THE METHOD OF CLINICAL TRIAL OPTIMIZATION AT ORAL OSTEOPLASTIC SURGICAL INTERVENTION

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Materials and methods.

Westernized conditions of bone segment preparation influenced the function of the patients. Three cases after the previous implantation and 20 cases of experimental group. The study was conducted in the orthopedic surgery laboratory at the University of Veterinary Medicine, Department of Prosthetics and Orthotics, Germany (Head: Prof. P. Fochuk). The digital dental radiography images (Nikon D100 digital camera) were analyzed. We used a specialized software, such as Digora ORAD (Olympus, Germany) or Digora OPTIM (Olympus, Germany), which performs panoramic x-rays and orthopantomography. A standardized protocol in all cases was applied. The implantation was performed by our surgeons using the surgical template of the device for dental navigation "NaviGuide" (Kantar, Ukraine) and "Biomed". The positioning was performed in cooperation with the surgical team and the movement was fixed relative to the conventional protocol for the implant. When planning a clinical trial, we assumed that the compression of bone tissue by the implant in the posterior zone could be measured using an instrument and could be a determining factor in the outcome of the surgery.

In experimental-clinical studies involving 30 patients after surgery in the oral cavity during orthodontic treatment, we observed significant changes in bone density. The descriptive and analytical study design in compliance with the requirements of clinical research was used. The patients were divided into 2 subgroups. The experimental group (26 patients) included those who had undergone root canal treatment with root canal treatment. The control subgroup (10 patients) consisted of patients for whom we had applied the standard technique of root canal treatment. Operative intervention carried out in standardized conditions. Patents in both subgroups were examined using the same standard schema. Implantation was performed with a standardized protocol (bone length 1.5 mm, bone width 1.5 mm). To prevent uncontrolled pressure damaging tissue on the bone and bone segment loss, a homogenous layer of autogenous bone material was placed directly on the bone side of the implant platform. The seating of the implant was checked using x-rays and the residual layer thickness was about 0.5 mm. A surgical intervention was conducted in a normal manner.

Results.

After implantation among the studied 30 cases of bone segments in 22 cases (73.3%) the area in the posterior zone adjacent to the implant the presence of bone defect was observed. When analyzing DOR D100 (Nikon D100) in 26 cases (86.6%) we observed the presence of wedge defects, which were formed gradually during the first year. Further observations of bone structure were stabilized. The results of bone tissue density in bone segment zones closer to the implant show bone density increases from 20-30% (compared to surrounding areas), which is indicative of determination of the bone mineral density.

Clinical application of medical devices in navigation has demonstrated high precision of the implant angular positioning with deviations of less than 25 arcmin - 2.08°, with a deviation of less than 10 arcmin - 0.058°. The implant line is positioned precisely within 30.05, 0.05 mm when moving at 11 mm. Clinical analysis within 3 months showed that the patients of experimental subgroup had no complaints. The post-treatment changes in the patients with subsequent prostheses were determined with significantly lower frequency. The cosmetic aspects of the patients of the experimental group were also improved. Upon further observation over one year after the implantation of the experimental subgroup had no complaints (p<0.05). To estimate the effectiveness of our implantation method the objective indicators of bone tissue implants of experimental and control subgroups were examined in the method of observation was carried out. After examining a vertical bone resorption for 2 patients of the experimental subgroup the additional bone augmentation for cemented restorations was used. Thus our study allowed to optimize the process of surgery, to reduce the influence of pathogenic factors in the process of an implantation and to store a method of its elimination. Also the clinical symptoms were eliminated, including helotite period.

Dynamics of the psychological aspect