CASE REPORT

ROOT COVERAGE BY CORONALLY ADVANCED FLAP WITH CONNECTIVE TISSUE GRAFT: A CASE REPORT

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INTRODUCTION

Gingival recession is defined as "Displacement of the gingival margin apical to cemento - enamel junction".[1] Gingival recession creates an esthetic concern for the patient; increases susceptibility to root caries and dentinal hypersensitivity. Several treatment options have been advocated for management of gingival recession over the years with varying degree of success.[2,3,4] In the present case report since the primary concern of the patient was esthetics, so we decided to do root coverage procedure by connective tissue graft with coronally advanced flap. The gingival biotype was thick (>1 mm), accompanied by adequate width of attached gingiva and vestibular height.

CASE REPORT

A female patient, age 37 presented to the clinic with complaint of poor look and mild sensitivity in relation to maxillary canine (Tooth 23). On clinical examination tooth 23 had 3 mm of gingival recession. The oral hygiene was fair, inter dental papillae were intact and there was no loss of interdental bone as seen on IOPA x-ray (Fig.1B). After comprehensive examination we arrived at diagnosis of Miller's class I gingival recession. Phase I therapy was completed; oral hygiene instructions were given to the patient and was recalled after 4 weeks. It was decided to do root coverage by using connective tissue graft from the palate with coronally advanced flap. Routine blood investigations were carried out. The entire procedure was explained to the patient and his consent was obtained.

Fig. 1 A: Pre- Op 3 mm recession

Fig. 1B: IOPA X-ray

The involved area was anaesthetized by giving local anesthesia, after establishing profound anesthesia; a partial thickness flap was raised by giving horizontal and vertical incisions on the either side of recession. The horizontal incision were given 1.5 mm away from the marginal gingiva, care was taken to keep the interdental papillae intact. Vertical incisions were given on either side extending well beyond the mucogingival junction. A partial thickness flap was raised by sharp dissection (Fig.1C) there by leaving a portion of connective tissue with periosteum on the bone. Periosteal releasing incision was given at the base to relieve the flap of any tension when advanced coronally. The root surface was planed and the root prominence was reduced using diamond bur. The interdental papillae were de-epithelised. Moist gauze was placed on recipient bed to achieve homeostasis before the placement of the graft.

Connective tissue graft was obtained from the palate (Fig. 1D) using Lui's type I incision.[5] The soft tissue graft was kept covered by moist gauze to prevent

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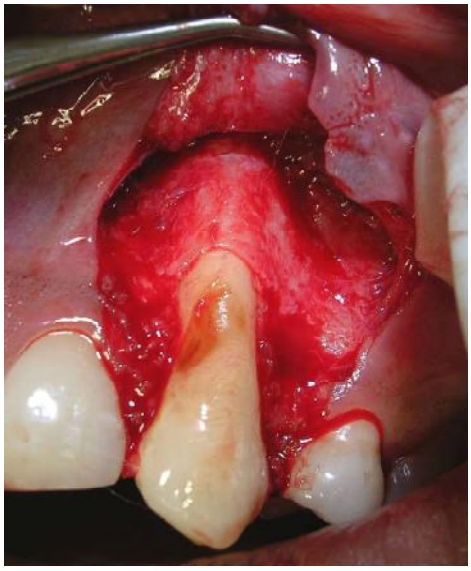

Fig. 1C: Partial Thickness flap raised

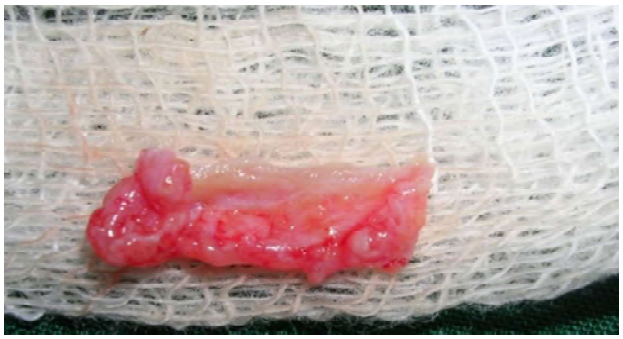

Fig. 1D: Connective Tissue Graft harvested from palate

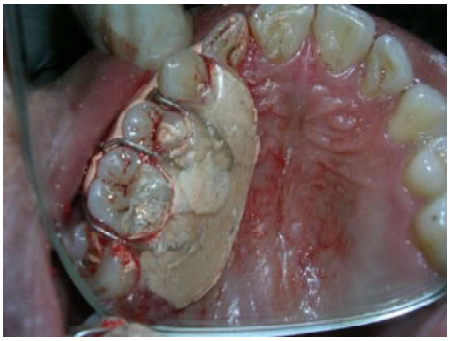

Fig. 1E: Donor site sutured and template placed

dehydration of graft. In the donor site hemostasis was achieved, sutures were placed, and surgical stent was given (Fig. 1E). The connective tissue graft obtained was placed on recipient bed, stabilized by resorbable suture. The partial thickness flap which was raised was advanced coronally and sutured (Fig.1G). Post-operative instructions were given to patient. Sutures were removed after 2 weeks and the patient was under regular follow-up. At the end of 6 month of observation there was

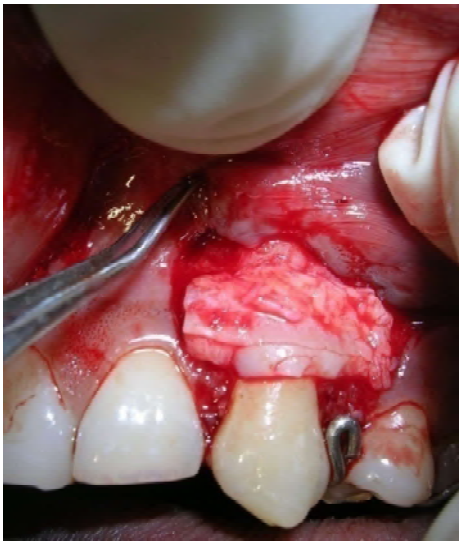

Fig. 1F: Connective Tissue Graft placed on recipient bed

Fig. 1G: Flap Coronally advanced and sutured

Fig. 1H: Healed donor site at 4 weeks

complete root coverage was achieved with excellent colour match of the gingiva (Fig. 1I).

Fig. 1I: Complete root coverage at 6 months

DISCUSSION

The ultimate goal of periodontal therapy is to improve periodontal health and maintain patient's dentition in functional state. It should be always kept in mind before any procedure for root coverage is attempted one should look for the cause of recession, eliminate the causative factor and then institute the therapy.

According to The American Academy of Periodontology (1996) 'Periodontal Plastic Surgery' (PPS) was defined as 'surgical procedures performed to prevent or correct anatomical, development, traumatic or plaque induced defects of the gingiva, alveolar mucosa, or bone. The first procedure for root coverage was reported in periodontal literature in 1926 by Norberg.[6] Since then various surgical procedures with modifications have been documented in literature with varying degree of success.[7,8,9] In the present case there was adequate vestibular depth, and some amount of keratinized tissue was available, so we decided to manage the case by using connective tissue graft with coronal advance flap to achieve root coverage. The advantages of Coronally advanced flap is it is a simple technique, there is an excellent colour match of tissue and minimal post-operative complication.

The use of connective tissue graft was first reported in the literature in the year 1985, since then various authors have used it with predictable result, this is primarily due to double blood supply to the graft which is the major benefit for graft survival and its uptake.[10,11,12] In the present case we could achieve completer root coverage (3mm), increased in the width of attached gingiva with excellent tissue tone and colour match. There were no post-operative complications both at donor and recipient site.

CONCLUSION

There are many techniques available for root coverage and before instituting treatment the patient related factor, site related factors, and the surgical skills of operator are important in the outcome of the result. The procedure used in this case report resulted in achieving complete root coverage.

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