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IMMEDIATE LOADING ON IMPLANTS IN THE POSTERIOR MANDIBLE OF M. FASCICULARIS MONKEYS

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Immediate loaded splinted implants can be osseointegrated when they are placed in the anterior part of the lower jaw. The concept of immediate loading has not been well examined in the posterior mandible. The aim of this study was to evaluate the tissue reactions around immediate loaded implants placed in the posterior region of the lower jaw in the monkey model. Six adult M. fascicularis monkeys were used in this study. Thirty-six Ankylos®-implants (Degussa-Hüls AG, Germany) were placed after extraction of the second premolars, first and second molar teeth and complete healing of the sockets. Control (C) group implants were placed and after osseointegration were loaded for 1 month using temporary resin bridges and later for 2 months using metal splinted crowns. In the contralateral region of the lower jaw, test (T) group implants were placed and loaded immediately with the same sequence as carried out for the C implants. After sacrification of the animals, specimens were examined histologically and evaluated histomorphometrically. All of the implants were osseointegrated. Compact, cortical bone in contact with the implant surface without any gaps or connective tissue formation was demonstrated. Histomorphometrical findings of the bone-implant-contacts, periimplant bone volume as well as soft tissue measurements showed no significant differences between the T and C group implants ($p<0.01$). It was concluded that immediately loaded splinted implants can be osseointegrated with similar hard and soft tissue periimplant response as delayed loading of implants in the posterior mandible.

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PERIODONTAL-ANATOMIC REQUIREMENTS FOR A PREDICTABLE PAPILLA REGENERATION IN SINGLE IMPLANT THERAPY

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Introduction: The purpose of this study was to determine the contribution of the vertical distance between contact point and the crest of bone, the horizontal distance between tooth and implant, and the time of implant placement on the presence or absence of the dento-implant papilla in humans.

Materials and Methods: Within a group of patients which were treated for single-tooth replacement with root-analog implants (FRIALIT-2®, FRIADENT Mannheim/ Germany), 104 patients with 120 implants were selected for a standardized examination of the mesial and distal interproximal implant-tooth sites (n=240 values).

Results: A vertical distance from the base of the contact point to the crest of bone between 3 to 6 mm is a good prerequisite for a spontaneous interproximal papilla. A vertical distance below 3 mm or above 9 mm reduces a predictable papilla regeneration significantly. A horizontal distance between implant and adjacent tooth of 2 to 3 mm complies with anatomical data of teeth and favors the re-establishment of interproximal papillae. A horizontal distance below 2 mm and above 3 mm reduces the probability of papilla re-establishment expressively.The study results demonstrate also the importance of the time of implant placement on the predictability of papilla regeneration. When implant placement was performed after a complete osseous healing of the extraction site the papilla was present in less than half of the time.

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OSSEOINTEGRATED IMPLANTS IN PATIENTS TREATED FOR PROGRESSIVE PERIODONTAL DISEASE

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In this prospective study, 45 Brånemark implants were inserted into 7 partially edentulous patients treated for progressive periodontal disease, and 24 into 7 periodontally healthy patients. The clinical examination of the teeth and implants comprised the plaque index, gingival index, clinical attachment level and probing depth. Microbiological evaluation of the subgingival plaque was performed by dark-field analysis and DNA analysis. All parameters were recorded immediately before implantation (baseline), before insertion of the restoration, and every 3 months thereafter for 2-4 years. Radiographic controls of the teeth and implants were performed at baseline, after placement of the final abutments, and during the 1st, 2nd and 3rd years after insertion of the restoration. Statistical evaluation was based on the t-test for dependent samples, the Spearman rank correlation coefficient, other t-tests and Kaplan-Meier. The clinical and microbiological parameters recorded healthy conditions at the teeth and implants of both groups throughout the observation period. Bone loss at the teeth and implants was moderate in both groups. At teeth and implants, neither the clinical nor the microbiological analyses revealed any statistically significant difference between the two groups and in intra-group comparison. The implant success rate was 90.9% (maxilla: 87.5%; mandible: 95.0%) in the patients treated for progressive periodontal disease and 100% in the periodontally healthy patients. These results illustrate that partially edentulous patients treated for progressive periodontal disease can be successfully treated with implants.

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SONIC VS. MANUAL TOOTHBRUSH: REMOVAL OF MICROFLORA AND HUMAN PLAQUE FROM Ti IMPLANT

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The aplication of sonic technology, in the form of Sonicare® toothbrush, has been reported as safe and effective for regular oral hygiene (Emling et al., 1999). This study investigated the efficacy of the Sonicare® vs. the manual toothbrush on removal of microflora and human plaque from Ti implant surface. This six-month clinical trial involved 23 individuals (14 female and 9 male, mean age 38) with 64 Ti implants and high level of oral hygiene. Subjects were assigned randomly into two groups: 12 with 34 implants as test (S=Sonicare®) and 11 with 34 implants (M=manual) as control. Probing depth (PD), gingival index (GI), plaque index (PI) and plaque samples were observed during a six-month period. Plaque samples were as a native material evaluated with the dark field microscopy. Bacterial morphotips were classified as a potential nonpathogen (cocci = group 1) and as a potentional pathogen (motile, nonmotile bacilli, spirochaetes and others = group 2). Statistical testing was done by SPSS software and differences were analyzed by a paired t – test ($p = 0.05$). The differences in increase values of group 1 and decrease in group 2 of microflora proportions are significant ($p<0.05$) for S and M group during the observing period. The differences within S group are significant ($p<0.05$) higher as they are within M group. These changes are followed by clinical findings with decreasing PI,GI and PD values.

Findings show more efficacy in removal of microflora and human plaque from Ti implant surface for a sonic compared to a manual toothbrush, even in the population of a high level of oral hygiene.