Lip Repositioning, an Innovative Approach for the Treatment of “Gummy” Smile: A Case Report

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Abstract

Objective: The demand for esthetics has significantly increased, driven by patient awareness and search for an ideal smile. Creating the perfect smile is an intricate process that requires a multidisciplinary approach, with orthodontics as the main treatment. However, adequate case selection and thorough diagnostic guidelines are necessary to obtain successful outcomes.

Case History: A 38-year-old female presented to ECU SoDM Faculty Practice Clinic with the chief complaint of excessive gingival display. Clinical examination and pre-operative measurements led to the diagnosis of maxillary excess and lip hypermobility. At maximum smile, the patient showed the teeth and gingiva from first molar to first molar, with 5-6 mm of gingival display with normal dental anatomic proportions. Under local anesthesia, the mucogingival junction and upper limit of the muscular insertions were marked with a diode laser. Using a scalpel, the points were connected, and a band of soft tissue was removed using partial thickness dissection. The diode laser was used to remove the muscular insertions and achieve hemostasis. Using 4-0 PTFE suture, tissues were adapted and sutured to the new mucogingival junction.

Results: Post-operative examination and measurements were obtained. The lip hypermobility was significantly reduced, and the lip was successfully positioned coronally. Upon maximum smile, the gingival display was significantly reduced. There was no gingival display on the anterior teeth and minimal on the posterior teeth. The patient was pleased with the esthetic result.

Conclusion: Lip repositioning has emerged as an innovative and effective way to improve the “gummy” smile. This intervention is predictable, less time consuming and cost-effective, as compared to other invasive methods such as orthognathic surgery. However, adequate case selection and thorough diagnostic guidelines are necessary to obtain successful outcomes.

Figure 1. Initial presentation and diagnostic measurements.
Figure 2. Landmarks for mucosal removal using a diode laser.
Figure 3. Incision design.
Figure 4. Use of diode laser for homostasis and fibroplasty.
Figure 5. Site preparation after mucosa removal.
Figure 6. Suture and final vestibule position.
Figure 7. Dynamic smile at initial presentation (first row) and at final post-operative visit (second row).
Figure 8. Pre-operative and post-operative full-face photographs showing treatment results after lip repositioning due to maxillary excess and lip hypermobility.

References

3. Polo M. Botulinum toxin type A (Botox) for the neuromuscular correction of excessive gingival display in cases of maxillary excess and lip hypermobility. J Periodontal. 2006;77:545-64.