

Periodontal plastic surgery enhancing the aesthetics -A Case Report

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ABSTRACT

“Gingival pigmentation is a major concern for a large number of patients visiting the dentist. The patients with excessive gingival display and pigmentation are more concerned esthetically. Esthetic periodontal plastic surgery is a boon in patients having “dark gums” and “gummy smile.” Periodontal plastic procedures can help "knock the socks off" of anyone by giving a perfect smile and boosting patient’s confidence. This article gives a brief overview of treatment guidelines for treating a gummy smile with illustration from the case reports.

Key Words: crown lengthening, depigmentation, gummy smile.

INTRODUCTION

Aesthetics is an inseparable part of today’s dental treatment. Patient awareness and expectations have increased recently to the point that less than optimal aesthetics are no longer an acceptable outcome.¹ Achieving an appealing and an aesthetic smile is no longer a dream. Periodontal plastic procedures can help "knock the socks off" of anyone by giving a perfect smile and boosting patient’s confidence. This article gives a brief overview of treatment guidelines for treating a hyperpigmented gummy smile with illustration from a case report.

Pre-operative treatment and pre-evaluation in the crown lengthening procedure:

Aesthetic periodontal treatment is based on the patients’ chief complaints such as²:

- Exposed Roots
- Dark, Pigmented Gingiva
- “Black holes” between teeth, crowns, bridges, or implants etc
- Gummy smile or uneven gum line

The presence of these conditions not only cause cosmetic concerns but also dental health concerns, like progressive gingival irritation, bone loss, root sensitivity, caries, eventually tooth loss.

A gummy smile can occur due to: a short upper lip, excessive wear of the teeth due to grinding, vertical maxillary excess or altered passive eruption.

The Periodontist should then correlate

Facial symmetry
Facial height
Lip Length and
Thickness
Profile
Smile line

} To Inter Pupillary Line

The height of the anatomic crown/crowns is measured from the cemento-enamel junction to the incisal edge, while the height of the clinical crown is measured from the gingival margin to the incisal edge³.

A comparison of these two measurements will determine whether short clinical crowns are a result of incisal wear or a coronal position of the gingival margin.⁴ The width and thickness of keratinized gingiva must be measured as well as probing depths, clinical attachment levels and the level of the alveolar crest with

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respect to the cemento-enamel junction. Interproximal bone levels can be estimated using radiographs taken parallel to the long axis of the teeth.⁵

Depigmentation:

Presence of excess melanin pigmentation in the gingiva leads to dark Gums and is of aesthetic concern in anterior region more in patients with “Gummy Smile”. Various treatment Modalities can be chemical cauterization, Scraping Technique, Electro Surgery, Cryosurgery, Gingival Abrasion & Lasers. Ginwalla⁷ et al in 1966 used following surgical techniques for depigmentation. They are

- Slicing technique.
- Abrasion.

Slicing is done with surgical blade or by electrosurgery and requires skillful hand to manage. Abrasion is done using large round diamond bur with high speed hand piece, which needs copious amount of irrigation. Many authors have (Hirschfeld & Hirschfeld, Dummett and Bolden)⁷ used ‘scraping technique’ to remove heavy continuous bands of gingival pigments.

Successful treatment is always dependent upon accurate diagnosis and well-drafted treatment plan involving other disciplines of dentistry.

CASE REPORT-

A male patient aged 23 years reported to the the Department of Periodontics, Modern Dental College and Research Centre, Indore, with chief complaint of “dark Gums” in the upper & lower front tooth region. History revealed that the patient is student in nursing college and is more often involved in interaction with lot of patients and people as his work demands it. He was under a lot of psychological trauma and had become shy to interact with people. On examination it was found that apart from increased

melanin pigmentation the important reason for display of “dark gums” is excessive gum display with both upper and lower teeth, which was present from the childhood.



Fig.1 pre-operative view

No significant family history was present. On physical examination the patient was normal with no systemic abnormality. Extra orally face was bilaterally symmetrical with straight profile and the smile line was high. Intra orally, gingiva was dark brown in color with thick gingival biotype, with firm and resilient consistency. The marginal gingiva was coronally placed with no gingival recession(Fig 1). Mucosal, periodontal, occlusal and other dental examination was found to be normal. No stains and calculus were present.

Treatment Procedure:

Under sterile conditions local anesthesia was given, markings were made with surgical B.P. Blade from premolar to premolar. Reverse bevel incision was given over the markings followed by sulcular incision, and the excised mass was removed. 1 mm of sulcular depth was maintained gingivoplasty was done to reduce the thickness of the gingival and for proper scalloping / festooning.⁶ Hemostasis was achieved by application of pressure with wet cotton. A similar surgical procedure mentioned above was followed along with a *scraping technique* for achieving gingival depigmentation.(Fig 2,4).

Periodontal pack was placed for 7 days. Post operative antibiotic, analgesics were

prescribed and post operative instructions were given. After one week periodontal pack was removed and the area was irrigated with saline, and cleaned with wet gauge.(Fig 3,5)



Figure 2 :Immediate Post-op



Figure 3: 7 days Post- op

Healing was satisfactory. Patient was recalled after 15 days, one month, and 6 months for review. No recurrence was found. Good aesthetics was achieved with increased and ideal crown length with Patient satisfying results.



Figure 4: Immediate Post-op



Figure 5: 7days Post-op

However there is a chance of reappearance of gingival pigmentation but the patient was satisfied with the results achieved.

CONCLUSION:

Excessive gingival display and gingival hyperpigmentation are the major concerns for a large number of patients visiting the dentist. Esthetic periodontal plastic surgery is a boon in patients having “dark gums” and “gummy smile.” The use of periodontal techniques is crucial to restore dental function and aesthetics. In the case described here, the use of the crown lengthening with scalpel was satisfactory, and scalpel depigmentation effectively removed the hyperpigmented mucosa.

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