REGENERATIVE PROCEDURES AND ORTHODONTICS IN THE TREATMENT OF SEVERE INTRABONY DEFECTS

A RETROSPECTIVE CLINICAL COHORT STUDY

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Objectives:
The aim of this study was to evaluate the outcomes of regenerative treatment of intrabony defects in conjunction with orthodontic tooth movements in patients with severe periodontitis.

Methods:
A total of 526 periodontally severely compromised teeth in 48 patients (age 29–66 years) were treated using bovine derived bone mineral with/without collagen membrane and/or enamel matrix derivative. Orthodontic tooth movements were initiated three months after surgery. Bone levels were measured at time of surgery (T0). Periodontal probing depths and digitized and calibrated periapical radiographs were assessed at T0, at 12 months (T1) and up to 36 months (T2). Changes in radiographic bone levels were the primary outcome.

Results:
From baseline to 12 months the mean PPD reduction was 2.75 mm (from 5.87 mm to 3.12 mm). Radiographic analysis showed a mean mineralized tissue gain of 4.64 mm at 12 months (from 8.4 mm to 3.76 mm) and further clinical improvements up to 3 years. Only one tooth was lost during the observation period. No differences in treatment modalities of regenerative therapy were shown.

Conclusions:
The results of this retrospective clinical cohort study in patients in need of orthodontic therapy as a consequence of advanced periodontal destruction indicate favorable clinical and radiographic outcomes after periodontal regenerative therapy followed by orthodontic tooth movements. Regenerative periodontal treatment of intrabony defects in conjunction with orthodontic tooth movement resulted in substantial radiographic bone gain up to 3 years.

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