



RECONSTRUCTION OF PINK ESTHETICS USING SCALPEL TECHNIQUE : A CASE REPORT

Dentistry

Sakshi Malhotra*

MDS, Department of Periodontics, Post Graduate Institute of Dental Sciences, Rohtak, Haryana, India *Corresponding Author

ABSTRACT

Gingival pigmentation in anterior region alongwith high smile line often causes esthetic concern. Twenty-one years old systemically healthy, non-smoker female patient was reported in the department with chief complaint of brown gums in front teeth region. Gingival depigmentation using scalpel technique was planned and patient-based evaluation of satisfaction in terms of esthetics was recorded using visual analogue scale. After one month of surgery patient reported visual analogue score of 10. This study suggests that scalpel technique is simple and effective in terms of achieving acceptable esthetics.

KEYWORDS

INTRODUCTION

Gingiva is the part of oral mucosa that covers the alveolar process of jaws and surround the neck of teeth. The color of the gingiva is generally described as "coral pink". The factors responsible for the color of gingiva are vascular supply, the thickness and keratinization of epithelium, and presence of pigmented cells.

Endogenous oral pigmentation can be caused by melanin, bilirubin and iron.¹ Melanin is non-hemoglobin derived brown pigment. Diseases that increase melanin production includes Abright syndrome, peutz jegher syndrome, Addison disease. Exogenous factors that cause color changes in gingiva includes tobacco, coal and metal dust, coloring agents in food and lozenges.² According to Dummett, oral pigmentation is distributed as; hard palate (61%), gingiva (60%), mucous membrane (22%), tongue (15%).³

Gingival pigmentation has three dimensions: etiology, distribution, and severity. Various indices on gingival pigmentation are as follows. 1. Oral pigmentation index by Dummett et al.⁴:

- No clinical pigmentation (pink-colored gingiva)
- Mild clinical pigmentation (mild light brown color) Moderate clinical pigmentation (medium brown or mixed pink and brown color)
- Heavy clinical pigmentation (deep brown or bluish black color)

2. Melanin pigmentation index by Takashi et al.⁵.

Score 0: No pigmentation

Score 1: Solitary unit(s) of pigmentation in papillary gingiva without extension between neighboring solitary units

Score 2: Formation of continuous ribbon extending from neighboring solitary units

3. Gingival pigmentation index⁶:

Score 0: Absence of pigmentation

Score 1: Spots of brown to black color or pigments.

Score 2: Brown to black patches but not diffuse pigmentation

Score 3: Diffuse brown to black pigmentation, marginal, and attached

The present case report describes a simple and effective surgical depigmentation technique that yield esthetically acceptable results.

Case Description

A 21 years old systemically healthy, non-smoker female patient reported in the department with a chief complaint of brown gums in relation to upper and lower front teeth region. Clinical examination revealed moderate clinical pigmentation (medium brown or mixed pink and brown color) according to Dummett oral pigmentation index (figure 1). The patients has class 2- high smile line according to Liebart and Deruelle⁷, smile line classification. Gingival depigmentation procedure using scalpel technique was planned. The entire procedure was explained to the patient and written consent was obtained. Thorough scaling and root planing was performed. The blood investigations were carried out to rule out any contraindication for surgery. Under local anaesthesia, entire pigmented epithelium alongwith thin layer of connective tissue was removed using surgical blade #15 (figure 2). During procedure, hemorrhage was controlled by applying pressure with sterile gauze. Any remnants of pigmented layer was removed (figure 3). Surgical area was then covered with

periodontal dressing (coe-pack). Postoperative instructions were given. Patient was prescribed Tab brufen 400mg s-o-s. Patient was recalled after 10 days (figure 4). Postsurgical healing was uneventful.

RESULT

Patient based evaluation in terms of esthetics was assessed using visual analogue scale (VAS 0-10 score). Patient reported VAS score of 10, after one month.

DISCUSSION

Gingival pigmentation often causes esthetic concern specially in patients with high smile line (gummy smile). For gingival depigmentation various methods that has been attempted are: gingivectomy and free gingival graft⁸, gingivectomy⁹, electrosurgery¹⁰, cryosurgery¹¹, abrasion with diamond bur¹², and various types of lasers¹³.

A free gingival graft can be used to eliminate the pigmented areas. However, it requires an additional surgical site (donor site) and produce tyre-patch appearance.¹⁴ Electrosurgery requires more expertise than scalpel surgery. Prolonged application of current to tissue induces heat accumulation and undesired tissue destruction. Contact with periosteum or alveolar bone and vital teeth should be avoided.¹⁵ In cryosurgery method depth control is difficult and prolonged freezing cause tissue destruction, followed by considerable swelling.¹⁶ Depigmentation with lasers achieves good results, but they require sophisticated equipment, occupies large space and is expensive. The selection of a technique for depigmentation of the gingiva should be based on clinical experience, patient's affordability and individual preferences.

Scalpel surgical technique is highly recommended because no specialized equipments are required. The healing period for scalpel wounds is faster than other techniques.

CONCLUSION

The depigmentation procedure was successful and the patient was satisfied in terms of esthetics. This case report shows that depigmentation of hyperpigmented gingiva by scalpel surgery is simple, easy to perform, cost effective and above all it causes less discomfort and is esthetically acceptable to the patient.



Figure 1: Preoperative image showing gingival pigmentation



Figure 2: Intraoperative image showing depigmentation procedure using scalpel



Figure 3: Immediate postoperative image showing no remnants of pigmented layer



Figure 4: Postoperative image showing successful healing

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