

Unearthening A beautiful smile: Gingival Depigmentation

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ABSTRACT

Background: Gingival hyperpigmentation is mostly caused by the physiologic deposition of melanin by melanocytes. Excessive gingival pigmentation is a major esthetic concern for many people. There are various treatment modalities of gingival depigmentation with excellent results, here in this case report we are comparing conventional scalpel method of depigmentation with soft tissue diode laser.

Keywords: Depigmentation, Gingiva, Scalpel depigmentation and Soft tissue diode laser.

INTRODUCTION

A pleasing appearance often makes the difference between success and failure. Hence the smile plays a major role in how we perceive ourselves, as well as in the impression we cast on the people around us. "Aesthetics" is the science of beauty, and is an inseparable part of today's dental treatment. Over a number of years, a vast evolution had occurred in the field of Periodontics. The periodontal perspective of esthetic dentistry had gained wide acceptance over a period of time. These advances now allow the practitioner to achieve a periodontal environment that compliments and enhances the creation of optimal dental aesthetics¹.

Hyperpigmentation of the gingiva is caused by excessive melanin deposition by the melanocytes, located in the basal and supra basal layers of epithelium². Melanin pigmentation of gingival occurs in all races in fact it is seen as a genetic trait in some populations and is more appropriately termed as physiological or racial pigmentation³. High levels of oral pigmentation are normally observed in individuals of Africa, East Asia or Hispanic ethnicity⁴.

Clinically melanin pigmentation is not a medical problem although complaints of black gums may cause esthetics problems and embarrassment especially during speech and smiling.⁷ The foremost indication for depigmentation therapy is improved esthetics⁸ thus demand for cosmetic therapy of gingival depigmentation is a periodontal plastic surgical procedure which includes various methods including gingivectomy⁹, free gingival autografting¹⁰, electrosurgery¹¹, cryosurgery^{12,13}, chemical agents such as 90% phenol and 95% alcohol¹⁴, abrasion with diamond bur¹⁵, Nd:Yag laser¹⁶, semiconductor diode laser¹⁷ and CO2 laser¹⁸. Here I am presenting a case report in which we are comparing conventional scalpel method of depigmentation with soft tissue diode laser.

CASE REPORT

A 27-year female reported in the Department of Periodontics, Private Dental College in Jabalpur M.P. with the chief complaint of blackish pigmentation in gums of both upper and lower jaws.

This case of gingival hyperpigmentation was managed by two techniques: The maxillary and mandibular hyperpigmented gingiva were de-epithelized with partial thickness flap and soft

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Fig 1: Pre Operative



Fig 4: Post Operative



Fig 2: Partial Thickness Flap Raised



Fig 5: After 1 Week

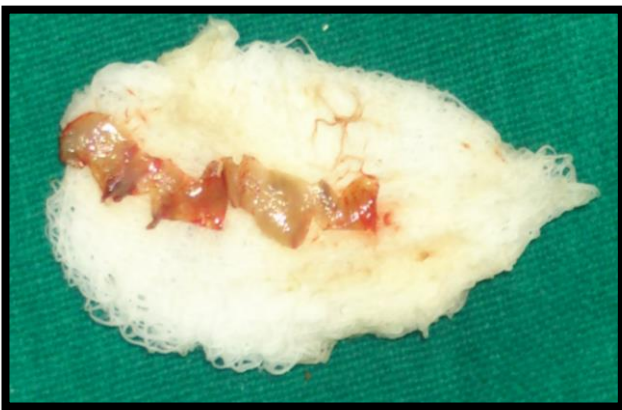


Fig 3: Tissue Removed



Fig 6 A: LASERS, Pre Operative



Fig 6 B: LASERS, After Tissue Removal



Fig 6 C: LASERS, Post Operative.

tissue diode laser respectively. Case selection was made as patient was physically healthy with no history of systemic disease, patient presented with a greater degree of gingival pigmentation compared to her skin color and was very conscious about esthetics. Based on that, a decision was taken to do gingival depigmentation in maxillary anterior region by scalpel technique/ partial thickness flap using number 11 and 15 scalpel blade, split thickness excision of epithelium was carried out. The incision was performed to remove the entire pigmented area upto the level of the mucogingival junction leaving the connective tissue intact. Excessive bleeding was controlled by direct pressure using sterile gauze. A periodontal dressing (Coe – Pak) was placed on the surgical wound area for patient comfort and to protect it for 1 week¹⁹ and mandibular anterior region depigmentation done by soft tissue diode laser 10 watt and 980 nm . The procedure was completed within 10 minutes with no discomfort to patient. The surgical field was clear and dry without bleeding and caused no pain to the patient. No local anesthesia or suturing was

required for the patient. The postoperative area was left to heal by secondary intention. Healing was uneventful and no scarring was seen at 1 week. The patient was kept on analgesics for a period of five days and was advised to use 0.12% chlorhexidine gluconate mouthwash for 2 weeks postoperatively to aid in plaque control. Pigmentation was absent in the newly formed epithelium with the gingiva appearing pale pink after a period of 2 weeks thus satisfying the patient's esthetic demands.

DISCUSSION

Melanin pigmentation often occurs in the gingiva as a result of an abnormal or increased deposition of melanin. Brown or dark pigmentation and discoloration of gingival tissue, whether of a physiologic or pathologic nature, can be caused by a variety of local and systemic factors⁵. The distribution of oral pigmentation in black individuals is as follows: Gingival = 60%; Hard palate = 61%; Mucous membranes = 22% and Tongue = 15% Factor causing :- local factors includes ,individuals of African, East Asian, or Hispanic ethnicity .Systemic conditions such as endocrine disturbance, Albright's syndrome, malignant melanoma, antimalarial therapy, Peutz-Jeghers syndrome, trauma, hemochromatosis, Chronic pulmonary disease, and racial pigmentation⁶. A positive correlation between gingival pigmentation and the degree of pigmentation in the skin is evident²⁰ Demand for treatment is usually made for esthetic reasons; however, there is not much information in the literature about the depigmentation of gingiva²¹. Elimination of these melanolic areas through conventional surgery, laser surgery, cryosurgery and by gas expansion system, has been reported^{22,23}. Problems encountered with cryotherapy was dispensing of liquid nitrogen and its maintenance for 20-30 seconds at freezing on each site. The depth of penetration is also difficult to control and its low shelf life has to be handled carefully. Laser (Stabholz et al, 2003) ²⁴ treatment is usually sufficient to eliminate the pigmented areas & does not require any periodontal dressing. It is easy to handle with short treatment time, Hemostasis, Decontamination & sterilization. In this case report, simple and effective method of depigmentation which does not require any sophisticated instruments was used²⁴. The results were excellent

with lasers as compare to scalpel technique in 2 weeks follow-up, there were no evidence of re-pigmentation of the gingiva. hence, we concluded that gingival depigmentation creates a pleasant & confident smile, which altogether may alter the personality of an individual.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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