

Results: Radiographic examination after 6 months revealed good bone fill in the restored site. A longer term follow-up at 12 months shows trabecular pattern indistinguishable from adjacent unrestored area. A periostest value of -6.4 was recorded indicative of successful osseointegration.

Conclusion: This case demonstrates the efficacy of the novel calcium phosphosilicate putty for regenerating bone.

Topic: Grafting/augmentation procedures in implant dentistry

P0461

Post-extractive alveolar socket augmentation with or without collagen membrane: soft tissue early evaluation.

G. Pellegrini¹, G. Rasperini¹, D. Farronato¹, G. Drobot², C. Dellavia¹

¹Milan/Italy, ²Moscow/Russian Federation

Aim: Peri-implant soft tissue play a key role for functional and aesthetic success of implant rehabilitation. Grafting materials and absorbable membranes, alone or associated, were proposed for post-extractive alveolar ridge maintenance. Preservation technique may influence the healing of overhanging mucosa. This randomized double-blind controlled split-mouth clinical trial compared histological features of soft tissue overhanging augmented sockets covered or not-covered with collagen membrane.

Material and Methods: In five patients requiring extraction of 2 controlateral maxillary molar teeth, one post-extractive site was augmented with graft material (Bio-Oss Collagen, Geistlich) (control-group), the other site was augmented and covered with collagen membrane (Bio-Gide, Geistlich) (test-group). Following 5 weeks, samples of newly-formed soft tissue were harvested and processed for evaluation of vascularization (immunohistochemistry: CD31), collagen-content (histochemistry, Sirius-Red), inflammatory infiltrate (immunohistochemistry: CD3 for T-lymphocytes, CD20 for B-lymphocytes).

Results: In both groups, architecture of soft tissue appeared normally organized and connective tissue presented remaining graft-particles surrounded by mature collagen fibers. Microvascular content resulted significantly higher in control (8.22%) than test group (4.5%) (paired T-test: $p < 0.05$). Inflammatory infiltrate and collagen-content were not significantly different in test and control groups (respectively T-lymphocytes: 1.53%, 0.63%; B-lymphocytes: 1.99%, 1.19%; collagen 35.6%; 40.7%). Intra-patient correlation (Pearson's) resulted significant for inflammatory infiltrate (T-lymphocytes $r = 0.8$, B-lymphocytes $r = 0.93$), not significant for microvascular ($r = 0.34$) and collagen-content ($r = 0.18$).

Conclusion: Shortly after augmentation, membrane covering of graft material seems to influence vascularization of newly-formed overhanging mucosa. Significant intra-patient correlation of inflammatory infiltrate may be explained with hygienic conditions and genetic predisposition to inflammation. Vascularization and collagen-content do not seem correlated to these factors.

Topic: Grafting/augmentation procedures in implant dentistry

P0463

Replantation and extrusion of highly resected teeth - a new biological approach preserving dental bone structures for implant placement

S. Neumayer¹, M. Stelzel²

¹Eschlkam/Germany, ²Krems/Austria

Aim: In this clinical pilot study the technique of replantation of root resected teeth and subsequent extrusion was investigated with focus on tissue preservation for implant placement.

Material and Methods: 12 teeth (test group) with bad prognosis but intact attached gingiva were extracted from 10 patients. The teeth were resected below the dento-gingival fibers, retrogradely root-filled, replanted and bonded to the adjacent teeth. After primary fixation for 10-14 days the teeth were extruded by elastic bands for about 1-2 mm within 2-5 days and then fixed again. Documentation was done by means of photographs, radiographs, DVTs and models. 5 teeth (5 patients) with bad prognosis were extracted only and served as controls (control group). After 3-6 months 12 implants were inserted in the test group, and stability and changes of soft- and hard-tissues were observed over 20-60 months period.

Results: All replanted teeth adhered without complications. The attached gingiva as well as the alveolar bone could be preserved. In no case the buccal bone-plate was lost. At 2 teeth a gain of bone could be observed. All implants placed showed almost no bone loss over the observation period. In the control group a strong resorption of the buccal bone was observed.

Conclusion: The replantation and extrusion technique allows predictable tissue preservation especially of the buccal bone plate and in some cases biological gain of tissue. Further studies are needed to prove the outcome of this pilot study.

Topic: Grafting/augmentation procedures in implant dentistry

P0464

Guided bone regeneration in the esthetic zone using white porous titanium granules and delayed implant placement : a case series.

N. Picard¹, D. Nisand²

¹Rouen/France, ²Paris/France

Aim: According to Buser, delayed implant placement (6 to 8 weeks after tooth extraction) associated with guided bone regeneration allowed for predictable esthetic outcome in terms of gingival margin position and papilla preservation for single crown. In this particular indication, GBR technique is aimed at regenerating the buccal bone along the implant surface so to obtain adequate gingival support and esthetic. As long lasting esthetic integration is mainly related to the position of the gingival margin and its stability over time, the use of non resorbable bone substitute should be preferably considered. The aim of this case series is to assess the impact of white PTG on the bone and soft tissue volume over time.

Material and Methods: Ten patients with one tooth scheduled to be