

Clinical and radiographic evaluation of cortico-cancellous bone mix xenograft (OsteoBiol® Gen-Os®) in the treatment of human periodontal intrabony defects

ABSTRACT

Due to periodontitis, pocket formation, loss of attachment, alveolar bone resorption, furcation and intrabony defect may occur. The aim of periodontal therapy is to regenerate the lost tissues, also through the use of bone graft materials. The purpose of this study was to compare the collagenated heterologous cortico-cancellous bone mix xenograft (OsteoBiol® Gen-Os®, TecnoSS®, Giaveno, Italy) with open flap debridement (OFD) in treatment of periodontal intrabony defects. Twenty healthy patients, with moderate to advanced chronic periodontitis, with pocket depth of ≥ 5 mm and radiographic evidence of vertical intrabony component of ≥ 5 mm, were enrolled in the study. They were divided in two groups: in Group 1 patients were treated with xenograft (OsteoBiol® Gen-Os®) and in Group 2 were treated with open flap debridement (OFD). The xenogenic bone substitute used in Group 1 consisted of heterologous corticocancellous bone mix in the form of mixed granules with a diameter ranging from 250 to 1,000 μ m; the product was hydrated with saline before the application into the intrabony defect. The clinical parameters evaluated in baseline and after 6 and 12 months were: plaque index (PI), gingival index (GI), pocket depth (PD), clinical attachment loss (CAL). Radiographically the bone density and reduction of intrabony defect depth were measured. Both treatment modalities showed a statistically significant reduction in the mean values of PI and GI during follow-up evaluations compared with baseline scores. For both groups, the mean values of PD and CAL showed significant differences between the three time intervals. Radiographically, the mean values of bone density and reduction of defect depth were high significantly better in G1 versus G2 at 6 and 12 month ($P \leq 0.01$).

CONCLUSIONS

Based on the results, Gen-Os® showed better regenerative outcomes compared to open-flap debridement only with reference to reduction of probing pocket depth, gain in clinical attachment level and resolution of intrabony defects. As stated by the Author *“further clinical studies with more patients are needed to clarify the maximum potential effect of such xenograft for reconstructive periodontal therapy”*.

PERIODONTAL REGENERATION

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