
Conner C, Martinez Luna AA, Gillone A
East Carolina University, Greenville, North Carolina, United States

Abstract

Objective: The use of biomimetic agents and osseous grafts could aid to obtain periodontal regeneration in patients that present with infrabony defects. This case report presents the use of periodontal regenerative therapy to treat Stage III Grade C Periodontitis (previously termed “aggressive periodontitis”).

Material and Methods: A 13-year-old male was referred to ECU School of Dental Medicine for comprehensive periodontal evaluation. Full mouth series, clinical photographs, and a comprehensive periodontal exam were obtained at the initial examination. Severe bone loss was noted around teeth #24 and #25 and vertical bone loss was present on first molars (except #14). The patient also presents with a diastema between #24 and #25 with a high frenum attachment. After 4 quadrants of scaling and root planing and proper oral hygiene counselling, we then proceeded on to re-evaluation and the surgical phase of treatment. During evaluation of initial therapy, mandibular frenectomy was performed. The use of biomimetic agents and osseous grafts provided periodontal regeneration in areas where there were intra-bony defects. Finally, the patient entered the maintenance phase of treatment. Radiographic bitewings at the maintenance visit confirmed bone fill.

Conclusion: The aim of this case report is to present the case of an African American male patient with Generalized Stage III Grade C Periodontitis treated with periodontal regeneration therapy.

The use of a periodontal classification system that utilizes staging and grading with bone loss patterns could help to identify advanced periodontitis in young patients that need immediate intervention and referral to a specialist. Early treatment of young patients with periodontitis using a regenerative approach could lead to successful outcomes and improve the prognosis of the teeth.

Discussion

This case report presents with the successful use of biomimetic agents and osseous grafting in a patient with Generalized Stage III Grade C Periodontitis (Molar/Incisor pattern). Localized Aggressive Periodontitis would have been the diagnostic term used to describe this case prior to 2017. The American Academy of Periodontology updated their guidelines to provide a multidimensional staging and grading system to classify patients with periodontitis. When treatment planning this patient, it was crucial to consider home care, nutritional diet, and genetic predisposition. A significant family history of periodontitis was noted in this case.

Successful treatment with biomimetic agents and osseous grafting has been reported throughout the literature. Enamel matrix derivative is a biological mediator that consists of proteins and growth factors. Early studies showed increased bone fill with sites treated with acid etching and enamel matrix derivative than the control sites treated with a placebo. Patients were observed over a span of 36 months and increased bone fill was observed in 93% of the patients treated with enamel matrix derivative compared to no bone fill with placebo (1). When enamel matrix derivative treatment was compared with guided tissue regeneration using bioactive membranes, the clinical results were comparable and stable over as much as a 10-year period (2).

The treatment with enamel matrix derivative and xenograft in this case yielded effective results and radiographic bitewings confirmed bone fill in the infrabony defects. The literature shows that with proper oral hygiene and regular maintenance visits that results can be stable for a long period of time. Plaque can trigger inflammation and counteract wound healing in periodontal regeneration (3). Maintenance on a regular basis is fundamental in both the perioperative and early phases of healing and after the completion of care (4, 5). These patients could be susceptible to disease recurrence (6).

Young patient with a grade C are more successful if referred earlier to a periodontist (6).

Acknowledgements

The authors would like to thank the East Carolina School of Dental Medicine and faculty for their continuous support.

References


