TREATMENT OF RECESSION DEFECT WITH STRAUMANN EMDOGAIN™

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Gingival recession is a common finding among patients and can lead to esthetic concerns and thermal sensitivity. Among the most common etiologies are mechanical trauma from brushing and flossing in combination with a thin gingival biotype susceptible to recession. Occlusal trauma and frenum pull are considered co-factors in the recession process.

Various soft tissue grafting techniques have been developed to address this problem and have mostly included the transplantation of autogenous tissue in combination with a coronally advanced flap (CAF). Other techniques included pedicle flaps, guided tissue regeneration, and the use of allograft materials.

Advances in technology have improved the predictability of root coverage procedures. Treatment with enamel matrix proteins in conjunction with a coronally repositioned flap has been shown to be an effective treatment modality with reduced morbidity for patients.[1,3] Enamel matrix proteins have been clinically observed to enhance wound healing[1] and promote regeneration of periodontal tissues on previously denuded root surfaces.[2]

By eliminating the need for a second surgical site, treatment with enamel matrix proteins and a CAF can also decrease treatment time, allowing for the potential of increased practice productivity.

The following case report demonstrates the use of a coronally repositioned flap with enamel matrix proteins (Straumann Emdogain), with two-year follow up.

Case Report

A 58-year-old female presented for a comprehensive periodontal evaluation; her medical history was unremarkable and she was a nonsmoker. Localized areas of mucogingival recession were noted throughout the dentition with moderate plaque control and a history of intermittent parafunctional habits.

A recession defect (Miller Class 2) was observed on the facial surface of tooth #10 in the maxillary anterior sextant. The tooth had mild toothbrush abrasion and temperature sensitivity, and no symptoms to percussion, palpation or mobility. Moderate crown-to-root ratio was observed on tooth #10 with a thick gingival biotype and ample attached gingiva.

Fig. 1 PA of tooth #10 taken 1/3/08

Fig. 2 Miller Class 2 Recession

Fig. 3 Initial incision

Fig. 4 Flap reflection - root polish

Fig. 5 EDTA placed on root surface

Fig. 6 EMD placed on root surface

Fig. 7 Flap coronally positioned and sutured

Fig. 8 Flap closure

Fig. 9 2 week post op

Fig. 10 2 year post op

References

1. McGuire M.K. and Nunn M. J Periodontol 2003; 74: 1110-1125
2. McGuire MK et al. J Periodontol 2003; 74:1126-1135
3. Cairo et al., Treatment of gingival recession with coronally advanced flap procedures: a systematic review. J Clin Periodontol 2008; 35 (Suppl 8): 136-162.

Debridement of the area of tooth #10 was completed prior to surgical access including hand and ultrasonic scaling and root planning along with chlorohexidine irrigation and supragingival prophylaxis. Next, a pedicle full thickness to partial thickness flap with mesial and distal vertical releasing incisions was completed along with degranulation (epithelial surface) of the interproximal papilla. Light debridement of the root surface was completed and EDTA was applied to the root surface for 3 minutes. The EDTA was removed with sterile water irrigation and Emdogain was applied copiously to the root surface of tooth #10. The pedicle flap was coronally positioned and secured with vicryl 4 – 0 and 5 – 0 sutures. The remaining Emdogain was applied to the incision lines and suture knot areas.

Post surgical evaluation was unremarkable with no complaints of pain, bleeding or swelling. The prior noted sensitivity resolved and complete root coverage was achieved. The surgery was performed on January 3, 2008. Follow-up evaluation photographs on January 17, 2008 (14 days post-operative) are included along with a follow up evaluation on January 25, 2010.

Dr. Daniel S. Lauer was raised in Palm Beach Gardens, Florida. In pursuit of higher education, Dr. Lauer attended the University of Michigan in Ann Arbor, where he received a Bachelor of Science in Anthropology/Zoology. He continued his education at the University of Florida, College of Dentistry. Dr. Lauer graduated with honors and completed research that won accolades from the International Association of Dental Research, and achieved publication in Special Care in Dentistry. Following dental school, Dr. Lauer completed a residency in periodontics and implantology at New York University. He passed the comprehensive board certification process to become a Diplomate of the American Board of Periodontology, and is an active member of the American Dental Association, the Florida Dental Association and the Academy of Osseointegration.

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