Blackish, Gummy Smile: A Periodontal Approach

C.D. Dhalkari 1, Maya Indurkar 2, Pawan Sawalakhe 3, Abhishek Singh Nayyar 4

1 Dr. C.D. Dhalkari, Associate Professor, Department of Periodontology, Government Dental College, Aurangabad, Maharashtra, India
2 Dr. Maya Indurkar, Professor and Head, Department of Periodontology, Government Dental College, Aurangabad, Maharashtra, India
3 Dr. Pawan Sawalakhe, Post-graduate Student, Department of Periodontology, Government Dental College, Aurangabad, Maharashtra, India. E-mail: pslk510@gmail.com
4 Dr. Abhishek Singh Nayyar, Reader, Department of Oral Medicine and Radiology, Saraswati-Dhanwantari Dental College and Hospital and Post-Graduate Research Institute, Parbhani, Maharashtra, India. E-mail: singhabhishekrms@gmail.com

Corresponding author: Dr. Abhishek Singh Nayyar, Reader cum Associate Professor, Department of Oral Medicine and Radiology, Saraswati-Dhanwantari Dental College and Hospital and Post-Graduate Research Institute, Parbhani, Maharashtra, India
E-mail id: singhabhishek.rims@gmail.com

Abstract

Introduction: Major determinant of the aesthetics of a smile is the amount of gingival display, which can be excessive in cases of altered passive eruption. Other factor influencing the aesthetics of smile is hyperpigmentation of gingiva.

Case report: A 20 year old girl came with chief complaint of a blackish, gummy smile. On clinical examination blackish pigmentation of gingiva was present with excessive gingival display in anterio...
enlargement, it can be effectively corrected by numerous periodontal procedures. Melanin pigmentation is the most common pigmentation of gingiva. Depigmentation of gingiva is the periodontal plastic procedure where pigmentation is reduced or removed by various procedures such as scalpel technique, abrasion with bur, electrosurgery and cryosurgery. The most advanced depigmentation technique is a laser procedure (Anoop et al., 2012). The aim of this case report is to present the management of a case with hyperpigmented excessive gingival display (EGD) by aesthetic crown lengthening and depigmentation of gingiva by a split mouth design that is laser technique on right side and scalpel technique on left side.

Case Report
A 20 year old girl reported to the Department Of Periodontology, Govt. Dental College and Hospital Aurangabad, with chief complaint of blackish gums and gummy smile (Figure 1).

On intra-oral examination, hyperpigmentation of gingiva was present in upper and lower anterior region of jaws with excessive gingival display (EGD). Probing depth was found to be 4mm on labial aspect of 12, 11, 21, 22, 32, 31, 41 and 42. In this case, the EGD was due to altered passive eruption. The gingiva was normal without inflammation. Radiograph showed normal bone architecture. Medical history and family histories of the subject were taken to rule out any possible aetiologies and/or, contraindication for surgery. Blood investigations done were found to be normal.

Surgical procedure: Flapless crown lengthening procedure was done. Local anaesthesia was achieved by 2% lignocaine with vasoconstrictor (1:80,000) in upper and lower anterior region of jaw. Then, with the help of 15 no. surgical blade, scalloped external bevel incision was given from the distal surface of 12 to 22 and 32 to 42 to remove 3mm of excess of gingival margin and to expose the clinical crown of all teeth with EGD (Figure 2).

Figure 2 Aesthetic crown lengthening

Following this procedure, the patient was considered for depigmentation that was achieved by laser technique in relation to the right upper and lower while scalpel technique for left upper and lower sides of the gingiva. In laser technique, soft tissue diode laser was used with short light paint brush strokes in horizontal directions to remove melanin pigmentation. Neither bleeding nor pain was experienced by patient. Saline wet gauze was used to remove the charred tissue and clean the field. In scalpel technique, a Bard Parker handle with 15 no. surgical blade having 1 mm of bevel was used to remove the pigmented layer. Pressure was applied with local anaesthesia soaked wet gauze to stop bleeding (Figure 3, 4). After removing the entire pigmented area on left side, a periodontal dressing was applied on both sides. Post-operative instructions were given.

Figure 3, 4 Immediate post-operative clinical photographs

Postoperative medication included Ibuprofen 400 mg on an as and when required basis. Postoperative instructions were given and the patient was advised to...
use 0.12% chlorhexidine mouth rinse twice a day for 15 days. After 1 week, pack was removed and the surgical area was examined. Healing was found to be uneventful without any post-operative complications.

Healing observed was similar on both the sides. Patient was followed up to 3 months with no recurrence of pigmentation on comparison of the clinical examination of the areas treated (Figure 5, 6).

Discussion

The word Laser is acronym of light amplification by stimulated emission of radiation. Maiman in 1960 developed first working laser. Soft tissue lasers are claimed to aid healing and reduce inflammation and pain. Ameet et al. compared three different surgical techniques for gingival depigmentation: Lasers, scalpel and abrasion with diamond bur on the same patient with a 3 month follow-up (Anoop et al., 2012).

The result of present case report also showed that both laser and scalpel techniques were equally effective for depigmentation of gingiva giving similar aesthetic results. However, there are many advantages of lasers over other procedures including: (Anoop et al., 2012).

1. Instant sterilization of the surgical site;
2. Reduced bacteraemia;
3. Reduced mechanical trauma;
4. Dry and bloodless surgery;
5. Minimal postoperative discomfort; and
6. Minimal postoperative sequelae that are seen with other procedures, especially surgical.

Conclusion

A gummy smile can have an adverse impact on the perception of a patient’s attractiveness, friendliness, trustworthiness, intelligence, and self-confidence. Proper treatment plan should be established before any clinical procedures. With the aim of it, a thorough examination including clinical examination and radiographic assessment are essential. With correct diagnosis of and appropriate therapy for excessive gingival display (EGD) and melanin hyperpigmentation, dental aesthetics can be improved, as demonstrated by the case reported here.

Acknowledgement

We want to pay our sincere thanks to Dr. Shankar Dange, Dean, GDC, Aurangabad, Maharashtra, India for his unstinting support to us and keeping faith in his faculty.

References

Anoop S., Abraham S., Ambili R., and Mathew N., 2012, Comparative evaluation of Gingival depigmentation using scalpel and diode laser with a 1 year follow-up, Int. J. of Oral and Laser Dent, 2: 87-91
http://dx.doi.org/10.5005/jp-journals-10022-1026

Foley Timothy F., Sandhu Harinder S., 2003, Athanasopoulos Constantine, Aesthetic Periodontal Considerations in Orthodontic Treatment: The Management of Excessive Gingival Display, J. Can. Dent. Assoc., 69: 368-372

Goldstein R.E., 1969, Study of need for aesthetics in dentistry, J. Prosthet. Dent., 21: 589-598
http://dx.doi.org/10.1016/j.prdent.2020.02.020

Robbins J.W., Differential diagnosis and treatment of excess gingival display, Pract Periodontics Aesthet Dent, 11: 265-272

Silberberg N., Goldstein M., and Smidt A., 2009, Excessive gingival display: Aetiology, diagnosis, and treatment modalities, Quintessence Int., 40: 809-818

Tjan A.H., Miller G.D., 1984, The JG . Some aesthetic factors in a smile, J. Prosthet. Dent., 51: 24-28
http://dx.doi.org/10.1016/S0022-3913(84)80097-9