

Clinical & Histologic Evaluation of Alveolar Bone Preservation in Extraction Sockets Using Two Different Graft Materials.

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Background:

Tooth extraction often results in alveolar ridge resorption with substantial reduction in the height and width of the alveolar bone. Decreased dimensions of the ridge may result in the insertion of shorter and narrower implant and inhibit the placement of an implant in a prosthetically and esthetically acceptable location which may influence a long-term function and stability of the implant supported restoration.

Objective:

Alveolar ridge preservation could be performed immediately following tooth extraction to limit dimensional changes of alveolar process due to bone resorption. The aim of this study was to compare the clinical & histologic outcomes of socket preservation using two different graft materials; DBBM (deproteinized bovine bone mineral) and DFDBA (Demineralized freeze-dried Bone allograft) with restorable collagen membrane.

Methods:

Twenty extraction sockets in twenty patients were randomly divided into 2 treatment groups: 10 sockets were augmented with DBBM and collagen membrane, in other 10 sockets DFDBA and collagen membrane were applied. Horizontal and vertical ridge dimensional changes were assessed at baseline and after 4-6 months at the time of implant placement. For histological and histomorphometrical analysis, bone samples were harvested from the augmented sites with the trephine during implant surgery.

Results:

Clinical measurements revealed that average horizontal reduction was 2.3 ± 0.2 mm for DFDBA and 2.26 ± 0.16 mm for DBBM. No significant differences were seen between two groups in any of those clinical parameters. Histologic analysis showed statistically significant more new bone deposition for DFDBA compare to DBBM (34.49 ± 3.19 versus 18.76 ± 3.54) ($p < 0.01$).

Conclusion:

Based on the findings of this study, both materials have similar effect on alveolar ridge preservation after tooth extraction, but there was more new bone formation and less residual graft particles in DFDBA group than in DBBM.

The Effects of One-Stage Full-Mouth Disinfection and Quadrant-Wise Scaling and Root Planing on Serum Levels of IL-17 and IL-1 β and Clinical Parameters (A randomized Controlled Trial Study)

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Background:

One-stage full-mouth disinfection technique (FMD) has been introduced to avoid cross-contamination between the treated and untreated regions between treatment sessions.

Objective:

Considering the role of inflammatory mediators in periodontitis, the aim of the present study was to compare the effects of FMD with the quadrant-wise scaling and root planing (Q-SRP) on serum levels of IL-17 and IL-1 β in patients with moderate-to-severe chronic periodontitis.

Methods:

Twenty patients with chronic periodontitis were selected randomly and based on inclusion criteria in each group. In order to evaluate the periodontal status, the clinical parameters of bleeding on probing (BOP), clinical attachment level (CAL), probing depth (PD) and modified gingival index (MGI) were measured and recorded before treatment and at 2- and 4-month intervals after treatment. Immunologic parameters of the study such as IL-17 and IL-1 β serum levels were determined by special laboratory kits at the same intervals. Data were analyzed by SPSS 15 statistical software.

Results:

The results showed a decrease in the means of IL-17 and IL-1 β serum levels in both treatment modalities, with no statistically significant differences between the two study groups at the two time intervals ($p > 0.05$). In the evaluation of periodontal parameters, all parameters exhibited clinical improvements in both groups, with no statistically significant differences between the two study groups ($p > 0.05$).

Conclusion:

Based on the results of the present study it was concluded that both FMD and Q-SRP techniques result in improvements in periodontal indexes and decreases in the serum levels of IL-17 and IL-1 β inflammatory mediators.