OsteoBiol® by Tecnoss

Clinical outcomes of implants placed in ridge-preserved versus nonpreserved sites: a 4-year randomized clinical trial

S Marconcini[1]
E Giammarinaro[2]
G Derchi[1]
F Alfonsi[1]
U Covani[1]
A Barone[3]

1 | Department of Surgical, Medical, Molecular and Critical Area Pathology, University of Pisa, Pisa, Italy
2 | Department of Dentistry, Tuscan Stomatologic Institute, Lido di Camaiore, Italy
3 | Department of Surgery, Unit of Oral Surgery and Implantology, University-Hospital at Geneva, School of Dental Medicine, Geneva, Switzerland

ABSTRACT

After tooth extraction, alveolar bone undergoes remodelling resulting in dimensional changes, which can complicate implant insertion. In order to limit dimensional changes, alveolar ridge preservation procedures using different grafting materials are commonly used. As the long-term effect of ridge preservation on implant success rate is still unclear, the aim of the present randomized clinical study was to evaluate the survival, success, and the aesthetic outcomes of implants placed in extraction sockets. In the study, 90 patients in need for a single premolar/molar tooth extraction and an implant treatment were randomly distributed among 3 groups: spontaneous healing (ctrl), ridge preservation with cortical porcine bone (OsteoBiol® *Apatos*, Tecnoss®, Giaveno, Italy) (cort) and ridge preservation with collagenated corticocancellous porcine bone (OsteoBiol® *mp3*®, Tecnoss®) (coll). In the two test groups, the sockets were grafted with the chosen biomaterial and a collagen membrane (OsteoBiol® *Evolution*, Tecnoss®) was placed under the interdental papillaes. The collagen membrane was exposed to the oral cavity.
Three months after tooth extraction, at re-entry, implants were placed (BT Evo; Biotec, Vicenza, Italy). Marginal bone levels were recorded on digital intraoral periapical radiographs, the assessment of the Pink Esthetic Score (PES) was performed on digital photographs. Forty-two patients out of 90 (initial cohort study) completed the entire follow-up of 4 years. Cumulative survival and success rates for all implants were 100% at the 4-year evaluation. With reference to the marginal bone loss, there were no significant differences between the 2 grafting materials, but it was significantly greater in the nongrafted sites (P value < .001). At the 4-year evaluation, the PES resulted significantly better in the cort group than in the coll and ctrl ones.

CONCLUSIONS

From the results, it is evident that ridge preservation was more effective than natural healing in preserving marginal bone and better aesthetic outcomes were achieved. Although none of the grafting materials in this study could entirely preserve the pristine ridge contour of the post extractive socket, cortical porcine bone showed the best clinical outcomes in maintaining the vertical bone dimension. On the other hand, the collagenated corticocancellous porcine bone showed the best outcome in maintaining the horizontal dimension.

ORIGINAL ARTICLE
Clin Implant Dent Relat Res
2018;1–9

Grafted with

BONE SUBSTITUTE
OsteoBiol® *mp3*®
OsteoBiol® *Apatos*

MEMBRANE
OsteoBiol® *Evolution*

ALR

Abstract author: Cristina Rodighiero, dental journalist, free publication, not for resale. Printed by Tecnoss® Dental s.r.l.