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Periodontology

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Study:



Coronally advanced flap + connective tissue graft techniques for the treatment of deep gingival recession in the lower incisors. A controlled randomised clinical trial

Zucchelli G, Marzadori M, Mounssif I, Mazzotti C, Stefanini M. *J Clin Periodontol.* 2014; 41: 806-813.

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Relevant background to study:

Coverage of localised labial gingival recessions can be achieved with several techniques. Of these, coronally advanced flaps (CAF) in association with connective tissue grafts (CTG) seem to obtain more root coverage and achieve better aesthetic outco-

mes. Most of the existing studies have evaluated this technique for moderate recession defects in the maxillary arch and there is a lack of evidence regarding its effectiveness with lower incisors.

Study Aims:

To compare clinical and aesthetic outcomes of two different but similar surgical techniques in the

treatment of single labial gingival recession defects of lower incisors.

Methods:

Fifty patients participated in this double masked, randomised controlled clinical trial. All of the participants contributed one recession defect, classified as Miller class I or II (≥ 3 mm in depth). Patients were only allowed to proceed with the surgical procedures if they could demonstrate an acceptable level of oral hygiene.. The roots were debrided before surgery and treated with 24% EDTA for 2 minutes following root exposure. All surgeries were performed by the same operator. Test group (n=25) treatment was: CAF + CTG + Labial Sub-mucosal Tissue (LST) removal. In order to remove the LST an incision was made deep to detach it from the periosteum and another incision was made superficially to separate it from the

alveolar mucosa. This way, the flap was released of tension and adapted more closely to the underlying periosteum. Control group (n=25) treatment: CAF + CTG without removal of the LST. Clinical measurements were performed 1 week before and 12 months following surgery, except for CTG thickness and bone dehiscence length, which were measured during the procedure. Oral hygiene was reinforced regularly during this period. Evaluation of aesthetics was performed 12 months following surgery both by the patients and by a periodontist. Postoperative pain was also evaluated by measuring the mean use of analgesics in the week following the surgical procedures.

Results:

Both treatment protocols were successful in treating recession defects by reducing their size. Additionally, probing pocket depths were reduced and keratinised tissue height and width increased with both techniques. Significantly less CTG exposure occurred in patients who had the LST removed and

this was associated with greater percentage of root coverage, less keloid formation and a more aesthetic result. The study failed to identify differences in postoperative pain and morbidity between the two groups.

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- a) Defect of 4mm.
- b) Trapezoidal flap elevation.
- c) LST removal.
- d) The LST following removal.
- e) CTG following disepitelization of free gingival graft is sutured at level of CEJ.
- f) Coronally advanced flap to cover CTG.
- g) LST removal facilitates flap has a vertical dimension adapted closely to the underlying periosteum.



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Conclusions and impact

- Single type gingival recessions on the labial aspect of mandibular incisors may be successfully treated using CAF + CTG.
- Removing LST may improve flap stability and is associated with improved outcomes.
- The study demonstrated that patient assessment of the

results focussed on graft colour rather than root coverage. Therefore, the improved aesthetics associated with removing the LST in conjunction with the superior clinical results, indicates that this technique should be considered when treating deep gingival recessions in the lower incisors.