



## Non-surgical treatment of gummy smile with botulinum toxin: clinical case

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### ARTICLE INFO

Received 19 September 2025

Accepted 02 October 2025

### Keywords:

gummy smile  
botulinum toxin  
orofacial harmonization  
facial aesthetics  
non-surgical treatment

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DOI: 10.62741/ahrj.v2iSuppl. 2.116

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### ABSTRACT

**Introduction:** Gummy smile, or excessive gingival display, is defined as the exposure of more than 2–3 mm of gingival tissue when smiling, with the aesthetic threshold generally starting at 3 mm. This condition affects approximately 10% to 30% of the general population and its perception can vary significantly depending on cultural and individual factors. The causes of gummy smile are multifactorial, involving skeletal, dentoalveolar, and muscular components.

**Objective:** This clinical case of gummy smile treatment using botulinum toxin, aiming for a minimally invasive and effective aesthetic solution.

**Methodology:** Botulinum toxin (Botox®) was applied to the upper lip elevator muscles, specifically at the Yonsei point, the confluence of the levator labii superioris alaeque nasi, levator labii superioris, and zygomaticus minor muscles (doses are described in the legend of each clinical case), following an assessment of hyperactivity in the upper lip elevator muscles. After application, patients were instructed not to massage the area and to avoid intense physical activity for the next 24 hours. A follow-up evaluation appointment was scheduled 15 days after the procedure. Photographs were taken at rest and during maximum smile both before the procedure and at the evaluation visit.

**Results:** The application of botulinum toxin at the Yonsei point in each of the three clinical cases reduced gingival display to levels highly satisfactory for the patients, without altering lip dynamics or aesthetics at rest or during smiling. Regardless of whether excessive vertical maxilla or altered passive eruption was the main cause of the gummy smile, the patients preferred to continue using botulinum toxin as the sole treatment to correct excessive gingival exposure.

**Discussion** Botulinum toxin is an effective, minimally invasive alternative for gummy smile correction, offering consistent aesthetic results while avoiding the risks and recovery associated with surgical interventions.

**Conclusions:** Botulinum toxin has proven to be a safe and effective option for correcting gummy smile, providing satisfactory aesthetic results without significant complications, even in the presence of other concurrent causes of gummy smile. These cases reinforce the viability of botulinum toxin as an alternative to surgical procedures for gummy smile correction.