GINGIVAL DE-PIGMENTATION: 2 CASE REPORTS

Sanjeevini H¹, Pushpa Pudakalkatti², Soumya B.G³ and Aarati Nayak⁴

¹,²,³,⁴ Department of Periodontics Maratha Mandal’s Nathaji Rao Halebaker Institute of Dental Sciences and Research Centre, Belgaum, India
Corresponding author e-mail: drsanju_amar@yahoo.com

Abstract
Gingival melanin pigmentation occurs in all races. Melanin pigmentation is known to be caused by melanin granules within the gingival epithelium. The degree of pigmentation varies from person to person. Melanin pigmentation of gingiva is not pathology per se; nonetheless demand for cosmetic therapy is commonly made by people with moderate gingival melanin pigmentation. For depigmentation of gingiva different treatment modalities have been used. In the following two case simple surgical technique of de-epithelialization has been successfully used, that has yielded esthetically acceptable results.

Keywords: Gingival, melanin, Hyperpigmentation, Aesthetics.

Introduction
Gingival pigmentation is due to melanin, which is a fundamental pigment that colors the tissues. Melanin pigmentation of the gingiva occurs in all races [1]. It appears as early as 3 hours after birth in the oral tissues and in some cases is the only sign of pigmentation on the body [2]. It is generally agreed that pigmented areas are present only when melanin granules synthesized by melanocytes are transferred to the keratinocytes. This close relationship is known as the ‘epidermal-melanin unit’ [3]. Oral melanin pigmentation is well documented in the literature and is considered to be multifactorial, whether physiological or pathological and can be caused by a variety of local and systemic factors[4]. Gingival depigmentation is a periodontal plastic surgical procedure where in the gingival hyperpigmentation is removed or reduced by various techniques. Demand for depigmentation is usually made for esthetic reasons. Girwalla et al (1966) described the broad black zone of pigmentation on the gingiva as “unsightly” and suggested its removal. Various depigmentation techniques have been employed with similar results such as

1) Chemicals [5]
2) Abrasion with diamond burs [6,7]
3) Gingivectomy [3,7,8]
4) Soft tissue autografts [9]
5) Partial thickness flap [10]
6) Cryosurgery [11] and
7) Lasers [12,13]

Each technique has its own advantages and disadvantages.

The de-epithelialization [14] essentially involves surgical removal of gingival epithelium along with a layer of the underlying connective tissue and allowing the denuded connective tissue to heal by secondary intention, and which is devoid of melanin pigmentation.

Case reports
A 19 year old female patient (fig1) and a 47 year old male patient (fig2) reported to the department for routine oral prophylaxis. On intraoral examination, diffused blackish pigmentation of gingiva was seen which was more prominent in the upper anterior region in both the cases. Clinically the gingiva demonstrated signs of inflammation like bleeding on
probing and color changes in both the patients. The unsightly gingival pigmentation was pointed out to the patients and they were made aware about the array of aesthetic treatment options available. The patients had also noticed the gingival pigmentation since a year and of their own accord opted to undergo the depigmentation procedure.

Depigmentation procedures were planned after obtaining patients consent. The patients were given oral hygiene instructions and they underwent oral prophylaxis in phase I of periodontal therapy. Depigmentation procedure was scheduled after inflammation resolved. The procedure was carried out from canine to canine region in the maxillary anterior region for both cases (fig3&4) using de-epithelialization technique after adequate local anesthesia. The uppermost layer of the gingiva was carefully scraped using 15 number blade which was held parallel to the long axis of the teeth. Minimum of force/pressure was used to avoid post-operative gingival pitting. Bleeding was controlled with a sterile gauze pressure pack. Surgical areas were covered with a periodontal pack and post-operative instructions were given. Antibiotics and analgesic were prescribed for the management of pain. After one week the pack was removed and the surgical area examined. The healing was uneventful and satisfactory (fig5 & 6). No post-surgical complications were encountered. Patients were recalled on the 15th (fig7 & 8) and 21st (fig 9 & 10) day to observe healing. Observation for clinical reappearance of gingival melanin pigmentation and its intensity were done. The gingiva appeared pink and healthy with a firm consistency and completely devoid of inflammation and also free of any recurrent pigmentation.

CASE-1

Fig 1. Pre-operative view

Fig 3. Immediate post surgical view

Fig 4.7th day post-operative view

CASE-2

Fig 2. Pre-operative view

Fig 4. Immediate post surgical view

Fig 5. 7th day post-operative view
Discussion

Pigmented gingival tissue, many a times forces the patients to seek treatment for esthetic periodontal therapy. Till date there has been very little published literature on clinical methods of treatment of pigmented gingiva. The scraping technique using the scalpel is one of the most economic and also does not require extensive armamentation. However scalpel surgery causes unpleasant bleeding during and after the procedure and it is necessary to cover the surgical site with periodontal dressing for 7-10 days.

Though the initial results of de-pigmentation procedure are highly encouraging, repigmentation is a common problem. The mechanism of repigmentation is not understood, but according to the migration theory, active melanocytes from the adjacent pigmented tissues migrate to the treated areas, causing repigmentation[15]. Studies have shown that full clinical baseline repigmentation takes about 1.5-3 years[16]. Variations may be due to different techniques performed or due to race of the patient. Thus this procedure is performed primarily for cosmetic reasons.

Conclusion

Pigmented gingival tissue, many a time forces the patients to seek aesthetic periodontal therapy. Till date there has been very little published literature on clinical methods of treatment of pigmented gingiva. The de-epithelialization technique using the scalpel is one of the most economic techniques and also does not require extensive armamentarium. However scalpel surgery causes bleeding during and after the procedure and it is necessary to cover the surgical site with periodontal dressing for 7-10 days.

Though the initial results of depigmentation procedure are highly encouraging, repigmentation is a possibility. This process maybe attributed to the fact that active melanocytes from the adjacent pigmented tissues migrate to the treated areas [15]. The procedure however, is performed primarily for cosmetic reasons.

However it is safe to conclude that the procedure adopted is quite simple, cost effective and less painful with minimal tissue loss and hence can be repeated without complication keeping in mind the fact that repigmentation is a possibility in most cases. The above mentioned procedure can also be performed by general dental practitioners to reduce and lighten the pigmentation and thereby improve the gingival appearance.

References