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Case Report

Treatment of gingival recession with coronally advanced flap with/without autologous platelet rich fibrin: A case report

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ABSTRACT

Aim: This case report aims to analyze the treatment outcome of receding gums with coronally advanced flap (CAF) with/without an autologous platelet rich fibrin (PRF).

Materials and Methods: Two patients with localized Miller's class I gingival recession reported to the department of Periodontology, Seema Dental College and Hospital, Rishikesh, were selected for coronally advanced flap with/without autologous platelet rich fibrin for aesthetic purpose. At baseline, 1st and 3rd month treatment outcome was assessed by following clinical parameters such as recession depth (RD), recession width (RW), clinical attachment level (CAL), keratinized tissue width (WKT).

Results: Recession depth (RD), Recession width (RW), Clinical attachment level (CAL), Width of keratinized tissue (WKT) shows significant improvement in patient with platelet rich fibrin at 1 month & 3 months.

Conclusion: Coronally advanced flap along with PRF shows that it is a predictable treatment modality for localized Miller's class I recession defects.

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1. Introduction

Apical migration of gingival margin resulting in exposure of root surfaces is known as gingival recession.¹ Etiological factors for gingival recession include improper brushing technique, flossing, plaque accumulation, inflammation, periodontitis and improper occlusal contacts.² Successful root coverage has been the main objective to maintain form, function, aesthetic and patient's comfort. Various recession coverage techniques have been developed and modified to obtain predictable outcome.³ The main purpose of developing new techniques is to increase patient's satisfaction of aesthetic demand. This case report aims to assess the gingival recession management with CAF with/without autologous PRF membrane.⁴

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2. Case 1

2.1. Case presentation

A female patient, 48 years old, presented herself at the Seema Dental College and Hospital, Rishikesh, Uttarakhand with the problem of receding gums, aesthetic discomfort and sensitivity. A clinical examination was carried out in which multiple miller's class I recession was identified in upper right canine and premolar tooth region. The proposed treatment was CAF along with autologous PRF membrane irt 13 14 (Figure 1). At baseline, 1st and 3rd months clinical outcome was assessed by following clinical parameters such as RD (Figures 2 and 4), RW (Figures 3 and 5), CAL, WKT.

2.2. Preparation of platelet rich fibrin (PRF)

20 ml of blood was withdrawn from vein, which lies within the cubital fossa anterior to the elbow the patient. The 10 ml of blood was stored in 2 tubes and in other 2 tubes 10 ml of saline was poured. Then, the blood sample withdrawn was centrifuged for 10 min. at 3000 rpm to obtain PRF (Choukron's PRF). The PRF clot obtained (Figure 8) was compressed by using sterile glass slides which was then placed at the required site.⁵



Fig. 1: Miller's class I recession irt 13 14



Fig. 2: Recession depth was taken irt 13

2.3. Pre-surgical preparation

Phase I therapy (scaling and polishing) was carried out followed by reevaluation.

2.4. Surgical procedure

After attaining sufficient amount of anesthesia (Lignocaine 1:80,000), scaling and root planing was done with ultrasonic instruments. An intracrevicular incision was given irt 13



Fig. 3: Recession depth was taken irt 14



Fig. 4: Recession width was taken irt 13



Fig. 5: Recession width was taken irt 13



Fig. 6: Intracrevicular and releasing incisions given



Fig. 7: Reflection of full thickness flap to the mucogingival junction

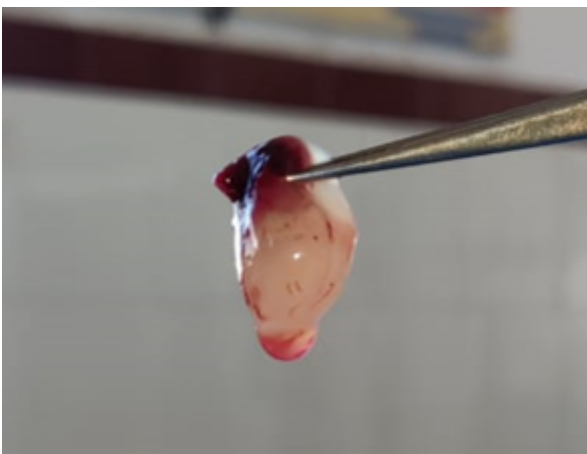


Fig. 8: PRF obtained using Choukron's method

14 with two releasing incision given vertically (Mesial to 13 and Distal to 14) (Figure 6). Then, the Mucoperiosteal flap was elevated to the mucogingival junction (Figure 7) for free coronal displacement of the flap. Then, Granulation tissue was removed and obtained PRF membrane was placed irt 13 14. To cover the defect completely, flap was coronally advanced and secured at its advanced position with interrupted sling suture using 3-0 black braided silk sutures (Figure 9).



Fig. 9: Interrupted sutures given



Fig. 10: Postoperative picture after 15 days

3. Case 2

3.1. Case presentation

A male patient, 27 years old came to the department of periodontics at the Seema Dental College and Hospital, Rishikesh, Uttarakhand with the chief complaint of receding gums and dentinal hypersensitivity. On clinical examination, multiple miller's class I recession in upper

right lateral, canine and premolar tooth region (Figure 11). The proposed treatment was coronally advanced flap irt 12 13 14 & 15. At baseline, 1st and 3rd month clinical outcome was assessed by following parameters such as RD (Figures 12 and 14), RW (Figures 13 and 15), CAL, WKT.



Fig. 11: Miller's class I recession irt 12 13 14 & 15



Fig. 13: Recession width was taken irt 12



Fig. 12: Recession depth was taken irt 12



Fig. 14: Recession depth was taken irt 13



Fig. 15: Recession depth was taken irt 13

3.2. Pre-surgical preparation

Phase I therapy (scaling and polishing) was carried out followed by reevaluation.

3.3. Surgical procedure

After attaining adequate anesthesia (Lignocaine 1:80,000), an intracrevicular incision was given irt 12 13 14 and 15 along with two vertical releasing incision (Figure 16 ; Trapezoidal Flap). Mucoperiosteal flap was elevated to the mucogingival junction (Figure 17). Then, the flap was Coronally advanced and secured at its advanced position

with interrupted sling suture using 3-0 black braided silk sutures (Figure 18).



Fig. 16: Intracrevicular and releasing incisions given

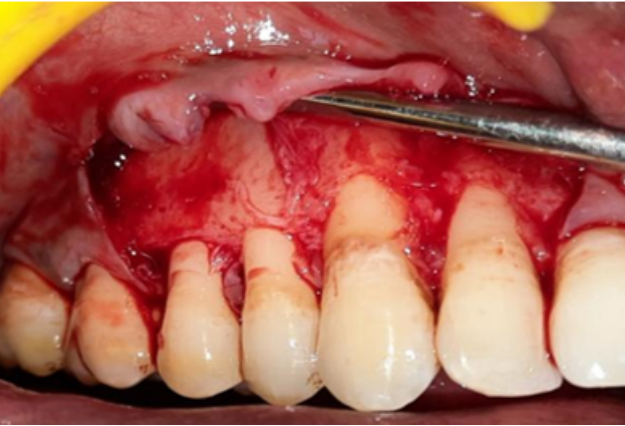


Fig. 17: Reflection of full thickness flap to the mucogingival junction



Fig. 18: Interrupted sutures were given



Fig. 19: Coe pak was placed



Fig. 20: Postoperative picture after 15 days

Both patients were advised not to brush at surgical site and to use 0.12% chlorhexidine gluconate mouthwash for 15 days. Use of icepacks was recommended immediately after surgery, intermittently for every two hours. Systemic antibiotics (Amoxicillin 500 mg, TDS for five days) along with analgesics were prescribed.

4. Results

There was reduction in the RW, RD and gain in CAL, WKT at 1st and 3rd month from baseline following treatment in both the patient. But better result was seen in CAF with PRF (Figures 10 and 20).

5. Discussion

Gingival recession affects vast population, shown by the fact that these patients often report with pain, dentinal hypersensitivity and aesthetic discomfort.⁶ Before initiating any therapy for gingival recession, cause of the problem must be addressed. Once the etiology is identified, we may

proceed for the treatment to arrest or reverse the receding gingiva. The present case report aimed at treatment of miller's class I gingival recession with CAF with/without PRF. There was decrease in RW and RH and gain in CAL and WKT at 1st and 3rd month postoperatively from baseline. Various benefits of this technique are colour and contour match with the surrounding tissue, no additional surgical site required and improved aesthetics.⁷ Acc. to Kumar AP et al. in 2011 the use of PRF may be an effective and non-invasive way of managing receding gingiva as compared to autogenous graft. Optimal aesthetic results with excellent soft tissue contour and texture were observed.⁸ Contraindicating to this Aroca S et al in 2009, CAF is an effective treatment option for Miller's Class I or II recession defects. The addition of a PRF membrane resulted in lesser root coverage but gain in GTH at 6 months was seen compared to conventional therapy.⁹ Eren G et al. in 2014 also added that receding gums could be successfully treated with CAF with PRF as well as CAF with SCTG with no statistical significant difference between treatment groups.¹⁰ Acc. to Thamaraiselvan M et al. in 2015 addition of PRF to CAF provide no added advantage in terms of root coverage except for an increase in GTH.¹¹

6. Conclusion

Within the certain limitation of this case report, both treatment modalities resulted in a favourable outcome in terms of recession coverage obtained. But, CAF along with PRF for Miller's class I recession defects brings reliable and highly predictable results.

7. Source of Funding

None.


8. Conflict of Interest

The authors declare no conflict of interest.

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