of implant exclusion from function to 6-8 months.

To study the bone quality in the implantation sites the orthopantomography and ultrasound densitometry of the jaw bones were performed in this group of patients.

According to the X-ray findings, 21% of the patients with functioning implants showed the horizontal bone resorption in the area of bone-implant interface up to 1 mm in size. In 56% of patients, horizontal resorption was 1 to 2 mm. In 23% of patients the radiographically visible resorption was greater than 2 mm.

Results of the study: When analyzing the results of ultrasound densitometric study in patients with low radiological bone density and local osteoporosis the speed of sound wave passage was reduced by 30-60% as compared' with the group of patients without systemic bone tissue pathology. The obtained data allow to judge about decrease of jaw bone substance quantity in the volume unit in patients with osteoporosis and about changes of its qualitative composition - ratio of organic and mineral components.

Study of mechanisms of cervical osteolysis of bone tissue around implants is one of the most important tasks at the current stage of implantology development.

The conducted research of the influence of the degree of mineralization on the osteolysis processes in the peri-implant zone showed the following. The smallest sizes of vertical and horizontal cervical osteolysis were noted in the persons with the reduction of mineralization degree not more than 30% of the physiological norm. Moderate cervical osteolysis was noted in persons in the group with a decrease in the degree of bone mineralization from 30% to< 50% of the physiological norm. Progressive cervical osteolysis was detected in patients with demineralization processes over 50% of the physiological norm.

It was found out that in patients with bone tissue demineralization in the implantation sites up to 30% of the physiological norm all the implants were stable. When the degree of mineralization of the jaw bones decreased by 50% or more, a significant percentage of the implants failed to integrate and were subsequently removed.

Based on this study, a direct correlation between the degree of mineralization and calcium content and the processes of osseointegration and the size of cervical osteolysis can be traced. In this regard, we can conclude that the degree of

mineralization and calcium content in the jaw bone tissue in the preoperative period is a prognostic criterion for dental implantation.

However, as retrospective studies have shown, the scheme of examination of patients with systemic osteoporosis, the algorithm for choosing the optimal implant design and methods of their use in patients with osteoporosis have not been developed so far, so implant treatment proves to be insufficiently effective.

patients with osteoporosis in implantation. In patients requiring orthopedic treatment with dental implants there is almost no specific diagnosis of osteoporosis, and when this pathology is identified, doctors often have to refuse to perform surgery because of the high risk of complications.

Conclusions: Elimination of the above drawbacks, improvement of the implantation technique, development of an adequate scheme of perioperative pharmacological therapy in patients with systemic osteoporosis will significantly increase implantologist's capabilities, expand indications for this method of treatment, reduce the risk of complications. Ultimately, this will allow for much less frequent refusal of

List of literature:

1.Rizzoli R., Bianchi M.L., Garabédian M., McKay H.A., Moreno L.A. Maximizing bone mineral mass gain during growth for the prevention of fractures in the adolescents and the elderly // Bone. 2010. Vol. 46. № 2. P. 294–305.

2. Eisman J.A. Pharmacogenetics of the vitamin D receptor and osteoporosis // Drug Metab. Dispos. 2019. Vol. 29. № 4. Pt. 2. P. 505–512.

3. Adams Hillard P.J., Nelson L.M. Adolescent girls, the menstrual cycle, and bone health // J. Pediatr. Endocrinol. Metab. 2003. Vol. 16. Suppl. 3. P. 673-681.

4. Smetnik V.P. Postmenopausal osteoporosis // Medicine climacteria / Ed. V.P. Smetnik. Yaroslavl: LLC "Publishing House Litera", 2016. pp. 656-686.

5. Lindsay R., Kleerekoper M. Estrogens for the prevention of osteoporosis / Ed. by R. Lindsay // Drugs Osteopor. 2005. P. 1–27.

6. Davas I., Altintas A., Yoldemir T., Varolan A., Yazgan A., Baksu B. Effect of daily hormone therapy and alendronate use on bone mineral density in postmenopausal women // Fertil. Steril. 2003. Vol. 80. № 3. P. 536–540.

7. Devine A., Prince R.I., Dhalival S.S. et al. Results of a 5year double blind, placebo controlled trial of calcium supplementation (CAIFOS): bone density outcomes // J. Bone Miner. Res. 2004. P. SA416.

8. Grados F., Brazier M., Kamel S., Duver S., Heurtebize N., Maamer M., Mathieu M., Garabédian M., Sebert J.L., Far- dellone P. Effects on bone mineral density of

calcium and vitamin D supplementation in elderly women with vitamin D deficiency // Joint Bone Spine. 2003. Vol. 70. No. 3. P. 203-208.

9. Achilova N.G. Pulatova B.J. "Pre-operative training of patients with osteoporosis during premenopause when planning dental implantation" 2021.12.29 central asian journal of medicine No. 11; 47-58p

10. Achilova N.G. Pulatova B.J. "To the question of preparation of patients with osteoporosis during the premenopause when planning dental implantation" 2022/1/17oriental journal of medicine and pharmacology No. 10 82-92 p https://www/supportscience.uz / index.php./odmp.

11. Achilova N.G. Pulatova B. J. "Medical correction in the planning of dental implantation in patients with osteoporosis in the menopausal period". Materials of the international scientific and practical online conference "Actual problems of maxillofacial surgery" Tashkent 2021 No. 3 pp 56-59.