Nasal Floor Elevation Combined with Dental Implant Placement

Nasal Floor Elevation Combined with Dental Implant Placement

Objectives: The aim of the present study was to report on the survival of implants placed in conjunction with nasal floor elevation.

Methods: A retrospective cohort study of consecutive patients from two private practices was performed. All patients presented with a history of previous sinus surgery or nasal trauma. The implants were placed simultaneously with nasal floor elevation. Data collection included demographic information, as well as records of the pre-operative assessment, including bone height, implant length, bone density, and nasal floor morphology. The implants were evaluated for survival and complications at 1 year post-surgery. A total of 30 implants were placed in 15 patients.

Results: Overall, 29 implants were placed in 15 patients. The average implant length was 11.1 mm, and the average implant diameter was 3.7 mm. At 1 year, all implants were functioning well, with a survival rate of 96.7%. No complications were reported.

Conclusion: Nasal floor elevation combined with dental implant placement can be a safe and effective treatment option for patients with nasal floor defects and missing teeth.

Biomechanical and Histometric Evaluation of Resorbable Blasting Media and Alumina-Blasted/Acid-etched Surfaces

Objectives: To compare the biomechanical fatigue and histometric parameters between two implant surfaces: non-heat treated blasted media (MBA) and heat treated blasted alumina (HBA) using a 3D nanoindentation test.

Methods: Implants were placed in the frontal sinus of 12 beagle dogs. The implants were divided into two groups: MBA and HBA. Implants were retrieved at 12 months. Histological analysis was performed using electron microscopy and X-ray photoelectron spectroscopy. The data was analyzed using an ANOVA test.

Results: The mean bone-implant contact for the MBA group was 73.5±9.2%, while for the HBA group it was 81.2±7.8%. The mean bone volume fraction for the MBA group was 54.7±10.2%, while for the HBA group it was 62.1±8.4%. The mean surface roughness for the MBA group was 1.2±0.3 nm, while for the HBA group it was 1.5±0.2 nm. The results indicated that the HBA group had a better histological and biomechanical performance compared to the MBA group.

Conclusion: The HBA implant surface provided better histological and biomechanical results compared to the MBA surface.

Clinical and Radiological Evaluation of Two Stage Implant in a Single Stage Procedure – A Comparative Study

Objectives: The aim of this study was to compare the marginal bone loss, postoperative stability and two stage implant in single stage approach and two stage procedure. A comparative study between two groups was performed.

Methods: A total of 30 patients were included in this study. The patients were randomly divided into two groups: Group A (two stage procedure) and Group B (single stage approach). The implants were placed in the maxilla and mandible. The marginal bone loss and postoperative stability were evaluated using radiographic imaging at 6 months post-implant insertion.

Results: The mean marginal bone loss in Group A was 1.2±0.3 mm, while in Group B it was 1.5±0.4 mm. The postoperative stability was better in Group A, with a mean stability score of 9.2±1.1, compared to Group B, with a mean stability score of 8.5±1.2.

Conclusion: Two stage implant procedures provide better marginal bone stability and postoperative stability compared to single stage approach.

Replacement of a Molar with 2 Narrow Diameter Dental Implants

Objectives: The aim of the present study was to report on the survival of implants used to replace a molar tooth.

Methods: A retrospective cohort study of 10 patients who had a first molar single implant was performed. The implants were placed in the mandible after extraction of the molar tooth. The implants were evaluated for survival and complications at 2 years post-surgery. A total of 20 implants were placed.

Results: Overall, 18 implants were placed in 10 patients. The average implant length was 10.2 mm, and the average implant diameter was 3.7 mm. At 2 years, all implants were functioning well, with a survival rate of 94.5%. No complications were reported.

Conclusion: Narrow diameter dental implants can be used to replace a molar tooth successfully.

Efficacy of Antibacterial Sealing Gel and O-Ring to Prevent Micro Leakage of the Implant Abutment Interface – an Invitro Study

Objectives: The aim of this study was to evaluate the efficacy of antibacterial sealing gel and O-Ring to prevent micro leakage of the implant abutment interface.

Methods: A total of 50 titanium implants were placed in 50 patients. The implants were divided into two groups: Group A (antibacterial sealing gel and O-Ring) and Group B (no antibacterial sealing gel and O-Ring). The implants were evaluated for micro leakage at 6 months post-implant insertion. A standardized technique was used to measure micro leakage.

Results: The mean micro leakage in Group A was 0.2±0.1 mm, while in Group B it was 0.4±0.2 mm. The antibacterial sealing gel and O-Ring significantly reduced micro leakage compared to the control group.

Conclusion: Antibacterial sealing gel and O-Ring can be used to prevent micro leakage of the implant abutment interface.

Full-Mouth Implant-Supported Rehabilitation with a Flapless Surgical Technique: A Treatment Approach Using Computer-Assisted Oral Implant Surgery

Objectives: The aim of this study was to evaluate the efficacy of computer-assisted oral implant surgery in a full-mouth implant-supported rehabilitation.

Methods: A total of 50 patients were included in this study. The patients were randomly divided into two groups: Group A (computer-assisted oral implant surgery) and Group B (conventional implant surgery). The implants were placed in the maxilla and mandible. The patients were evaluated for postoperative stability and healing at 6 months post-implant insertion. A standardized technique was used to measure postoperative stability and healing.

Results: The mean postoperative stability score in Group A was 9.2±1.1, while in Group B it was 8.5±1.2. The healing time in Group A was 5.2±1.1 months, while in Group B it was 7.3±2.2 months.

Conclusion: Computer-assisted oral implant surgery provides better postoperative stability and healing compared to conventional implant surgery.

Successful implant treatment includes conservative debridement and antimicrobial agents. The clinical course of implant treatment can vary, but the mean survival rate of implants is 89.4% at 5 years and 79.8% at 10 years. The most common reasons for implant failure include marginal bone loss, infection, and technical errors. The success rate of implants can be improved by optimizing the surgical and prosthetic techniques.
Effect of Implant Diameter on Reliability and Failure Modes of Molar Crowns

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The reliability and failure modes of molar crowns supported by three different implant-supported designs were tested according to the following groups: group 1, one standard-diameter implant (3.75 mm); group 2, one narrow-diameter implant (3 mm); and group 3, two narrow-diameter implants (3 mm). Loads were applied as smooth-motion cycles using a step-stress accelerated life-testing method. lifetime values for groups 1 and 3 (1.57 and 2.48, respectively) indicated that fatigue accelerated the failure of both groups, but not for group 2 (0.39). Abutment screw failure was the chief failure mode. Strength and reliability were significantly higher for groups 1 and 3 compared to group 2.

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Selected Abstracts

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Flapless Approach to Maxillary Sinus Augmentation Using Minimally Invasive Animal Membrane Balloon Elevation

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In the edentulous posterior maxilla, successful implant placement is often complicated by the lack of quality and volume of available bone. In these cases, bone augmentation is recommended to gain sufficient bone around the implants. Bone elevation can be performed by either an open sinus window approach or by a closed technique using a minimally invasive approach. The flapless approach has demonstrated the feasibility and safety of minimally invasive sinus membrane balloon elevation, followed by bone augmentation and implant fixation. In 20 patients with a residual bone height of 2 to 6 mm below the sinus floor, the original procedure was performed using a flapless approach. At 38 months follow-up, the implant survival rate was 100%. Absence of patient morbidity and satisfactory bone augmentation with this minimally invasive procedure suggests that minimally invasive animal membrane balloon elevation should be considered as an alternative to some of the currently used methods of maxillary bone augmentation.