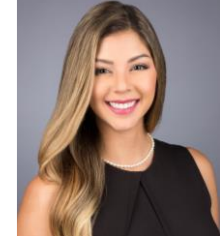


Clinical Application of Botulinum Toxin and Dermal Fillers in a Comprehensive Dental Treatment Approach-A Case Report

Maria Petroche, Serge Dibart, Sandra Morin, Gail McCausland, Taisuke Ohira

Periodontology of Department, Boston University Henry M. Goldman School of Dental Medicine



Purpose

- ❖ The aim of this case report was to demonstrate dental treatment in conjunction with injectables can provide improved facial symmetry, proportions and volume desired for a more harmonized appearance and higher patient satisfaction.

Case report

- ❖ A 38-year-old female attended BU-GSDM Periodontology clinic reporting dissatisfaction with her smile due to the gingival display upon smiling, generalized gingival recession, a missing maxillary premolar, and desired a more youthful appearance.

- ❖ A comprehensive rehabilitation approach was designed, which included periodontal surgical intervention to improve the gingival recession and thin gingival phenotype, placement of a dental implant in a previously grafted site #4, immediate provisionalization using 3D printed PMMA provisional, and the use of injectables to improve facial balance.



Figure 1. (a-b) Photographs of the initial treatment rendered: a. Root coverage procedure using acellular dermal matrix via tunneling technique done for upper left and right quadrants. B. Photograph showing guided implant placement in previously grafted site #4 and immediate provisionalization using 3D printed PMMA provisional.

Case report continued

Botox® was the neuromuscular agent used to treat the patient's asymmetric eyebrows by decreasing the tone of the temporalis muscle, hypermobility of the upper lip by targeting the levator labii superioris and soften the static lines induced by muscles of facial expression¹. Belotero Balance® was the hyaluronic acid-based dermal filler of choice for lip augmentation and restoration of perioral volume loss. Facial harmonization treatment was completed using 64 units of Botox® first, and 2 mL of Belotero Balance® at two sessions thereafter.



Figure 3. (a-c) Photographs showing hypermobile and volume deficient lips at maximum smile, profile and perioral wrinkles at repose.



Figure 3. (a-b) Photograph showing decreased levator labii superioris tone and improved lip prominence and volume. Photograph c shows slight increase in incisal display at rest by increasing lip height and support using Belotero Balance® dermal filler.



Figure 1. (a-c) Photographs showing dynamic facial expression pre-operatively (notice left eyebrow has increased muscle tone).



Figure 2. (a-d) Photographs showing decreased muscle tone of the muscles of facial expression and symmetry of the eyebrows after Botox® treatment.

Conclusion

Improved facial symmetry and proportions were achieved by judicious administration of Botox® and Belotero Balance® dermal filler to correct volume loss, hypermobility of the upper lip at exaggerated smile, asymmetric eyebrows and soften facial lines. It is imperative to provide dental treatment and restore loss of teeth, as this sets the bony infrastructure and support for the soft tissues in the middle and lower thirds of the face. Dental treatment in conjunction with injectables can provide improved facial symmetry, proportions and volume support

1. Diaspro, Alberto et al. "Gummy Smile Treatment: Proposal for a Novel Corrective Technique and a Review of the Literature." *Aesthetic surgery journal* vol. 38,12 (2018): 1330-1338.
2. Sundaram, Hema et al. "Global Aesthetics Consensus: Hyaluronic Acid Fillers and Botulinum Toxin Type A-Recommendations for Combined Treatment and Optimizing Outcomes in Diverse Patient Populations." *Plastic*