

Abstract 1003

Regenerative Procedures and Orthodontics in the Treatment of Severe Intraony Defects

Type: Presenters: other oral

Topic: Clinical periodontal regeneration

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Aim

Severe periodontal destruction with advanced attachment loss can lead to tooth malpositioning which often compromises aesthetics, occlusal stability and long-term prognosis. An interdisciplinary approach of regenerative and orthodontic therapy is required. Because there is only very limited data available, it was the aim of this retrospective clinical cohort study to evaluate the outcomes of regenerative periodontal treatment of intraony defects when performed in conjunction with orthodontic tooth movements.

Material and Methods

A total of 554 periodontally severely compromised teeth in 52 patients (age 31-66 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 3.3 mm (median: 3.0 mm - IQR: 2-4 mm). Radiographic analysis showed a mean mineralized tissue gain of 4.7 mm (median: 4.3 mm - IQR: 3-6 mm) at 12 months and further clinical improvements up to 3 years. Only one tooth was lost during the observation period.

Conclusion

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.

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