



Aesthetic Crown Lengthening With Depigmentation Using Surgical Blade: Cost Effective Method In Costly Dentistry: Case Report

¹Avadhesh S Tiwari,²Amit S Saragade,³Monica J Mahajani, ⁴Kuldeep S Patil, ⁵Dewendra S Warghane ¹MDS III year,² MDS III year,³Professor & Head of the department, ⁴Senior Lecturer, ⁵MDS II year ¹Department of Peridontics, ¹Dr. HSRSM's Dental College and Hospital, Hingoli, India.

Abstract: Hyperpigmented gingiva becomes an aesthetic concern when it is associated with “gummy smile.” In such cases Correction of gummy smile and depigmentation together are important to establish the patient’s aesthetics and satisfaction. Out of different treatment modalities, the most economic and easiest method is by using surgical blade. The 3-month follow-up results showed excellent colour and contour of the gingiva. Mere depigmentation without correcting gummy smile may look cosmetically good but aesthetically unacceptable. Considering the cost effectiveness of surgical blade over other modalities of treatment, this article will focus on the management of such a case using surgical blade.

Index Terms - Crown lengthening, depigmentation, surgical blade, gummy smile

I. INTRODUCTION

Hyper pigmented gingiva has always been a concern to patients, especially with female dominance. Melanin pigmentation of the gingiva is completely benign and it does not present a medical problem but its unaesthetic appearance as “black gums” is more visible in patients having a gummy smile. Such type of cases demands management of both the problems simultaneously i.e. for hyperpigmentation of gingiva and gummy smile.

Incomplete passive eruption, maxillary protrusion, hyperactive muscle of lips, short lip, gingival enlargement, etc. are the reasons for gummy smile. Differential diagnosis for gummy smile should be considered before short-listing gingivectomy. Gingival recontouring can be performed by surgical blade, electro surgery or lasers. Gingival depigmentation can also be performed by surgical blade, coarse diamond bur, electro surgery, cryosurgery or lasers. Considering the cost effectiveness of surgical blade over other modalities of treatment, this article will focus on the management of such a case using surgical blade.

For this study, the cases were selected based on Dummett–Gupta oral pigmentation index (DOPI) (Dummett, 1971)¹

1. No clinical pigmentation (pink gingiva)
2. Mild clinical pigmentation (mild light brown color)
3. Moderate clinical pigmentation (medium brown or mixed pink and brown)
4. Heavy clinical pigmentation (deep brown or bluish black).

II.CASE REPORT

2.1CASE DETAILS:

A 15-year-old male without any history of systemic disease reported with complaint of black gums and gummy smile. On examination, pseudo pockets (approximately 7-8 mm) were detected in the maxillary and mandibular anteriors along with generalized excessive amount of melanin pigmentation on the gingiva. Examination revealed deeply pigmented gingiva from canine to canine in both arches with score 4 (Figure 1).The patient was explained about the treatment options and informed that, after depigmentation, melanin pigmentation may recur and gingivectomy is also performed simultaneously. Patients consent was taken before starting the treatment.

Gingivectomy and depigmentation were planned in the 13 to 23 region and the 33 to 43 region using surgical blade no. #15. Entire procedure is performed under local infiltration.

2.2 Surgical Procedure

Considering the patient’s concern, a scalpel surgical depigmentation procedure was planned. The entire procedure was explained to the patient and written consent was obtained, routine oral hygiene procedures were carried out, and oral hygiene instructions were given. Local anesthetic agent containing 2% Lidocaine with adrenaline was infiltrated in the maxillary and mandibular anterior region from canine to canine. Bleeding points were marked using pocket marker from 13 to 23 (figure. 2) and from 33 to 43 (figure. 3) and entire band of pigmented gingiva was removed from 13 to 23 (figure. 4, figure .5) and from 33 to 43 (figure. 6, figure.7) by external bevel incision made from bleeding points. Remaining pigmented attached gingiva was scrapped using new #15 number blade.

2.3 Postoperative care:

Postsurgical antibiotics (amoxicillin 500 mg, three times daily for 5 days) and analgesics (ibuprofen with paracetamol, three times daily for 3 days) were prescribed. The patient was advised to use chlorhexidine mouthwash 12 hourly for 1 week, and oral hygiene instructions were given. Patient recalled after 7 days, hyperpigmentation was absent in the newly formed epithelial tissues, with the gingiva appearing pale pink after a period of 3 month. (figure.8)

III. DISCUSSION:

Gingival hyperpigmentation is eliminated or reduced by different gingival depigmentation techniques. Elimination of these melanotic areas can be done by several treatment.^{2, 3} Different procedures have been proposed for gingival depigmentation. Roshni & Nandakumar (in 2005)⁴ classified different gingival depigmentation methods as:

1. Methods used to remove the gingival pigmentation:

A. SURGICAL METHODS:

- | | |
|-------------------------------|------------------------|
| a. Scalpel surgical technique | b. Bur abrasion method |
| c. Electro-surgery | d. Cryosurgery |
| e. Lasers | f. Radiosurgery. |

B. CHEMICAL METHODS.

2. Methods used to mask the gingival pigmentation:

- A. Free gingival graft.
B. Acellular dermal matrix allograft.

In the scalpel technique, gingival epithelium is removed along with a layer of the underlying connective tissue. The denuded tissue heals by secondary intention.⁵

The depigmentation procedure by scalpel technique is simple, easy to perform, non-invasive, and above all, cost-effective compared to other techniques. However, erbium: yttrium-aluminium-garnet (YAG) laser is more useful and safe in thin gingival biotype, and healing of wound is relatively fast and comparable to scalpel wound.^{6, 7}

IV. CONCLUSION :

Young Patients are very conceous regarding their aesthetics and appeareance. Gingival pigmentation though not a serious entity, yet it greatly affects the facial appearance and patients psycology. Different newer treatment modalities are available for the depigmentation but out of theses techniques depigmentation by scalpale method is most cost effective .

Figures and Tables



Figure :1



Figure: 2



Figure :3



Figure :4



Figure :5



Figure :6



Figure :7



Figure :8

V. ACKNOWLEDGMENT:

The authors acknowledge the efforts and contribution of Department of periodontology and implantology DR HRSMS DENTALCOLLEGE AND HOSPITAL HINGOLI . The authors report no conflicts of interest related to this study.

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