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CASE REPORT

LIP REPOSITIONING- ENHANCING SMILE: A CASE REPORT

***Dr. Neethi, M., Dr. Nandini Manjunath and Dr. Lia Mathew**

Department of Periodontics & Implantology, A.J Institute of Dental Sciences, Mangalore, Karnataka, India

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ABSTRACT

Esthetic demands have considerably increased over the years in routine clinical practice. A pleasant smile can give supreme confidence to an individual's personality. A perfect smile is dictated by a perfect balance of the white (teeth) and pink (gingival) display. Excessive gingival display, usually referred to as 'gummy smile' is a major problem in an overall personality of an individual. This case report demonstrates the management of excessive gingival display with lip repositioning procedure along with crown lengthening. Surgical healing was satisfactory with minimal post-operative sequelae and significant reduction in gingival display was observed in 1,2 weeks, 1 month follow-up. This procedure is minimally invasive cost effective technique.

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INTRODUCTION

A smile expresses a feeling of joy, success, sensuality, affection and courtesy, and reveals self-confidence and kindness and is an important, non verbal method of communication with an interaction between the teeth, lip framework and the gingival scaffold (Gupta, 2011 and Manjunath, 2015). The harmony of the smile is determined notonly by the shape, the position, and thecolour of teeth but also by the gingival tissues (Dayakar, 2014). The important aspects of a pleasingsmile should be the gingival health and its display. One of the common causes for a compromised smile isexcessive gingival display (Muthukumar, 2015). It is one of the major causes ofpatient embarrassment. An imbalance in the gingiva-toothratio results in dominance of gingival appearance oftenreferred to as "gummy smile." To improve the smile, thebalance and harmony between all the three components: Lips, teeth and gingivae are integral (Sheth, 2013). A normalgingival display between the inferior borderof the upper lip and the gingival margin ofthe maxillary central incisors during a normalsmile is 1–2 mm and an excessive gingiva□to□lip distance of 4 mm or more is classified as "unattractive" by lay people and general dentists (Rao, 2015).

Corresponding author: **Dr. Neethi, M**
Department of Periodontics & Implantology, A.J Institute of Dental Sciences, Mangalore, Karnataka, India

Classification of smile line[5]

Class	Type	Evaluation
Score 0	Low smile line	IDG: <25% visible M: Not visible, teeth masked
Score 1	Average/ideal smile line	IDG: 25-75% visible M: Visible on individual teeth
Score 2	High smile line	IDG: >75% visible M: <3 mm visible (overall)
Score 3	Very high smile line	IDG: Completely visible M: >3 mm wide maxillary band of gingiva visible beyond the mucogingival line "gummy smile"

IDG: Interdental gingiva; M: Gingival margin

Four possible etiologies of excessive gingivaldisplay are (Gaddale, 2014 and Rosenblatt, 2016).

- Delayed eruption as a result the gingivafails to complete the apical migrationover the maxillary teeth to a position that is 1 mm coronal to the cemen to-enamel junctions. In these patients, the normal dentogingival relationships should be restored. It can be achieved with an esthetic crown lengthening.
- Compensatory eruption of the maxillary teeth with concomitant coronal migration of the attachment apparatus, which includes the gingival margins.

Orthodontic leveling of the gingival margins of the maxillary teeth may be considered in this situation.

- Vertical maxillary excess in which there is an enlargedvertical dimension of the midface and "incompetent" lips. For this orthognathic surgery is required to restore normal inter‑jaw relationships and to reduce the gingival display
- Hypermobility of upper lips. Surgical lip repositioning may be done to reduce the labial retraction of the elevator smile muscle and minimize the gingival display.

The objective of lip repositioning is to minimize the gingival display by limiting the retraction of the elevator smile muscles (zygomaticus minor, levator anguli oris, orbicularis orisand levator labii superioris) thus resulting in a narrowervestibule and restricted muscle pull, thereby reducing gingival display during smiling (Rosenblatt, 2006). Contraindications of lip repositioning include the presence of aminimal zone of attached gingiva, which can create difficulties in flap design, stabilization and suturing, and severe verticalmaxillary excess (Simon, 2007 and Rosenblatt, 2006).

Case report

A 20-year-old male patient reported to the Department of Periodontology and Implantology at A.J. Institute of Dental Sciences, Mangalore, India with a chief complaint of gummy smile. On examination, patient had an excessive gingival display extending from maxillary right 2nd premolar to maxillary left 2nd premolar with short clinical crowns.

The skeletal condition when assessed was found to be degree I (i.e. 2-4 mm gingival and mucosal display). Lip repositioning surgery along with crown lengthening was planned. There was no significant medical or family history and the patient was medically sound and fit for the surgical procedure. Informed consent was taken prior to the surgical procedure. Complete blood examination was done and were within the normal limit. Hence surgery was planned as 1) crown lengthening 2) surgical lip repositioning.

Surgical technique

Complete extraoral and intraoral mouth disinfection was carried out with 2% Betadine, followed by infiltration of local anesthesia (2% lignocaine hydrochloride) in the vestibular mucosa and lip extending from right 2nd premolar to left 2nd premolar. Since clinical crown length was short, crown lengthening was performed. For lip repositioning, the surgical area was marked from the mucogingival junction and extended 5-6 mm in the vestibule. Incisions were made in the surgical area and both superior and inferior partial thickness flaps were raised from maxillary left central incisor to maxillary left second premolar. The incisions were then connected with each other on the distal end in an elliptical outline. The epithelium was then removed within the outline of the incision, leaving the underlying connective tissue exposed. The parallel incisions were approximated with interrupted stabilization sutures at the midline. Continuous inter-locking resorbable sutures were used to approximate both flaps. The patient was followed up after 1 week, 2 week, 3 week and 1 month.

Frontal view

Crown lengthening

Incision

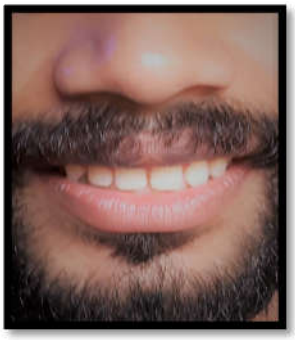
Epithelium removed

Interrupted stabilization suture

Continuous interlocking suture

Immediate post-operative

Post-operative after 1 week



Post-operative after 2 weeks

Post-operative after 1 month

Pre-operative

Post-operative after 1 month

RESULTS

Post-operative symptoms included mild pain and swelling with feeling of tension on the upper lip while smiling. The site healed uneventfully with scar formation at the suture line. This esthetic procedure is safe and has minimal side-effects. The patient was highly pleased and satisfied with the esthetic outcome.

DISCUSSION

This case report documents the use of LRS for the management of EGD. The original technique for the procedure was described as cosmetic surgery by Rubinsteinand Kostianovsky for correction of a gummy smile caused by hyper mobile lip (Grover, 2014). Gummy smile is an embarrassing issue for many people from apsychological and social point of view. Such people always seek anypossible treatment to correct this esthetic problem (Dannan, 2017). In the present case, as there was adequate gingiva but crown length was inadequate, Hence crown lengthening was performed. Moreover, gingival displaywas <6 mm, which indicated thatvertical maxillary excesswas not severe requiring orthognathic surgery; hence, the liprepositioning surgery was planned (Muthukumar, 2015). In this procedure labial frenum is involved. Rao et al (2015) introduced modified lip repositioning technique (Dannan, 2017). This procedure does not include the maxillary labialfrenum. The main objective for preserving the maxillary labialfrenum is that it prevents the midline being shifted thus guidingfor an esthetically pleasing smileand also avoids the morbidityassociated with the removal of maxillary labial frenum (Rao, 2015). Previous literatures and case series related to such clinical conditions advocated severing smile muscle attachment to prevent the relapse of smile muscle into its original position and this may also minimize the flap tension during suturing (Sheth, 2013). Another method to prevent reattachment of the smile muscles is to use an alloplastic or autogenous separator, which is place using nasal approach between the elevator muscles of the lip and the anterior nasal spine thus preventing the superior displacement of the repositioned lip. This procedure with nasal approach is taken up only in conjunction with rhinoplasty

(Rosenblatt, 2009). Surgical lip repositioning is an effective procedure to reduce gingival display by coronally positioning the upper lip. In the present case, surgical lip repositioning technique was carried out successfully with tangible results as a dental procedure. Surgical lip repositioning holds promise as an alternative treatment modality in esthetic rehabilitation.

Conclusion

Lip repositioning is an innovative and effective way to improve the gummy smile of the patient. This technique is an easy, least invasive and cost-effective technique to produce a satisfactory result for the patient.

REFERENCES

Dannan A, Al-Sarraf I. 2017. Treatment of Gummy Smile Appearance using the Modified Lip Re-positioning Technique: A Pilot Study. *J Interdiscipl Med Dent Sci.* 5(215):2.

Dayakar, MM, Gupta, S, Shivananda, H. 2014. Lip repositioning: An alternative cosmetic treatment for gummy smile. *JIndian Soc Periodontol.,* 18(4):520.

Gaddale R, Desai SR, Mudda JA, Karthikeyan I. 2014. Lip repositioning. *J Indian Soc Periodontol*., 18:254-8

Grover HS, Gupta A, Luthra S. 2014. Lip repositioning surgery: A pioneering technique for perio-esthetics. *Contemp clin dent.* 5(1):142.

Gupta KK, Srivastav A, Chandra C, Tripathi V. 2011. Lip repositioning with crown lengthening &gingival depigmentation: a case report. *Journal of Periodontology & Implant Dentistry.,* 3(1):38-42.

Manjunath N, S MalavGeorge R.S. 2015. Smile Designing by Surgical Lip repositioning with Gingival Depigmentation and Crown Lengthening. *IntDent JStud Res.,* 2(4).

Muthukumar S, Natarajan S, Madhankumar S, Sampathkumar J. Lip repositioning surgery for correction of excessive gingival display. *J Pharm &bioalliedSci.* 2015;7(Suppl 2):S794.

Rao AG, Koganti VP, Prabhakar AK, Soni S. Modified lip repositioning: A surgical approach to treat the gummy smile. *JIndian Soc Periodontol.*, 19(3):356.

Rosenblatt A, Simon Z. 2006. Lip repositioning for reduction of excessive gingival display: a clinical report. *Int J Perio& Rest Dent.*, 26(5).

Sheth T, Shah S, Shah M, Shah E. 2013.0 Lip reposition surgery: A new call in periodontics. *Contemp clin dent.* 2013; 4(3):378.

Simon Z, Rosenblatt A, Dorfman W. 2007. Eliminating a gummy smile with surgical lip repositioning. Cosmet Dent. 23(1).

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