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Case Report

SOFT TISSUE GRAFTING FOR SINGLE TOOTH ROOT COVERAGE

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ABSTRACT
Several surgical approaches have been proposed in periodontal literature for coverage of exposed roots. However, all of them are technique sensitive and need good surgical skills. We report a case for a 27 years old male patient who complained of localized severe gingival recession on a lower central incisor. Complete root coverage was gained after two attempts of periodontal surgeries. The procedures involved the utilization of subepithelial connective tissue grafts combined with coronally advanced pouch procedure.

Keywords: *Connective Tissue Graft, Root Coverage, Wound Healing, Periodontal Surgery, Dentistry*

INTRODUCTION
The main indication for root coverage treatments is for esthetic concern in anterior teeth. Other indications may be to reduce tooth sensitivity or prevent root caries. Before three decades, Preston D. Miller (1985) has proposed that complete coverage is only predictable in class I and II defects. Few publications have shown that, under certain conditions, defects known as Miller class III may also be completely covered but with less predictability (Esteibar *et al.*, 2011; Cairo *et al.*, 2012). Other limitations for single tooth root coverage include malpositioned teeth, rotated teeth, presence of gingival inflammation, poor plaque control, or persistence of trauma caused by tooth brushing or other habits (Bouchard *et al.*, 2001).

CASES
A 27 years old male patient was referred by his dentist to Alpha Clinic – A private clinic specialized in Periodontics and Dental Implant, Ramallah, Palestine – for a buccal recession at the left lower maxillary central.
On first visit in April 2010, the patient complained about a gingival defect related to lower incisor tooth which has been recently endodontically treated. The patient's chief complaint was esthetic appearance.
On intra-oral examination, a recession measuring 13 mm height and 4 mm in the maximum width dimension was observed buccal to the lower left central incisor (tooth #31). No excessive mobility detected and there was no history of acute or chronic physical trauma to the affected area as revealed by the history taken from patient. The mucosa apical to the buccal defect was composed of non-keratinized mucosa (Figure 1).

Figure 1: Recession at lower left central incisor 13x4 mm

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Full mouth scaling was performed to eliminate any gingival inflammation. One month later, the patient was scheduled for surgical apicectomy and root coverage surgery by the means of a coronally advanced pouch and connective tissue graft (CTG) at the same day. After three months of follow up and oral hygiene control, almost half of the exposed root was covered (recession was 7 mm high) (Figure 2). A second attempt of root coverage surgery, using the same technique (coronally advanced pouch with connective tissue graft) was done. Complete root coverage was obtained after second surgery (Figure 3).

Figure 2: remained recession after first surgery

Figure 3: Four months after the second surgery

Follow up visits were scheduled at 3 month intervals for three years after the second surgery. Scaling and oral hygiene instructions were performed on every recall visit. No signs of inflammation or progressive recession have been observed until now (Figure 4 and 5).

Figure 4: Three years after second surgery

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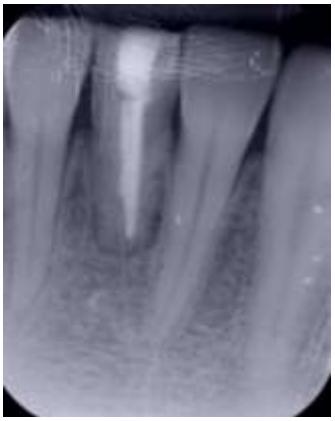

Figure 5: Periapical X-ray two years after second surgery

DISCUSSION

Wikesjo andSelvig (1999) reviewed periodontal wound healing after various regenerative techniques and bearing in mind that optimal wound healing following periodontal reconstructive surgery should result in formation of new cementum, periodontal ligament and alveolar bone, appropriately sealed by gingival tissue. However, their observations from animal studies indicated that: 1) Clinical success may not be related to the actual regenerative potential in a periodontal defect, but is a consequence of clinical restrictions with regard to flap management and subsequent wound maintenance during the early healing sequence for all regenerative techniques.2) Wound integrity during the early healing phase obtained by suturing of the mucogingival tissues is vulnerable to any disruption by mechanical forces for a considerable time after surgery. Thus, the positioning and maintaining of the mucogingival flaps protected from mechanical insult is very important (Wikesjo and Selvig 1999).

In a recent critical review, Susin and Wikesjo (2013) discussed the lessons learned in regenerative periodontal therapy during the last 30 years. They have suggested some conclusions including the following: 1) Theperiodontium has a strong innate regenerative potential that can be compromised by local and systemic factors. 2) A long junctional epithelium is not an inexorable outcome; it is probably not the cause but a consequence of wound failure. 3) Space provision, wound stability and healing by primary intention are necessary, but not always sufficient, to achieve periodontal regeneration. 4) Periodontal regeneration occurs within weeks, whereas periodontal tissue maturation requires a longer time for completion (Susin and Wikesjo 2013).

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