Root coverage with connective tissue graft. Case reports

Copertura radicolare con innesto connettivale. Casi clinici

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ABSTRACT

OBJECTIVES. The aim of this study was to report two clinical cases of root coverage.

MATERIALS AND METHODS. A connective tissue graft associated with two different flaps, one coronally positioned, and the other laterally positioned, was used for the treatment of two gingival recessions Class I and III, respectively.

RESULTS AND CONCLUSIONS. The surgical techniques here described showed good results in root coverage and gain in keratinized tissue, with complete coverage in Class I recession and partial coverage in Class III recession. Periodontal plastic surgery for root coverage can make use of various techniques, with an emphasis on the graft tissue procedure, yielding excellent results in Class I and II recessions, albeit less predictable and with only partial coverage in Class III. Moreover, such technique allows for a gain in the keratinized tissue level.

KEY WORDS

- Gingival recession
- Connective tissue
- Root coverage
- Periodontal therapy
- Aesthetics

RIASSUNTO

OBIETTIVI. Obiettivo del presente lavoro è descrivere due casi clinici di copertura radicolare.

MATERIALI E METODI. È stato utilizzato un innesto di tessuto connettivo associato a due lembi diversi, uno posizionato coronalmente e uno lateralmente, per il trattamento di recessioni gengivali rispettivamente di Classe I e III.

RISULTATI E CONCLUSIONI. Le tecniche chirurgiche descritte hanno mostrato buoni risultati nella copertura radicolare e nel guadagno in tessuto cheratinizzato, con una copertura completa nel caso di recessione di Classe I e una

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copertura parziale nel caso di recessione di Classe III.
La chirurgia plastica parodontale per la copertura radicolare può avvalersi di varie tecniche; in particolare quella con innesto di tessuto permette di ottenere ottimi risultati nelle recessioni di Classe I e II, mentre è meno prevedibile nella Classe III con una copertura soltanto parziale.
Presenta inoltre la possibilità di aumentare il tessuto cheratinizzato.

PAROLE CHIAVE
- *Recessione gengivale*
- *Tessuto connettivo*
- *Copertura radicolare*
- *Terapia parodontale*
- *Estetica*

1. INTRODUCTION

The main function of the periodontium is to insert the tooth into jaw bone and maintenance of the masticatory mucosa integrity of the oral cavity. The attachment loss caused by periodontal disease is clinically represented by the periodontal pocket and gingival recession, which is defined as the condition where the gingival margin is positioned apical to the cementum enamel junction and root surface is in contact with the oral environment [1], exposing the cementum that degenerates, beyond the aesthetic compromising, may result in abrasions, caries and root surface hypersensitivity.
The recession is a very common clinical condition, and according to some authors [2], the lower incisors were the teeth that showed higher frequency of recessions and that 89% of the subjects above 20 years had at least one area with gingival recession.
The gingival recession may be localized or generalized, a result of bacterial action combined with predisposing factors, including thin cortical bone, thin periodontal biotype, fenestration and dehiscence bone and traction of brakes, and triggering factors, especially the traumatic brushing, orthodontic movements in buccal or lingual direction, occlusal trauma and invasion of the biologic width. Gingival recessions are classified as Classes I and II, without loss of interproximal bone and gingival tissue, Class III where the interproximal bone loss occurs from mild to moderate form, with or without absence of keratinized tissue, and Class IV, with a severe proximal bone loss [3].
Generally, the prognosis for Classes I and II is excellent, while for Classes III or IV only partial coverage may be desired. The Class IV provides a very poor prognosis with current techniques.
The aesthetic patient's expectations, with or without dentin hypersensitivity, increased demand for the treatment of gingival recession, and thus root coverage becomes an important part of periodontal therapy [4]. The success of aesthetic treatment is based on the use of periodontal plastic surgery techniques as with coronally advanced flaps (CAF) or laterally positioned (LPF) isolated or associated with subepithelial connective tissue graft (CTG), acellular dermal matrix (ADM), enamel matrix derivative (EMD) and guided tissue regeneration (GTR) [5]. Furthermore, it is possible the use of microsurgery comprising minimally traumatic techniques and highly predictable prognosis. The variable most often used to evaluate these treatments has been the amount of root coverage achieved, expressed as the difference between the measurements of attachment loss at baseline and final data, and the percentage of complete root coverage [3].
The CTG associated with CAF is the procedure of choice to show more predictable results due to the dual blood supply from both the flap and periosteum from the surgical site around the recession, plus the closest adjacent tissues color [4]. The CTG may be obtained from the palate or the tuberosity and can be removed by techniques such as the "trap-door" and the parallel incisions [6]. It shows effective results to cover recessions Class I and II [4,7], and in Class III recessions the coverage could only be partial [8].
The use of LPF, also associated with connective tissue graft, is another option for root coverage, showing good results with full coverage in Class I and II recessions in 62.5% of cases [9]. However it is essential to evaluate the periodontal condition of the area adjacent the recession to avoid damage to it that must have a larger and thickened strip of keratinized tissue to as to preserve at least a small range in the tooth donor [10]. A study comparing the efficacy of coronary advanced flap and the laterally positioned flap in Class I recessions, showed similar results between the two techniques for the root coverage [11]. CAF is the best flap design for root coverage with the ability to maintain an adequate blood supply to the gingival margin [7].
Graft using ADM associated with CAF have the advantage of avoiding the surgical donor area of the palate [4], with

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