

# BOULE THE BICHAT' S Fat FOR ROOT COVERAGE IN SEVERE GINGIVAL RECESSION: A SHORT CASE REPORT

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**ABSTRACT:** *Gingival recession has anatomical, physiologic, or pathological causative factors apart from a 17% lack of etiology. Although surgical techniques are available in plenty for the root coverage procedures, choice of technique often influences successful outcome. Buccal pad of fat for root coverage (a specialized adipose and well-vascularized tissue) is a nuovo not yet popular technique for regenerative procedures as root coverage in severe recession defects, especially in the maxillary posterior region of the oral cavity. In this case report root coverage procedure using pedicled buccal pad of fat in Miller's Class III recession on the maxillary posterior teeth is performed.*

**Key Words:** *Gingival recession, Buccal pad of fat, Root coverage*

## INTRODUCTION

The apical migration of the peripheral gingiva from the cemento-enamel junction is the gingival recession (CEJ).<sup>[1]</sup> A typical phenomenon is gingival recession, which is more common as age rises. This often results in root exposure and attachment loss, leading to hypersensitivity (thermal hypersensitivity), difficult plaque control, root caries, cervical abrasions and diminished cosmetic appeal and aesthetic problems. Miller classified of gingival recession into four different classes depending on the extent of migration of gingival <sup>[2]</sup>. Periodontal marginal tissue recessions have numerous etiology <sup>[3]</sup>. Various treatment modalities for gingival recession include gingival grafts, pedicled grafts with or without the use of guided tissue regeneration materials and with the help of orthodontic therapy.

There is a thick fat encapsulated layer called Buccal pad of fat (Bichat's fat pad, BFP) between the buccinator muscle and superficial muscles in the face <sup>[4]</sup>. BFP can be differentiated into adipogenic, chondrogenic and osteogenic lineage of cells as it contains the stem cells <sup>[5]</sup>. Hence when used as a pedicled graft the buccal pad of fat retains its high vascularity & ability to regenerate the lost attachment apparatus. This article reports on usage of pedicled buccal pad of fat for right maxillary posterior teeth with Miller's class III gingival recession.

## Objectives

This case report aims at using pedicled buccal pad of fat in the management of severe gingival recession defect and achieves regeneration.

## CASE REPORT

A 45 year old man came to our dental department with complaints of sensitivity and food lodgment between his right upper back teeth for past few years. He had no relevant medical history and was a non-smoker. Clinical examination revealed Miller's class III gingival recession in relation to his right maxillary molars with an attachment loss of 5 mm.

Patient underwent pre –surgical evaluation (Fig 1) & preparation and accepted for the surgical procedure. Due informed consent was obtained after explanation of possible outcome & results.



Fig 1. Pre operative photograph

## Surgical Procedure

Local anesthesiology (2 percent Lignocaine Hcl with 1:200,000 epinephrines) was given at the donor site & recipient site. The elevation of a full-thickness mucoperiosteal flap above the mucogingival junction was followed by a crevicular incision to receive the buccal pad of fat in a single incision (Fig 2,3).



Fig 2. Crevicular incision placed



Fig 3. Elevation of full thickness mucoperiosteal flap beyond mucogingival junction

With the help of suction apparatus buccal pad of fat was procured (Fig 4,5) to the site <sup>[14-17]</sup> and sutured along with the flap covering the gingival recession with non absorbable silk 3-0 (Fig 6,7).

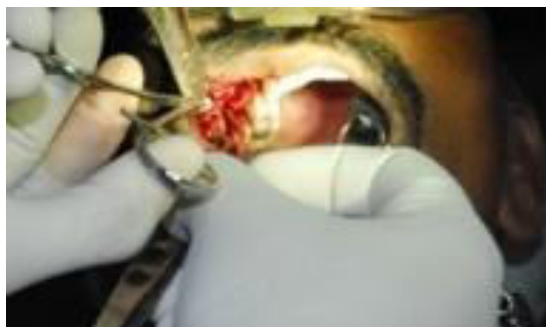


Fig 4. Suctioning of BFP



Fig 5. Procurement of BFP



Fig 6. Procuring BFP along the site



Fig 7. Site sutured

Care was taken that no tension be imparted to the sutured tissue. Periodontal dressing was placed & antibiotic & analgesics were prescribed post operatively. Patient was asked to report for routine follow up & avoid forceful mechanical oral hygiene measures at the surgical site immediately. Sutures were removed after 2 weeks (Fig 8). Oral mouth rinse (0.2% chlorhexidine) was advised during post

operative period. Post-operative healing was uneventful (Fig 9). At the end of 6 weeks, keratinized mucosa was formed at the anatomical site of the attached gingiva and BFP is completely epithelial zed. Patient was evaluated clinically 6 months post operatively; the clinical attachment was found to be 3mm.



Fig 8. 6 weeks post operative photograph



Fig 9. 6 months post operative photograph

## DISCUSSION

The cause of Gingival recession is either because of direct physical or mechanical effect on the gingiva or because of a fiery response in indirect way on the gingival tissues<sup>[6]</sup>. Signs for careful surgical procedures to treat such defects incorporate soft tissue aesthetics in localized area, to reduce sensitiveness, improving oral cleanliness that forestall further movement of the gingival margin<sup>[7]</sup>.

Surgical techniques for the root coverage have indicated significant root coverage<sup>[8]</sup>. For the achievement of any periodontal plastic surgical procedure, there are different patient and tooth related components important to be evaluated before surgical procedure. The decision of procedure relies upon a few aspects, each having their own favorable circumstances and hindrances. The clinician ought to pick the less traumatic procedure appropriate for the patient.

One surgical site is involved in pedicle grafts, while recession lesions are involved as the primary recipient site and the donor site (secondary site), which is typically the palatal tissue, in the free grafts<sup>[9]</sup>. In this procedure, the other major difference is that the grafted tissue derives its blood supply from the recipient site and not from its own donor location. Pedicle grafts are also not appropriate for thin gingival biotypes or in areas where gingival tissue is not keratinized<sup>[9]</sup>. It is necessary to suture the flap back to reach the full root coverage of 10<sup>[10]</sup>.

Poor prognosis is seen when Miller's Class III and IV defects are treated with current techniques<sup>[11]</sup>. The current technique is unique when compared with other buccal pad of fat procedures<sup>[10,11,13]</sup> is that the single incision been used to procure the buccal pad fat for root coverage. The

buccal pad of fat is sought to be advantageous over other techniques for following reasons. The main advantages with this technique in the presence of BFP close to the recession area and its easy access to do the surgery especially for maxillary posteriors<sup>[13,14]</sup>. Patient discomfort and donor site morbidity are minimal. No loss of esthetics on usage of the pedicle from the cheek. This is specially organized which enhances the muscles of mastication<sup>[15]</sup>. The rich vascular supply of the pedicle graft ensures its vitality and resistance to infections in contrast to a free soft tissue grafts. The periodontal regeneration is enhanced in pedicled fat pad because of the presence of stem cells<sup>[12]</sup>.

## CONCLUSION

While this procedure looks promising for severe gingival recession, several research is needed to evaluate the long term success & success in comparison to traditional techniques for root coverage by the same technique.

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