

# Gingival Depigmentation: A Case Report

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## ABSTRACT

Excessive gingival pigmentation is a major esthetic concern for many people. Though, it is not a medical problem, many people complain of dark gums as unesthetic. Esthetic gingival depigmentation can be performed in such patients with excellent results. A case is reported here in which a simple and effective surgical depigmentation was performed without the use of any sophisticated instruments or apparatus.

**Key Words:** Depigmentation, Gingiva, Scalpel Surgery, Physiologic Pigmentation, Melanin.

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## INTRODUCTION

Physiological pigmentation of the oral mucosa is clinically manifested as multifocal or diffuse melanin pigmentation with variable amount in different ethnic groups (Cicek,2003) . Melanin hyperpigmentation of gingiva usually does not present as a medical problem, but many patients may consider their black gums to be unaesthetic. This problem is aggravated in patients with a “gummy smile” or excessive gingival display while smiling. Gingival depigmentation is a periodontal plastic surgical procedure whereby the gingival hyperpigmentation is removed or reduced by various techniques. The foremost indication for depigmentation therapy is the demand by a person for improved esthetics. Demand for cosmetic therapy of gingival hyper pigmentation is common. Various methods as gingivectomy (Bergamaschi et al,1993), gingivectomy with free gingival autografting (Tamizi & Taheri, 1996), acellular dermal matrix allografts (Pontes et al, 2006), electrosurgery (Gnanaesekhar & Al-Duwairi, 1998), cryosurgery (Yeh, 1998), abrasion with diamond bur (Bishop,1994), and various types of lasers (Stabholz et al , 2003) have been used for cosmetic therapy of gingival melanin depigmentation. The present case report, describes a simple and effective surgical depigmentation technique that does not require sophisticated instruments or apparatus yet yields esthetically acceptable results along with patient’s satisfaction.

## CASE REPORT

A 27 - year old female patient visited department of Periodontics with the chief complaint of “black” coloured gums (Fig.I). Her oral examination revealed that she had deeply pigmented gingiva from right first premolar to left first premolar. The patient requested for any kind of esthetic treatment which could make her “black” coloured gums look better.



**Fig.I:** Pre-operative picture of 27 year old female complaining of black coloured gums.

A scalpel surgery with bur abrasion was planned to perform the depigmentation. The entire procedure was explained to the patient and written consent was obtained. A complete medical, family history and blood investigations were carried out to rule out any contraindication for surgery. Local anesthesia was infiltrated in the maxillary anterior region from premolar to premolar (Lignocaine with adrenaline in the ratio 1:100000 by weight). A Bard Parker handle with a No.15 blade and a high speed hand piece with diamond bur were used to remove the pigmented layer (Fig. II).



**Fig. II: No.15 blade being used to remove the pigment layer in maxillary anterior gingiva.**

Pressure was applied with sterile gauze soaked in local anesthetic agent to control hemorrhage during the procedure. After removing the entire pigmented epithelium along with a thin layer of connective tissue with the scalpel, abrasion with diamond bur was done to get the physiological contour of the gingiva, the exposed surface was irrigated with saline. While using the bur minimal pressure was applied with feather light brushing strokes and without holding bur in one place. Care was taken to see that all remnants of the pigment layer was removed. The surgical area was covered with a periodontal dressing (Fig. III). Post-surgical antibiotics (Amoxicillin 500mg, thrice daily for five days) and Analgesics (ibuprofen with paracetamol, thrice daily for three days) were prescribed. The patient was advised to use chlorhexidine mouthwash 12 hourly for one week.



**Fig. III: Operative area covered with Periodontal dressing.**





**Fig. IV: 1 week post-operative picture.**

The patient was reviewed at the end of 1 week. The healing process was proceeding normally and patient did not report any discomfort (Fig. IV). The patient was asked to continue the chlorhexidine mouthwash for another week. At the end of 1 month, re-epithelialization was complete and healing was found to be satisfactory. Patient had no complaints of postoperative pain or sensitivity. However, certain localized areas of repigmentation were seen. At the end of 6 months, the gingiva appeared healthy and no further repigmentation was seen ( Fig-V).



**Fig. V: 6 months post-operative picture showing healthy gingiva with no increase in extent of repigmented areas.**

### DISCUSSION

Oral pigmentation occurs in all races of man. There are no significant differences in oral pigmentation between males and females. The intensity and distribution of pigmentation of the oral mucosa is variable, not only between races, but also between different individuals of the same race and within different areas of the same mouth. Physiologic pigmentation is probably genetically determined, but as Dummet (1960) suggested, the degree of pigmentation is partially related to mechanical, chemical, and physical stimulation (Cicek, 2003).

Melanin pigmentation is frequently caused by melanin deposition by active melanocytes located mainly in the basal layer of the oral epithelium. Pigmentations can be removed for esthetic reasons. Different treatment modalities have

been used for this aim (Pontes et al, 2006). The selection of a technique for depigmentation of the gingiva should be based on clinical experience, patient's affordability and individual preferences. Electrosurgery requires more expertise than scalpel surgery. Prolonged or repeated application of current to tissue induces heat accumulation and undesired tissue destruction. Contact with periosteum or alveolar bone and vital teeth should be avoided (Ozbayrak et al, 2000). Cryosurgery is followed by considerable swelling, and it is also accompanied by increased soft tissue destruction. Depth control is difficult, and optimal duration of freezing is not known, but prolonged freezing increases tissue destruction (Almas & Sadiq, 2002). Depigmentation with lasers achieves good results, but they require sophisticated equipment, occupies large space and is expensive.

A free gingival graft can also be used to eliminate the pigmented areas. However, it requires an additional surgical site (donor site) and color matching (Mokeem, 2006). These treatment modalities, however, are not widely accepted or popularly used. Scalpel surgical technique is highly recommended in consideration of the equipment constraints that may not be frequently available in clinics (Almas & Sadiq, 2002). It is known that the healing period for scalpel wounds is faster than other techniques. However, scalpel surgery may cause unpleasant bleeding during and after the operation, and it is necessary to cover the exposed lamina propria with periodontal dressing for 7 to 10 days (Almas & Sadiq, 2002). Post surgical repigmentation of gingiva has been previously reported. Repigmentation is described as spontaneous and has been attributed to the activity and migration of melanocytic cells from surrounding areas (Mokeem, 2006). In the present case, certain localized areas of repigmentation were seen at the end of 1 month. At the end of 6 months, no further repigmentation was seen. The case is being followed up to estimate further the extent and rate of repigmentation.

### CONCLUSION

The depigmentation procedure was successful and the patient was satisfied with the result. Thus, we conclude that depigmentation of hyperpigmented gingiva by scalpel surgery with bur abrasion is simple, easy to perform, cost effective and above all it causes less discomfort and is esthetically acceptable to the patient.

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