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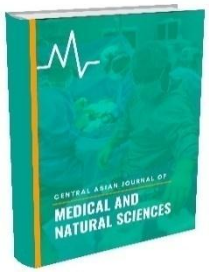

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Assessment of the Quality of Prosthetics for Dental Implants using Early Functional Loads

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Аннотация: Practice shows quite a large number of unsuccessful implantations in the early and, especially, long-term period of implant functioning. The analysis of such complications reveals a certain significance in the appearance of complications of such factors as the number of implants, their size, shape, surface structure; the amount of bone tissue around the implants and its architectonics; the degree of primary stability of implants; the timing of implantation surgery after tooth extraction and the beginning of prosthetics; design features of prostheses [2.4.6.8].

Ключевые слова: Prosthetics, Functional Loads.

When planning the features of the application of the dental implantation method, it seems necessary to comprehensively assess the state of the pmgiuitates for the prevention of negative consequences. related to the inadequate choice of tactics and strategies of orthopedic treatment of the patient using dental implants.

In this regard, it is necessary to integrate all known methods for assessing both the state of bone tissue in the field of implantation and the stability of the implant at all stages of control: before and at the time of implantation surgery, during the healing and osseointegration of the implant, at the time of the start of prosthetics, during dispensary examinations after the end of prosthetics. There is a need to clarify the diagnostic and prognostic capabilities of methods that are carried out directly at the dental chair (such as visiography, periotestometry, gnathodynamometry, and especially new methods for analyzing the stability of implants, such as TORC testing and frequency resonance testing using the Ossteü Mentor apparatus) in comparison with radiography data [1.3.5.9].

It is necessary to establish and study parallels between the results of these diagnostic methods, as well as clinical data and the results of biomechani cal patterns according to three-dimensional mathematical modeling.

The success of dental implantation is largely ensured by the correct determination of the indications for its implementation and the choice of the optimal implant design. The most common today is the technique of intraosseous implantation. Progressive atrophy of the supporting bone of the alveolar

process of the jaws is usually associated with the removal of teeth of a natural bite. The factor leading to bone atrophy is considered to be the loss of a constant intraosseous masticatory load, in connection with which the bone adapts to new conditions by reducing its size and changing its quality.

The quality and quantity of bone tissue is one of the reliable parameters of successful orthopedic treatment of patients using dental implants. In fact, these parameters determine the processes of bone healing, and the degree of osseointegration of the implant to the jaw bone.

Thus, the problem of bone tissue restoration after the installation of implants, as well as the impact on dental implants of functional chewing loads after dental prosthetics remains relevant today.

The purpose of the study: To study the processes of bone tissue healing in the area of various implants from early functional load on the basis of clinical and radiological studies.

Research objectives:

1. To study the dynamics of bone tissue healing in the area of intraosseous screw implants by orthopantomometry.
2. To study the dynamics of changes in blood supply in the area of missing teeth after the installation of intraosseous implants by laser Doppler flowmetry (LDF).
3. To conduct a comparative analysis of the obtained indicators of orthopantomometry of bone tissue at various times after prosthetics with bridge prostheses based on various implants.

Research materials.

The clinical part of the work will be performed based on the examination of the following groups of patients:

group 1 – 24 patients with small defects in the dentition of the lower jaw, who had intraosseous screw implants installed.

Group 2 consisted of 36 patients with minor defects in the dentition of the lower jaw, who had dentures fixed 1 month after implantation.

The control group will consist of 12 people with intact dentitions.

Research methods:

1. Clinical and stomatoscopic
2. x-ray examinations
3. Laser Doppler flowmetry (LDF)

These methods will be carried out by us in all patients in dynamics in 1 month, 3 months, 6 months, 9 months, and 12 months.

Based on the planned studies, the use of the technique of early functional load on the intraosseous dental implant will be recommended, which stimulates the processes of bone healing at an earlier time.

Conducting clinical and functional studies, namely, X-ray and LDF, contributes to reliable and objective diagnostics, which helps to identify patients with relative indications and planning additional therapeutic and preventive measures in order to reduce the severity of negative reactions to implantation and accelerate the healing process. Functioning intraosseous implants display certain indicators of clinical radiological and functional examination methods (periotestometry, gnathodynamometry, echosteometry, torc testing and frequency resonance analysis of implant stability). Among them, the most informative and prognostic value are: clinical diagnosis of

inflammation manifestations in periimplant tissues, X-ray assessment of the degree of bone resorption around the cervical region of the implant, frequency resonance testing of implant stability [11.12.13].

Clinical conditions and the values of diagnostic tests at the beginning of the functioning of implants can be regarded as risk factors for reducing the expected effectiveness of dental implantation. The main ones are: the presence of periodontal diseases, insufficient oral hygiene, smoking, bone type D4 according to the classification of C. Misch, the torc test index when installing the implant is less than 30 N / cm2; bone density according to echosteometry is less than 0.300 cm / mks; the endurance of the implant to a load of less than 140N according to gnathodinamometry; the periotestometry index is about (-1.0); the stability of the implant according to frequency resonance testing is below 60 units 18<2. In different periods of implant functioning, the diagnosis and prediction of complications is based on a deviation from the average values of diagnostic methods (nomograms) established for different clinical conditions and control periods [7.10].

Diagnostic tests of successful and failed implants are typical for clinical evaluation of periimplant tissues, X-ray examination of bone resorption around the neck of the implant, frequency resonance analysis of implant stability. The practical application of periotestometry and gnathodynamometry for the detection of implantation complications has disadvantages, and echosteometry is not informative enough.

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