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FIXED PROSTHETICS ON DENTAL IMPLANTS

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ANNOTATION

Orthopedic treatment of partial and complete adentia is prosthetics on dental implants. The development of methods is on the way to reduce injuries, reduce costs, reduce waiting times for the end of treatment and increase the service life of structures. The purpose of this study was to analyze the effectiveness of prosthetics on implants in partial and complete adentia. The object of the study was 42 patients with partial or complete adentia. Prosthetics were performed after the method of one-stage or two-stage implantation of implants. The development of methods of prosthetics on implants is on the way to reduce injuries, reduce costs, and reduce waiting times end of treatment and increase the service life of structures.

Keywords: fixed prosthetics, secondary adentia, dental implants, treatment, antimicrobial agent, osteointegration.

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НЕСЪЕМНОГО ПРОТЕЗИРОВАНИЯ НА ДЕНТАЛЬНЫХ ИМПЛАНТАТАХ

АННОТАЦИЯ

Ортопедического лечения частичной и полной адентии является протезирование на дентальных имплантатах. Развитие методов идет по пути уменьшения травматичности, снижения стоимости, уменьшения сроков ожидания окончания лечения и увеличения срока службы конструкций. Целью настоящего исследования

явился анализ эффективности протезирования на имплантатах при частичной и полной адентии. Объектом исследования служили 42 пациента с частичной или полной адентией. Протезирование осуществлялось после проведения метода одноэтапного или двухэтапного вживления имплантатов. Развитие методов протезирования на имплантатах идет по пути уменьшения травматичности, снижения стоимости, уменьшения сроков ожидания окончания лечения и увеличения срока службы конструкций.

Ключевые слова: несъемного протезирования, вторичная адентия, зубные имплантаты, лечение, противомикробное средство, остеоинтеграция.

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DENTAL IMPLANTATSIYADA OLIB QO`YILMAYDIGAN PROTEZLASH

ANNOTATSIYA

Dental implantatsiyada qisman va to'liq adentiyali tishlarni ortopedik davolash bu protezlashdir. Usullarning rivojlanishi - shikastlanishni kamaytirish, harajatlarni kamaytirish, davolanish muddatini qisqartirish va tuzilmalarning xizmat muddatini uzaytirish yo'li bilan amalga oshiriladi. Ushbu tadqiqotning maqsadi qisman va to'liq adentiyada implantlarda protez samaradorligini tahlil qilishdir. Tadqiqot ob'ektida qisman yoki to'liq adentiyaga ega bo'lgan 42ta bemor olindi. Protezlash bir bosqichli yoki ikki bosqichli usulda implantlar qo`yilganidan keyin amalga oshirildi. Implantlarda protezlashda - usullarini ishlab chiqish, shikastlanishni kamaytirish, harajatlarni kamaytirish, kutish vaqtini qisqartirish samaradorligi amalga oshiradi.

Kalit soz: olib qo`yilmaydigan protezlash, ikkilamchi adentiya, tish implantatlari, davolash, antibakterial moddalar, osteointegratsiya.

Relevance. Mass infection of the modern population with dental diseases such as caries and periodontitis leads to the loss of a significant number of teeth, starting from an early age. Analysis of data on the frequency of dental defects in the adult population of the Republic of Uzbekistan showed that partial and complete secondary adentia occurs in 68.8% of the examined patients. At the same time, the largest percentage of missing teeth by group affiliation were molars (70.2%).

The appearance of defects in the dentition contributes to the violation of its integrity, which means that the performance of functions, including chewing and aesthetic]. Restoration of dentition is performed most often by orthopedic means or is not performed at all. The objective reasons for the latter fact can be considered fear of extensive interventions, unwillingness to "grind" healthy teeth, high cost of work, insufficient duration of use of prostheses. Currently, methods that can provide an alternative to orthopedic prosthetics are being used and improved. Designs on implants implanted in the alveolar bone are becoming increasingly popular. Despite the vast number of publications that still cover various aspects of the theory and practice of implantology, there are still little-studied questions that require answers. In particular, data on the need

for such treatment in certain age groups, the frequency of errors and complications are poorly covered. There is clearly insufficient information about the role of the dentist in the preparation and management of patients with implants and subsequent prosthetics.

A number of people who have removable dentures in the oral cavity refuse to perform two-stage implantation, which is performed in several surgical stages and requires a long waiting time, usually from 6 months or more.

The method of one-stage implantation with immediate loading allows the patient to install implants and fixed orthopedic structures without the use of bone augmentation and sinus lifting, directly into the wells of the removed teeth after the operation of their removal. Prosthetics are performed within 3-7 days after surgery. However, old age is not a contraindication for this type of implantation.

Purpose of research. Analysis of the effectiveness of prosthetics on implants in partial and complete adentia.

Material and research methods. The object of the study was 62 patients who underwent implantation operations in the surgical room followed by the installation of fixed prostheses. A total of 143 implants were introduced. Single-stage implantation surgery was performed in 45 patients who had 95 implants integrated, 17 patients had two-stage implantation and 48 implants integrated.

In the study groups, women made up 48%, men-52%, while 47.5% - patients under the age of 45 years, 52.5% - over 45 years. About 50% of individuals suffered from complete secondary adentia, 46% had chronic generalized periodontitis, with partial adentia, the included defects of the dentition were 41.9%, and the end defects were 58.1%. Determination of indications for the choice of treatment method in each case was carried out after a diagnostic assessment: anamnesis (General, special); examination of soft and hard tissues; assessment of dental and periodontal status; functional diagnostics; analysis of models; radiography.

We studied the causes of tooth loss (caries, periodontopathies, trauma, tumor); the prognosis of implantological intervention depending on the cause of tooth loss; the prognostic assessment of teeth preserved in the bite and their orthopedic significance in conjunction with the implantation prognosis. A General treatment plan was drawn up. The plan of orthopedic treatment is focused on restoring lost structures, functions and aesthetics; preventing the progression of pathological processes; preserving existing tissue structures (hard tooth tissue, bone, soft tissue); long-term functional usefulness of the orthopedic structure; the possibility of extending the prosthetic structure in the future. Since the service life of implants largely depends on the hygienic state of the oral cavity, an important role was given to training in individual hygiene. Self-care products for patients with implants can significantly facilitate the removal of plaque.

The main means of self-hygiene is a soft toothbrush, and it can be both manual and mechanical. Plaque in the interdental spaces can be removed using regular dental floss (floss, superfloss), nylon thread, mono beam brush, or other devices that can also be threaded under the prosthesis and remove plaque around the abutments. Irrigation devices (in the minimum power mode) facilitate the removal of food residues from under and around the prosthesis. Antimicrobial mouthwashes (for example, with chlorhexidine and loraben 200ml) can reduce the formation of plaque over the gums.

For cleaning implants, it is not recommended to use pastes, mouthwashes and deodorants for the oral cavity that contain chlorine in the ionized state - halogen-containing toothpastes. For professional oral hygiene in the area of implants, the least abrasive methods of removing dental deposits were used. For manual removal of deposits,

curettes and skelers were used, the working parts of which are made of plastic, nylon or special alloys.

One of the ultrasound devices recommended for professional hygiene in the field of implants is the Vector-system (Durr Dental). In addition, this ultrasonic dental system is designed for supporting the treatment of inflammatory periodontal diseases (hygiene of the periodontal pocket), and the removal of supragingival dental deposits. Removal of dental deposits from the implant surface was performed with a set of carbon fiber tools (black) in combination with a polishing liquid based on hydroxyapatite. Subsequent treatments with carbon instruments (maintenance therapy) were performed no earlier than 3 months later.

According to the indications, methods of one - or two-stage dental implantation were performed.The list of necessary equipment, reagents, medications, and medical devices includes a dental unit, a physiodispenser, a standard set of dental instruments, monolithic and two-component implants, bone-expanding screws, installation tools and auxiliary devices, and an x-ray machine.

It was planned to fill out a detailed outpatient dental card with a detailed examination of the patient and establish the reason for treatment, determine the state of General health in order to identify risk factors for local anesthesia, and determine the allergological status to exclude allergic reactions to local anesthetics. The choice of design was influenced by the volume of the preserved bone, the contours of the alveolar ridge, and the intended location of the implants. You can expect a positive effect of treatment with a normal occlusal ratio of the jaws and a sufficient height of the alveolar ridge.

A General plan for the patient's treatment was drawn up based on the results of the examination, including therapeutic preparation of teeth before prosthetics. Conducted professional hygiene of the oral cavity. The patient was trained in implant care and signed a reasoned consent. It was planned to install implants directly into the wells of the removed teeth, as well as in the intact alveolar bone.

Orthopedic planning included determining the location of the implants, the optimal height of the artificial crowns, and the possibility of hygienic care for the prosthesis. Surgical placement of implants was focused on the planned orthopedic design.

The operation was performed in accordance with the rules of asepsis and antiseptics in the conditions of the surgical room (operating room). Before surgery, rinse the mouth with a 0.05% solution of chlorhexidine or loraben 200ml. the same drug is used to treat the red border and the skin around the lips.

Anesthesia was provided by local (conductor, infiltration) anesthesia. The correct position of the implants it is determined visually or by a surgical template. The operation was performed in accordance with the Protocol of surgical intervention. The main objective of orthopedic treatment was recovery chewing function, which required the creation of optimal contact surfaces. The immediate load is based on production of an orthopedic structure with a rigid fixation in the next 3 days after surgery.

Metal-plastic prostheses are convenient orthopedic structures that can be easily corrected and repaired in the oral cavity, so they are used as temporary prostheses. As permanent structures, after 6 months, metal-ceramic or highly esthetic, compatible with soft tissues of the oral cavity, zirconium prostheses.

Results and discussion. The patients were examined after a week, 1, 3, 6 months, and a year. During the observation period, occlusion correction and professional oral hygiene were performed. After 6 months, mandatory control orthopantomography was performed, and if necessary, patients were sent for 3D studies. The second stage of prosthetics was

performed after 6 months with the replacement of temporary structures with metal-ceramic ones. All patients were registered at the dispensary for dynamic monitoring.

The main criteria for evaluating the state of the dental implant in the bone tissue were considered:

1) the degree of mobility of the implant;
2) the presence of bone damage;
3) the degree and rate of bone atrophy;
4) condition of the mucous membrane adjacent to the implant;
5) the depth of the pocket between the implant and the mucosa;
6) the quality of the implant's fit to adjacent teeth;
7) the effectiveness of functional load;
8) the ratio of the implant and anatomical structures.

When evaluating the quality criteria for installing dental implants in the postoperative period (7-14 days after surgery), subjective criteria were taken into account: pain from minor soreness to severe localized pain.

When evaluating the quality criteria for installing dental implants (3-4 months after surgery), we performed a subjective assessment of pain; clinically determined the degree of soft tissue edema, inflammatory phenomena in the area of implant placement, bleeding of the gingival mucosa during probing, and monitored the mobility of the implant, the presence of plaque was evaluated. The degree of implant engraftment in the bone tissue (orthopantomography, dental program, or cone-beam computed tomography) was determined during the radiological examination.

The following parameters were used for radiological diagnostics: bone tissue is tightly attached to the implant surface; there is no bone tissue in the implant area for two turns of thread; horizontal resorption of bone tissue for 1/2 of the implant length; vertical unilateral resorption of bone tissue.

The results of the postoperative examination (7-14 days) showed that in 55% of cases, patients experienced minor pain, and in 45% -localized pain. The presence of soft tissue edema localized in the area of implant placement was observed in 75% of cases, and in 25% - edema in the area of implant placement and the mucosa of the alveolar process of the jaw.

In 77% of cases, hyperemia of the mucous membrane in the area of the dentoalveolar papilla was registered, in 23% - hyperemia of the marginal edge with bleeding during probing. An objective examination found that in 100% of cases, the mobility of the implants was not observed.

Examination of the aesthetic condition of the dentition showed that the color and shape of the artificial crown is not broken. After the operation, in the control period of 3-4 months, there were no pain, no inflammatory phenomena were observed, the implants were stationary, the bone tissue was tightly attached to the entire surface of the implant, hygiene the oral cavity is on average satisfactory in terms of ONI-S, and there are no signs of mucositis or perimplantitis.

In one case of two-stage implantation, osteointegration did not occur, vertical unilateral bone resorption was registered on the x-ray, pronounced implant mobility, edema and hyperemia of the gum and mucosal tissues were clinically determined, the implant was located in soft tissues and was removed.

Evaluation of the quality criteria for installing dental implants after 6 months showed that during two-stage surgery in the long term, patients had no pain, no inflammatory phenomena were observed, the implants were motionless, and the bone tissue was tightly

attached to the entire surface of the implant.

During a single-stage operation, pain and inflammation were also not observed, the implants were stationary, and the bone tissue was tightly attached to the entire surface of the implant.

The assessment of the aesthetic state indicated that the color and shape artificial crowns are not broken, orthopedic supra-constructions with - when stored, still fixed, occlusion is uniform. The analysis of the state of prostheses in the observation period from 6 months to 1 year after performing operations, he testified that the frequency of requests for implant removal as a result of the absence of osteointegration was 1.04% of cases. The use of basal implantation allows for the installation of implants without exfoliation of the Muco-periosteal flap (transgingival), as well as directly into the wells of the removed teeth after deleting them. This method is a minimally invasive method of surgical treatment, which can significantly reduce the time of the postoperative period and the patient's disability.

Conclusion. According to the world health organization, there is a steady increase in the number of people with complete or partial loss of teeth among people of working age. In addition to impaired chewing and speech functions, adentia leads to changes in the anatomical and topographic proportions of the face and facial skeleton, progressive atrophy and osteoporosis of the jaws, atrophy of the masticatory and mimic muscles, dysfunction of these muscles and temporomandibular joints.

Thus, the treatment of people suffering from adentiais not only an urgent interdisci plinary task of therapeutic, orthopedic and surgical dentistry, but also a social problem. Rehabilitation tasks should include: restoring the function of chewing and speech; prevention of atrophy and osteoporosis of the jaws; maximum possible reduction in the terms of functional adaptation of patients to dentures; creating conditions for effective social adaptation patients with complete adentia.

The solution of these problems can be carried out only taking into account the pathogenesis of morphological and functional changes in the dental system that are the result of the loss of teeth.

The use of intra-osseous implants for fixing dentures increases chewing activity compared to traditional removable prosthetics by 19-44%, and also allows you to almost completely restore the motor and tonic activity of the chewing muscles.

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