

MODIFIED APICALLY REPOSITIONED FLAP FOR INCREASING THE WIDTH OF ATTACHED GINGIVA ALONG WITH PLATELET-RICH FIBRIN: A CASE SERIES WITH 6-MONTH FOLLOW-UP

INTRODUCTION

A functionally adequate amount of attached gingiva is essential for maintenance of gingival health, prevention of soft tissue recession, and attachment loss. **Carnio et al.** found that a modification of the apically repositioned flap is an effective method to increase keratinised and attached tissue width.

Platelet-rich fibrin (PRF) is a natural fibrin-based healing biomaterial. It encourages angiogenesis, immunity, epithelialization, and is used to shield open wounds, thereby promoting faster healing and soft tissue maturation.

AIM AND OBJECTIVE

This case series reports on the effectiveness of the modified apically repositioned flap (MARF) with PRF in increasing the apico-coronal dimension of attached gingiva in **Miller's class III and IV** recession over single/multiple adjacent teeth.

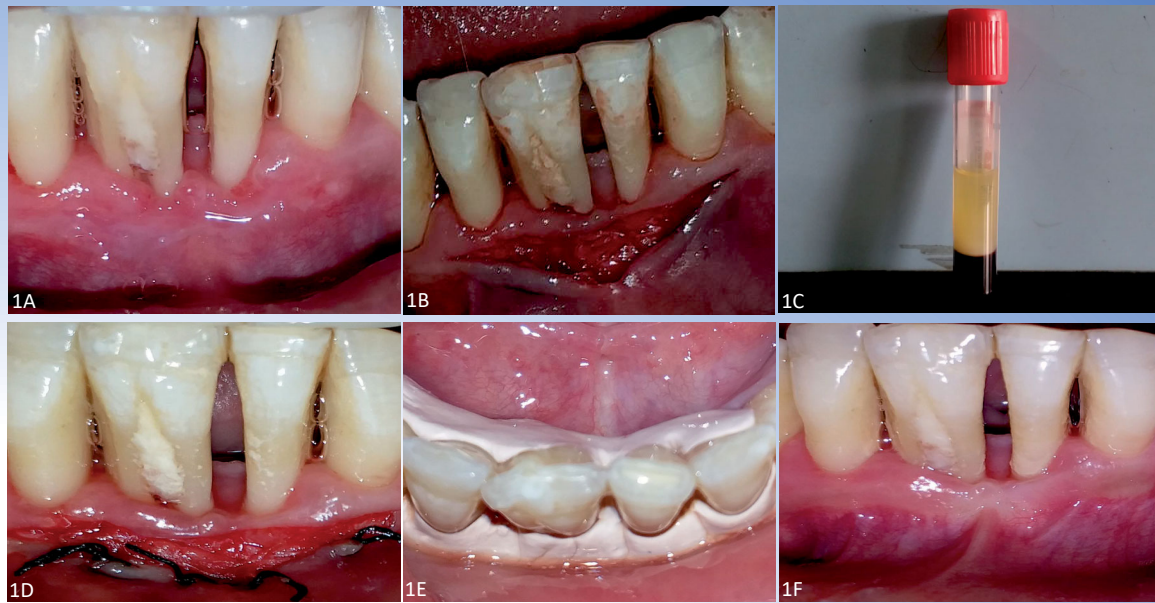


FIGURE 1 Surgical procedure A) Preoperative B) Horizontal beveled incision made in the attached gingiva and split-thickness flap was elevated C) PRF preparation D) PRF membrane placed and application of interrupted periosteal suture E) Periodontal dressing F) Postoperative

MATERIALS AND METHODS

A total of 6 teeth were treated in 3 systemically healthy patients (1 male, 2 females; age range-21 to 38). Patients were non-smokers with an inadequate zone of attached gingiva (0.5-2.0mm) and minimal sulcus depth with no bone dehiscence. Parameters were analysed at baseline and 6 months using a UNC15 periodontal probe.



RESULT-Treatment with this procedure resulted in increase in width of both keratinized gingiva (0.5-1mm) and attached gingiva (0.5-1mm).Gingival recession decreased at 4 treated areas (Fig. 1 and 3) which may be the result of creeping attachment. No change in PD from baseline to 6 months.

FIGURE 2 A) Preoperative B) Postoperative



FIGURE 3 A) Preoperative B) Postoperative



CASE	TEETH	PD	KT	AG	REC	PD 6 MONTH	KT 6 MONTH	AG 6 MONTH	REC 6 MONTH
1.	31	1	3	2	6	1	3.5	2.5	5
	41	1	1.5	0.5	6	1	2.5	1.5	5
	42	1.5	3.5	2	5	1.5	4.5	3	4
2.	31	1	2.5	1.5	3.5	1	3	2	3.5
	41	1	2.5	1.5	2.5	1	3.5	2.5	2.5
3.	31	1	1.5	0.5	1.5	1	2.5	1.5	0

PD- Probing depth, KT- keratinized tissue, AG- attached gingiva, REC- marginal tissue recession

Simplicity, limited chair time for the patient and operator

Ideal colour match of tissue, ability to treat multiple teeth

Minor surgical trauma, doesn't require palatal donor tissue

No postoperative complications like recession or alveolar bone loss

ADVANTAGES

DISCUSSION- According to **Karring et al.**, the main determining factor of new tissues that develop over exposed periosteum depends on the origin of granulation cells that migrate over the wound. Epithelial cells present on the borders of the surgical wound after MARF would migrate over the exposed periosteum and may give rise to keratinised tissue.

Aravindaksha et al. used PRF as a palatal bandage to protect the raw wound area and concluded superior healing with less patient discomfort. The presence of fibrin, fibronectin, angiogenesis and soluble factors in the PRF modulate integrin expression on endothelial cells intensify fibroblast proliferation and promote microvascularisation and epithelial cell migration inside the wound.

CONCLUSION

It may be concluded that (MARF+PRF) may be used as an alternative to other procedures such as free gingival graft with reliable results and minimal patient discomfort.