

## Split Mouth De-Epithelization Techniques For Gingival Depigmentation: A Case Report

Dr.Puja Sarkar<sup>1</sup>,Dr.Prasanta Bandyopadhyay<sup>2</sup>,Dr.Anurag Iswarary<sup>3</sup>

<sup>1</sup>(Dental Surgeon,Belakoba Rural Hospital,Jalpaiguri,WestBengal,India )

<sup>2</sup>(Professor&Head,Department of Periodontology,BurdwanDental College &Hospital,Burdwan , WestBengal,India)

<sup>3</sup>(Clinical Tutor,Department of Dentistry,Malda Medical College &Hospital,Malda,WestBengal,India)

---

**Abstract:**Hyperpigmentation of gingiva is seen as a genetic trait in some populations and is more appropriately termed as physiologic or racial gingival pigmentation. It may result in esthetic concern in certain individuals. Gingival depigmentation is most often performed as a “patient demanded” periodontal plastic surgical procedure using various techniques. This article compares the effectiveness of scalpel technique and cryosurgery in the same patient in terms of early healing responses and patient compliance.

**Keywords:** Gingiva,Depigmentation,Scalpel ,Cryosurgery,De-epithelisation

---

Date of Submission: 05-09-2017

Date of acceptance: 13-09-2017

---

### I.Introduction

Esthetics plays an important role in a person's life. An ever increasing demand and desire to look more beautiful and attractive, has become a primary concern especially among the younger generation. As rightly said, the harmony of a smile is determined not only by the shape, position, color of the teeth but also by the color of the gingiva<sup>1</sup>. When the color of the gingiva appears dark due to pigmentation, it may concern the patients esthetically and they may demand its removal. In such cases, gingival depigmentation may be performed wherein scalpel, laser, electrosurgery, cryosurgery, diamond bur or chemical agents are used to remove the hyper pigmented gingival epithelium<sup>2</sup>.

### II. Case Presentation

A 28 year old male patient came to the Department of Periodontia at Dr.R Ahmed Dental College & Hospital with the chief complaint of black gums. The patient's history revealed that the blackish discoloration of gingiva was present since birth, suggestive of physiologic melanin pigmentation. Patient was found to be systemically healthy without any oral habits. His oral hygiene was also good. Intraoral examination revealed pronounced bilateral gingival pigmentation associated with a healthy periodontium in both maxillary & mandibular arches (Fig.1).



Fig1 :I/O examination revealed pronounced bilateral gingival pigmentation

After thorough Phase I therapy a split mouth approach comparing scalpel technique with that of cryosurgery was planned on the maxillary arch.

**Surgical procedure**

After infiltration of local anaesthesia, at the left maxillary anterior region scalpel de-epithelization was performed using a #15 scalpel blade (Fig.2). Bleeding was controlled using pressure pack with sterile gauze. The exposed de-pigmented surface was covered with periodontal dressing for 1 week. The patient was prescribed Amoxicillin 500 mg, TD for 5 days and Aceclofenac-paracetamol combination BD for 3days and post-operative instructions were given.



Fig 2. I/O view after scalpel de-epithelium Fig 3. I/O Post-operative view after 1 week



Fig4. I/O Post-operative view after 2 weeks

After 2 weeks, cryosurgery was performed on the contralateral side. Topical anesthesia with 10% xylocaine spray was used, to minimize the discomfort attributable to cooling. TFE (Tetrafluoroethylene) was sprayed on a cotton swab and immediately rolled gently over the pigmented area. A freezing zone was continuously maintained for 30 to 40 seconds (Fig5.).



Fig 5. I/O view after application of TFE Fig 6. I/O post-operative view after 1 week



Fig 7. I/O post-operative view after 4 weeks

### **III. Results**

#### **Scalpel Technique**

No post-operative pain, haemorrhage, infection or scarring occurred and healing was uneventful. Patient's compliance was also good.

#### **Cryosurgery**

The treated area appeared red within 30 minutes after the procedure. On day 1, tissue necrosis became evident, which was sloughed off from the underlying tissue. There was mild post-operative tenderness and discomfort but absence of any post-operative haemorrhage or infection. Patient's acceptance of the procedure was not as good as with the contralateral surgery.

### **IV. DISCUSSION**

The colour of the gingiva is determined by several factors, namely number and size of the blood vessels, epithelial thickness, quantity of keratinization and pigments present within the gingival epithelium<sup>3,4</sup>. Melanin, a brown pigment, is the most common contributing factor to the endogenous pigmentation of the gingiva. Clinical melanin pigmentation is completely benign and does not present a medical problem. However complaints of dark gums may pose an esthetic concern, particularly if visible during speech and smiling. Various procedures have been in use for this purpose with different degrees of success. In the present case, depigmentation was carried out by scraping technique utilizing scalpel on the left maxillary quadrant and by cryosurgical method on the contralateral side. Both the quadrants were evaluated postoperatively at the end of 1,2,4 weeks and 6 months respectively. At the end of first week, scalpel technique showed good results in terms of healing, patient comfort and colour of the gingiva. But in comparison the results of cryosurgical method exhibited pale and tender gingiva with areas of minute ulcerations. At the end of 2 week, the patient was comfortable and healing observed was satisfactory. Though recurrence of gingival pigmentation has been well documented<sup>5</sup>, it was not observed in this case.

### **IV. CONCLUSION**

Scalpel surgical technique can be performed easily in the routine dental settings with minimal equipment and hence remains the most popular technique. In our case, the patient compliance was more when the procedure was carried out by scalpel technique than with cryosurgery. Healing was satisfactory with both the methods at the end of 4 weeks.

### **REFERENCES**

- [1]. Almas K, Sadig W. Surgical treatment of melanin-pigmented gingiva: An esthetic approach. IJDR April-June 2002;13(2): 70-73.
- [2]. Ginwalla TMS, Gomes BC, Varma BRR. Surgical removal of gingival pigmentation. J Indian Dent Assoc 1966,38(6):147-50.
- [3]. Cicek Y. The normal and pathological pigmentation of oral mucous membrane: A review. J Contemp Dent Pract. 2003;4:76-86
- [4]. Dummett CO. Overview of normal oral pigmentations. J Indiana Dent Assoc. 1980;59:13-8.
- [5]. Bergamaschi O, Kon S, Doine AI, et al. Melanin repigmentation after gingivectomy: 5 years clinical and transmission electron microscopic study in humans. Int J Periodontics Restorative Dent 1993;13(1):85-92.

\*Dr.Pujasarkar. "Split Mouth De-Epithelization Techniques For Gingival Depigmentation: A Case Report." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) 16.9 (2017): 39-41.