Video Documentation of Botulinum Toxin Treatment For Dynamic Perioral Asymmetry

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Disclosure/Financial Support: No financial support. None of the authors have any financial interest in any of the products, devices, or drugs mentioned in this manuscript.

INTRODUCTION: Symmetry of midline facial structures is of particular importance in the assessment of facial attractiveness. Asymmetry of the mouth at rest, or during animation, may result in misinterpretation of one's mental or emotional status and be subconsciously interpreted as a sign of cunning, contempt, or cognitive dysfunction. Unilateral lip palsy raises significant issues because the range of lip movements are so universally involved in smiling, eating, salivary competence, kissing, crying, and routine emotional expression[1]. Surgical options such as static or dynamic reconstruction of the paralyzed lip, or resection of the un-affected motor nerve or mimetic muscles, involve intricate interventions with some morbidity but no guarantee of a dynamically symmetric outcome[2-3].

Purpose:

In this clinical series we present before and after video examples of patients treated with targeted botulinum toxin type A (BTA) injections for perioral asymmetry caused by a range of etiologies: (i) Ramsey-Hunt syndrome, (ii) facial nerve injury post-resection of acoustic neuroma, (iii) Bell's palsy, (iv) asymmetric crying facies syndrome, (v) post-traumatic marginal mandibular branch injury, and (vi) cleft lip with maxillary cant.

METHODS: Pre-treatment video clips were obtained of 6 patients with unique etiologies of dynamic perioral asymmetry during animation. Treatment followed: selective BTA injections of 20-25 units to contralateral lip depressor and/or lip levator, or ipsilateral hyperactive lip levator muscles. Post-treatment videos were obtained at 6-8 weeks.

Outcomes Measured:

Gross clinical and video assessment was performed.

RESULTS: Four patients had isolated left lower lip palsy. One patient had palsy of the right upper and lower lip. One patient had hyperactive elevation of the right upper lip. BTA-induced paralysis of targeted muscles resulted in notable improvement of dynamic perioral asymmetry in all patients, as demonstrated by video. Untoward effects from attenuating functional muscle action was neither noted clinically nor commented on by patients. A high level of satisfaction resulted in all patients returning for multiple subsequent re-treatments.

CONCLUSIONS: We show through the use of a series of pre- and post-treatment videos how six unique etiologies of dynamic perioral asymmetry can be effectively treated with targeted botulinum toxin injections. The range of etiologies treated, and the video documentation of clinical outcome that we demonstrate, both expand meaningfully upon the limited prior literature in this area.

REFERENCES:

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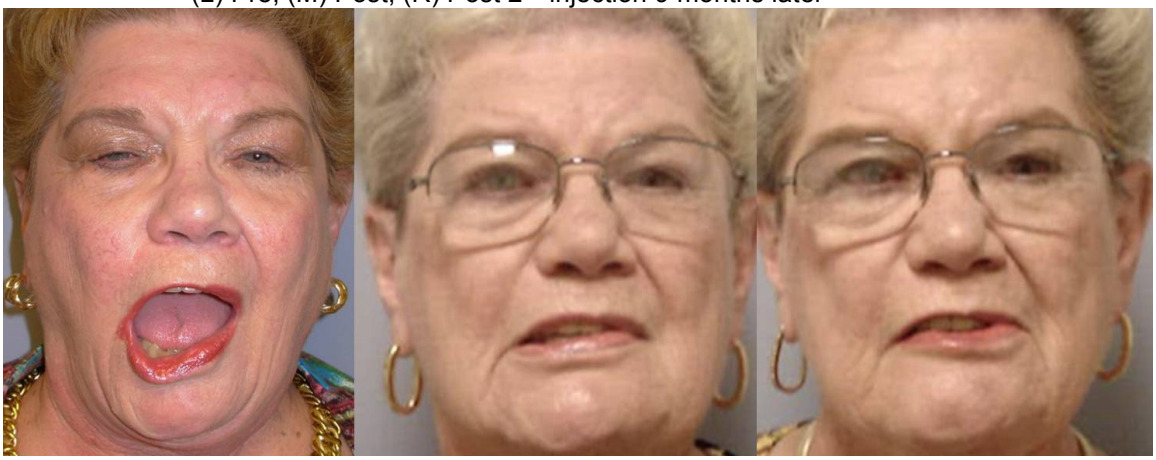
2. Isken T, MD, Gunlemez A, Kara B, Izmirli H, Gercek H Botulinum Toxin for the Correction of Asymmetric Crying Facies Aesth Surg J. 29(6):524-527 November 2009
3. Benedetto AV Asymmetrical Smiles Corrected by Botulinum Toxin Serotype A Dermatol Surg 33:S32–S36, January 2007

Case illustrations:

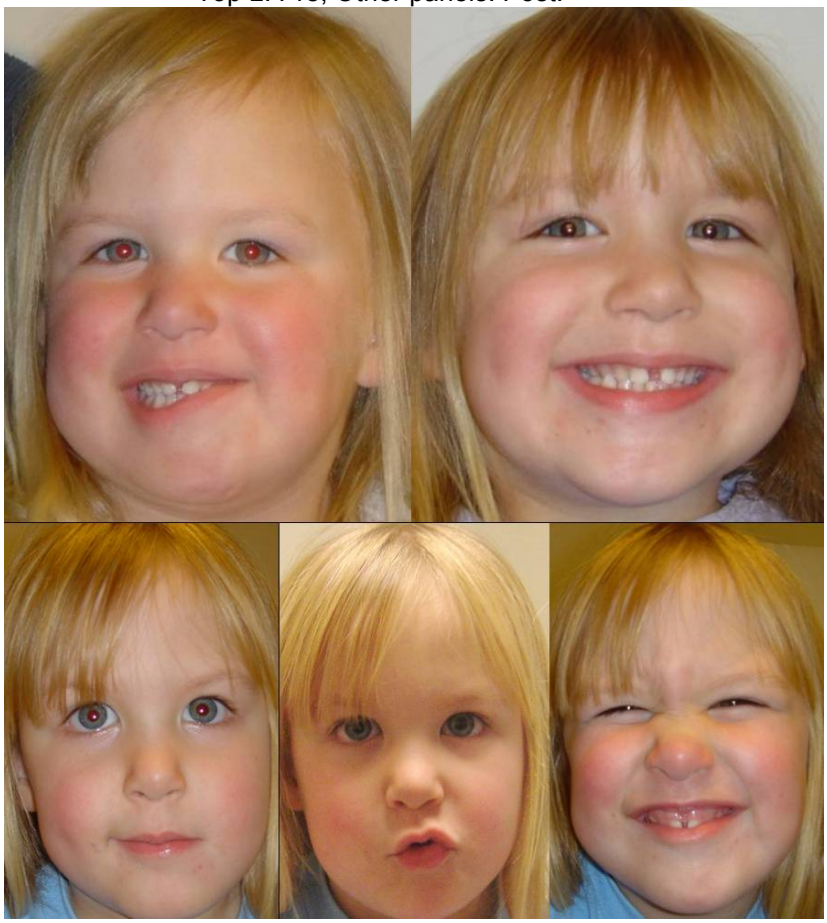
(i) Ramsey-Hunt syndrome:
(L) Pre, (R) Post

(ii) Facial nerve injury post-resection of acoustic neuroma:
(L) Pre, (M) Post, (R) Post 2nd injection 9 months later



(iii) Bell's palsy:
(L) Pre, (R) Post

(iv) Asymmetric crying facies syndrome:
Top L: Pre, Other panels: Post.



(v) Post-traumatic marginal mandibular branch injury:
(L) Pre, (R) Post

(vi) Cleft lip with maxillary cant:
(L) Pre, (R) Post