Factors associated with crestal bone gain in short single tooth implants

B. Tomasetti*, R. Urdaneta, S. Daher, V. Morgan

Department of Oral and Maxillofacial Surgery, Denver Health and Hospitals, Denver, CO, United States

The use of short implants as a single tooth replacement has become quite common over the past several years. The recent European Consensus Conference on short implants has stated that short implants have the same predictability as traditional length implants. Recently, it was found that there are seven factors that are associated with crestal bone gain in single tooth implants. Among these factors are the use of non-steroidal anti-inflammatory drugs and the presence of an opposing natural tooth.

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Fixed prosthesis of an ectodermal dysplasia patient with total anodontia using maxillary zygomatic implants and mandibular nerve repositioning simultaneous with implant placement

N.V. Vo

University of Medicine and Pharmacy, Ho Chi Minh City, Vietnam

Background: Ectodermal dysplasia (ED) is a genetic disorder characterised by abnormal development of tissues derived from the ectoderm. The frequent oral symptoms are oligodontia or anodontia and underdeveloped alveolar ridge causing difficulty in prosthetic restoration, including endosseous implants.
Objectives: To evaluate the outcome of fixed prosthesis supported on zygomatic implants and on standard implants placed simultaneous with mandibular nerve repositioning in a patient with ED.
Methods: A 30-year-old female presented with ED with total anodontia. Her chief complaint was the instability, lack of function and unaesthetic appearance of complete denture in the maxilla and overdenture supported on two mandibular implants. Nobel Clinician software (Nobel Biocare, Switzerland) was used for treatment planning. In the maxilla, four zygomatic implants were placed with a modified approach. In the mandible, five standard implants were inserted simultaneous with mandibular nerve repositioning. Hybrid-fixed prostheses were delivered immediately. Mean follow up was 12 months.
Findings: Final restorations recovered significantly the function and the aesthetics for patients. The implants showed good osseointegration and survival rate was 100%. Paraesthesia of lower lip disappeared after three months. No infections or sinusitis were presented.
Conclusions: Modified zygomatic implant approach for maxillary fixed prosthesis and mandibular nerve repositioning in combination with standard implants for mandibular fixed restoration are a reliable option in ED patients with total anodontia.

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Experimental evaluation of the effects of different sand particles that used in dental implant roughened on osseointegration

M.E. Yurttutan*, A. Keskin, R. Kestane

Ankara University, Faculty of Dentistry, Ankara, Turkey

The success of treatment with dental implants is proportional to osseointegration. The term refers to the direct structural and functional connection between living bone and the surface of a load-bearing artificial implant. Implant surface property has a great importance in providing osseointegration. Sandblasting is the most basic and commonly used method to modify the surface.

In our study, sandblasted with aluminium oxide (Al_2O_3), titanium dioxide (TiO_2), silicon dioxide (SiO_2) and machined implants were compared with biomechanical testing. Four sheep 18–24 months old and weighing 40–45 kg were used in the study. Eight implants (sandblasted with Al_2O_3, TiO_2, SiO_2 and machined implants), each with different surface characteristics were inserted into bilateral tibia of each sheep under general anaesthesia. Initial resonance frequency analysis (RFA) results were recorded just after implant insertion. Sheep were then randomly divided into two groups each with two sheep for evaluation either at one- or three-month periods. At the end of the certain evaluation period, RFA and reverse torque (RT) tests were performed. Wilcoxon test and Kruskal-Wallis test were used for statistical analysis.

We found that although there was no statistically significant difference between the groups, sandblasted implants with Al_2O_3 showed higher RFA and RT value at the end of the first and third month.

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Dentoalveolar Surgery and Nerve Injuries

Clinical application of platlet rich fibrin in management of surgical defects related to maxillomandibular region

A.A. Abdelmabood

Suez Canal University, Faculty of Dentistry, Ismallia, Egypt

Utilisation of platelet-rich fibrin (PRF) is simple technique available to increase wound healing after manipulation of surgical procedures in maxillofacial region including tumours excision, cystic lesions, sinus lifting and after impacted teeth. The objective of this prospective clinical study was to evaluate the efficacy of PRF in enhancement of bone formation and soft tissue healing within surgical defects related to maxillomandibular region.

This study carried on 40 patients in maxillofacial department clinic and the patients classified as Group I including 20 patient suffered from surgical defects as pathological defects sub classified into Group I A, in which no application of PRF in 10 patients and Group I B in which application of PRF including 10 patients. Group II impacted surgical defects and sub classified into Group II A, in which no application of PRF in 10 patients and Group II B in which application of PRF including 10 patients. Radiographic follow up by digital panoramic radiograph at the following, immediate, one, three and six months.

The results of the study demonstrate the parameters including healing, postoperative pain, infection and, bone density were highly improved in the groups related the application of PRF.