

have been proposed. Regarding regenerative methods, resorbable, nonresorbable and autogenous bone grafting materials have been used to achieve intrabony defect resolution.

**Aim:** The aim of this case report is to evaluate the use of the porous titanium granules as bone grafting material for regenerative treatment of peri-implantitis related defects.

**Methods:** A 42-year-old woman, in good health, was referred to the Department of Periodontics for peri-implantitis treatment. Clinical and radiographic examination revealed intrabony defects around the implants replacing the central incisors. Two months after cause-related therapy, which consisted of mechanical debridement and Nd:YAG Laser application, surgical treatment was performed. The defect was filled with titanium granules and covered with a resorbable collagen membrane. The suprastructure was removed during peri-implantitis treatment and was placed back after suturing. Broad spectrum antibiotics were prescribed for 7 days. The patient was followed-up for 12 months after the operation. Clinical parameters such as probing depths, gingival index, and bleeding on probing were recorded. Periapical radiographs were taken to verify the graft position directly after the operation, and then after 6 and 12 months to estimate the radiographic defect fill.

**Results:** In this case despite the initial defect, the final clinical and radiographic result was considered satisfactory, due to the pocket elimination, the radiographic bone fill and the soft tissue volume maintenance, 12 months postoperatively.

**Conclusions and clinical implications:** In this case report, porous titanium granules were successfully used to regenerate bone in peri-implantitis defects. Further clinical and histological studies are needed to confirm osseointegration of surrounding bone and titanium granules.

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### Management of peri- implant bone loss occurred during osseointegration phase with porous titanium granules

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**Background:** Osseointegration of dental implants considered as a predictable consequence of modern dentistry. However, in some clinical situations, it is not rare to find out minor or even major complications. Systemic unknown disorders which affect the bone healing sequences may be observed especially in elderly patients. Although these patients can be included as risky candidates for implant therapy, it is possible to give them a proper implant borne restoration provided that the clinicians modified the conventional treatment plan.

**Aim:** To evaluate the clinical effect of titanium granules on the compromised fixture during healing phase.

**Methods:** A mandibular second molar lost due to unrestorable caries replaced with a regular size implant. She had a stable

dentition with a healthy medical status. Sufficient bone volume detected via conventional radiography and clinical examinations. A two-stage procedure selected for inserting a regular diameter fixture. Three months later when she recalled for implant uncover phase, significant bone loss diagnosed in radiographic view. A circumferential vertical bone defect detected after a full thickness flap reflection. The treatment protocol included defect debridement, fixture surface decontamination and cleansing with titanium brush, and filling the bone defect by porous titanium granules. The implant submerged again for another 4 months.

**Results:** Non-resorbable particles of titanium granules remained stable during healing phase. Uncovery and prosthetic phase scheduled in a regular manner. Final restoration derived after 5 months. All radiographic and clinical parameters showed a stable condition during 1 year follow-up. Unfortunately, we could not find out any reason for compromised healing of implant even after reviewing medical history and surgical operation note.

**Conclusions and clinical implications:** Non-resorbable titanium granules (Natix white) may be considered as a proper material for compromised healed implants. The long-term stability of these granules could be maintained during loading.

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### Clinical evaluation of socket augmentation with nonresorbable membranes: a pilot study

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**Background:** Alveolar ridge resorption following tooth extraction is a physiological phenomenon that may decrease the short or long term success of implant supported reconstructions. Tooth extraction leads to loss of both horizontal and vertical dimensions of the alveolar ridge. Post extraction socket preservation is essential to ensure stabilization of hard and soft tissues.

**Aim:** The aim of this study was to evaluate the clinical effect of intentionally exposed nonresorbable high-density polytetrafluoroethylene membranes with mineralized allografts on bone graft healing and volume.

**Methods:** In this study 10 patient to be restored with fixed implant-supported prostheses, a total of 14 fresh sockets were grafted with mineralized cortical and cancellous chip allografts. Intentionally exposed nonresorbable high-density polytetrafluoroethylene membranes were used for sealing over the grafted sockets. Dental volumetric tomographic scans were applied right after the operation and 4 months after socket grafting. Core biopsies were also taken from grafted sockets before implant installation for histological evaluation.

**Results:** Based on dental volumetric tomographic measurements, the hard tissue volume and contour were largely preserved at all socket sites after 4 months healing. No additive bone graft material is needed for implant installations. New

