

SCIENTIFIC ABSTRACTS

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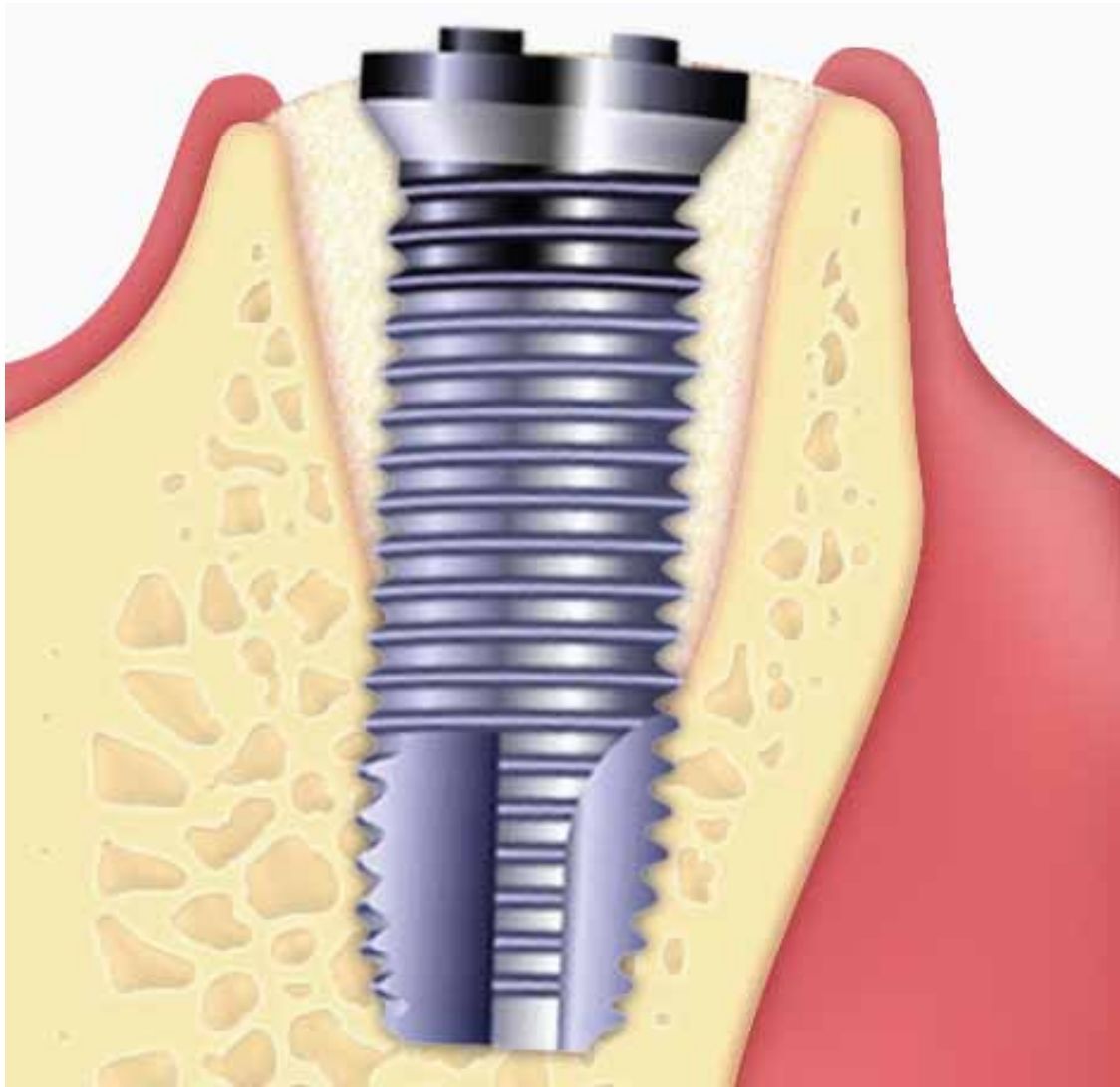
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REGENERATION SCIENCE

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Dehiscences and fenestrations



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REGENERATION SCIENCE

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DEHISCENCES AND FENESTRATIONS

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Clinical outcome of implants placed immediately after implant removal

ABSTRACT

The purpose of this study was to evaluate the clinical success of implants placed immediately after the explantation of failed implants due to fracture at 12 months. 9 patients (3 males and 6 females) aged 35 to 63 years were included in this study in a period ranging from 1999 to 2004. All of the patients selected for this study required the extraction of failed implants and were scheduled for immediate implant replacement.

As the placement of an immediate implant is often associated with a residual bone defect between the outer surface of the implants and the residual bone walls, the Authors considered to apply a GBR protocol only in case of a large bone defect. Consequently, 5 experimental implants which showed the absence of fenestrations or dehiscences of the bone walls and a residual gap between implant surface and surrounding bone walls <2mm, were not treated with any regenerative procedures. The remaining 4 experimental immediate implants, which exhibited bone fenestrations or dehiscences and/or peri-implant bone defects >2mm, were grafted with cortico-cancellous porcine bone particles (OsteoBiol® Gen-Os®, Tecnos®, Giaveno, Italy) and covered with bioabsorbable membranes (OsteoBiol® Evolution, Tecnos®). The membranes were used for the treatment of large bone defects and where a large portion of the bone recipient site around the implant was missing. A bioabsorbable barrier membrane was used in all instances when necessary. Due to insufficient stiffness of the membrane, cortico-cancellous porcine bone particles were grafted into the defect to prevent the collapse of the membrane and maintain a space beneath the membrane for bone regeneration.

All implants were then restored with fixed prostheses. After 12 months, all the implants were successful and no residual bone defects were observed or probed around any implant. Analogously, the follow-up x-rays showed no significant bone loss pattern.

CONCLUSIONS

Considering the findings of this study, the Authors suggest that it is possible to place implants immediately after a fractured implant explantation, with results that are similar to results obtained with implants placed immediately after tooth extraction.



DEHISCENCES AND FENESTRATIONS

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Resonance frequency analysis of implants inserted with a simultaneous grafting procedure: a 5-year follow-up study in man

ABSTRACT

It is well known that primary stability is a key factor for the long-term success of an implant-supported rehabilitation. Primary stability is determined by bone quality and quantity, implant geometry, and placement technique and it is strictly related to the level of primary bone contact. Different ways of measuring implant stability are available and in this study the Authors examined the resonance frequency analysis (RFA), representing a clinical, noninvasive quantitative assessment of the stability of an implant and its osseointegration level. In order to do this, 16 patients in need of maxillary and mandibular rehabilitation were selected. They received a total of 36 implants inserted using a single-stage procedure at the same time as reconstructive surgery and were distributed as follows: 19 implants were inserted in 10 patients treated with autologous bone (group A) and 17 implants were placed in 6 patients treated with a combination of 50% autologous bone (bone chips) and 50% deantigenated collagenated bone substitute of porcine origin (OsteoBiol® Gen-Os® and OsteoBiol® Putty, Tecnos®, Giaveno, Italy) (group B). The implant stability quotient (ISQ) values were measured during 5 years of follow up. The RFA values were recorded with the ISQ scale by means of a transducer attached to the implant via a screw and a frequency response analyzer (Osstell device).

CONCLUSIONS

At surgical re-entry in the 22 sites augmented in the maxilla and 14 in the mandible it was observed that the space under the titanium grid was filled completely by newly formed bone. Consequently, the Authors affirm that *"within the limitations of the present study, the results showed that implant stability increased over time and its changes were correlated with anatomical location and different types of grafts only in the early healing period. RFA measurements indicate predictable and stable long-term results for implants inserted in sites reconstructed with autogenous bone and with porcine bone substitute in addition to autologous bone"*.