

# Use of a Hyaluronic Acid Soft-tissue Filler to Correct Congenital and Post-traumatic Lip Asymmetry

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## Abstract

**Background:** The use of hyaluronic acid soft-tissue fillers for enhancement of lip features is a popular and minimally invasive office-based procedure used worldwide due to its relative simplicity and favorable safety profile. **Materials and Methods:** Hyaluronic acid was used in illustrative cases to attempt correction of congenital and acquired lip asymmetries. **Results:** In the cases presented, accurate and cosmetically acceptable results were attained and maintained for the duration of the product life. **Conclusions:** Hyaluronic acid may be used successfully when lip asymmetry is evident and is a relatively simple nonsurgical alternative.

**Keywords:** Hyaluronic acid fillers, lip asymmetry, soft-tissue fillers

## INTRODUCTION

A perfectly symmetrical face is a rarity in humans. Some degree of facial asymmetry is usually present in all individuals, even those with aesthetically attractive faces.<sup>[1,2]</sup> In most cases, this asymmetry is barely perceptible and requires no treatment. However, even minor asymmetries can have a considerable psychosocial impact, and in such cases, their correction becomes valuable. This is particularly true with central asymmetry such as may be seen in the lip, an area that is most carefully scrutinized by many patients. The goal of the treating physician should be to strive for balance to achieve an aesthetically and psychologically optimal outcome.

The correction of lip asymmetries can be achieved with soft-tissue fillers; however, there is scant literature on this specific application.<sup>[3]</sup> This report presents the management of a congenital and acquired volume deficiency of the upper and lower lips treated with a hyaluronic acid gel.

## CASE REPORT 1

A 22-year-old woman presented with complaints of acne and hirsutism on her chin and generally “not being happy with the way she looks.” Her investigations were suggestive

of polycystic ovarian syndrome and she was subsequently treated with oral retinoids and oral contraceptives.

After resolution of her acne and laser hair reduction of her chin, the patient extended her concern to an asymmetry of the upper lip.

The asymmetry had been present since birth, and although barely perceptible to others, disturbed her deeply. She felt this feature gave her a crooked smile [Figure 1].

Clinical examination revealed slight lengthening of the philtral ridge on the right side of the lip, deflation of the Cupid's bow, and a sudden “dip” of the vermillion border on the right side, giving the appearance of a deflated right upper lip compared to the left. The lower lip revealed good volume and proportion, the oral commissures were in good position, and no down turning of the angles of the mouth was demonstrated. There was no gummy smile or signs suggestive of asymmetric overactivity of any lip

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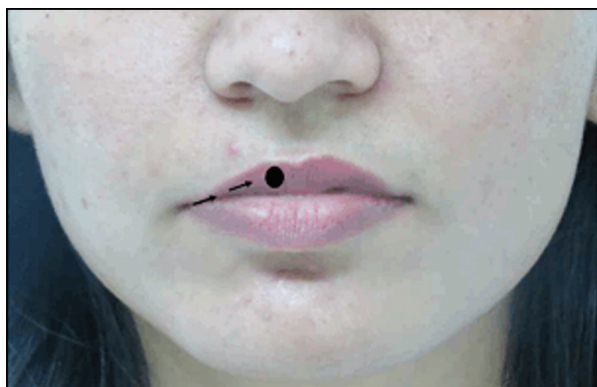


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**Figure 1:** Full frontal view of the patient smiling



**Figure 2:** Injection techniques used for the right side of the upper lip. The black arrows denote linear threading, and the black dot a bolus depot

elevator. A dental consult was also performed to rule out any imperfections.

A hyaluronic acid soft-tissue filler was suggested for the correction of her defect. It was explained that the result would be temporary but that the technique could be repeated when required.

After appropriate consent was attained, a biodegradable hyaluronic acid filler, JUVEDERM® Ultra (Allergan, Irvine, CA) was used. The product was slowly administered into the right upper lip with a 30-gauge needle through three injection points [Figure 2]. A total of 0.4 mL was used (0.1–0.2 mL at each injection) to achieve a balance between the two sides of the upper lip and recontour of the Cupid's bow. Bolus and retrograde linear threading techniques were used. No bruising, edema, or other complications were observed after the procedure.

A symmetrical upper lip was achieved and the patient was satisfied with the final outcome. In particular, she is no longer concerned about her appearance when smiling or being photographed [Figure 3A and B].

## CASE REPORT 2

A 54-year-old woman underwent excision for an upper lip basal cell carcinoma and eventual reconstruction using an Abbe flap repair after frozen section indicated clearance. The Abbe flap required a two-stage procedure excising and transposing a wedge of tissue from the left lower lip

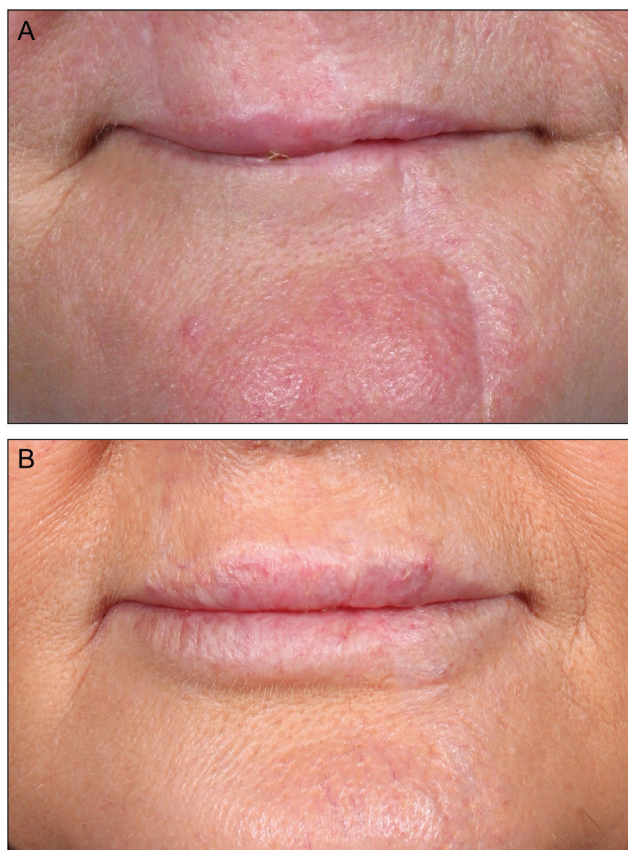


**Figure 3:** (A) Close-up view highlighting the imperfection. (B) Close-up view of the lip after the procedure

to replace the right upper lip postoperative defect. This induced considerable asymmetry of both the upper and the lower lip. A minor revision was performed 5 months after the division of the vascular pedicle; however, further improvement was sought and approximately 1 year after the surgical procedures, the patient attended for nonsurgical options. To maximize symmetry of the upper and lower lips, it was decided that hyaluronic acid fillers should be used. Over a number of treatments starting 7 years ago, hyaluronic acid (JUVEDERM Ultra) injections were used and symmetry was gradually obtained. Bruising has been relatively minimal and treatment is ongoing.

Initially, 1.6 mL filler was used on the first injection session and followed up with a further 0.8 mL after 3 months. Over the next 2 years, injection volumes averaged 0.6–0.8 mL at approximate interval of 6 months but gradually the amount required for the maintenance of correction declined to approximately 0.2–0.4 mL per session injected at approximate interval of 4–6 months. The same filler was used to fill the slightly atrophic chin scar that formed the base of the lower lip donor wedge excision and the recipient region upper lip scar [Figure 4A and B].

The lip and perioral profile of the patient was also considerably improved in the oblique views. This view also illustrates an improvement in the balance of upper and lower lips as well as improvement in the upper lip scar [Figure 5A and B].



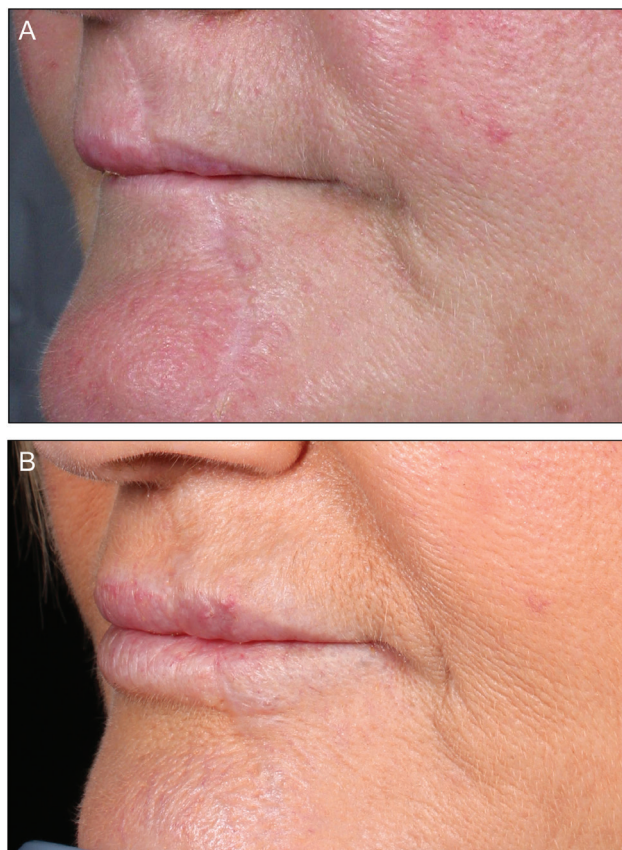
**Figure 4:** (A, B) Before and immediately after first injection session of hyaluronic acid filler into the upper and lower lips and postsurgical scars

### CASE REPORT 3

A 47-year-old woman presented for treatment of congenital asymmetry of the upper lip, with the right upper lip lacking volume compared to the left upper lip. In particular, she complained of the asymmetry of the peaks of the Cupid's bow. Although she had been treated before with fillers, this had been done to both sides of her upper and lower lips with more on the right side to induce more symmetry. This had the effect of increasing her overall lip volume. However, she was not comfortable with generally larger lips, so the following year she was treated more specifically for symmetry with fewer products, and not for volume enhancement. The photos illustrate her corrected result from this latter treatment where approximately 0.7–0.8 mL of JUVEDERM Volbella (Allergan, Irvine, CA) was used and the deflated lip 3 years after the filler was implanted when all had disappeared back to her baseline [Figure 6A and B].

### DISCUSSION

The past has seen a multitude of fillers, both temporary and permanent agents, used to fill lines, wrinkles, and lips. Expanded polytetrafluoroethylene,<sup>[4]</sup> cadaveric implants,<sup>[5]</sup> medical grade silicone,<sup>[5,6]</sup> and other nonbiodegradable fillers<sup>[7-9]</sup> have been used as “minimally invasive” techniques



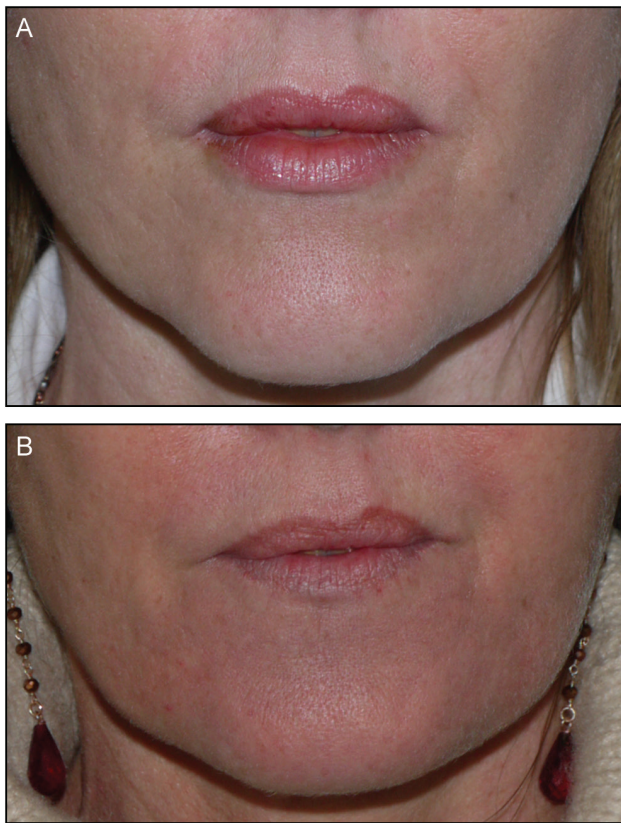
**Figure 5:** (A, B) Improvement in lip volume, profile, and balance as well as improvement in the upper lip scar

for lip augmentation, but most of these agents, after usually optimistic earlier reports, are prone to adverse effects such as deformities, nodules,<sup>[10,11]</sup> and granulomas.<sup>[12]</sup>

Although initially collagen products were widely used for facial lines and wrinkles and temporary lip augmentation,<sup>[13]</sup> the requirement for frequent injections and the relatively high chance of allergy to these agents has led to their replacement by hyaluronic acid fillers. Hyaluronic acid is now the treatment of choice for these indications.<sup>[14]</sup>

The data addressing the use of soft-tissue fillers in facial asymmetries are scarce, in particular for lips. Schweiger *et al.*<sup>[3]</sup> reported the use of hyaluronic acid fillers for the correction of residual lip asymmetry in a patient after cleft lip surgery with favorable results. Further, there are reports of correction of asymmetric smiles with the use of botulinum toxin<sup>[15]</sup> and an algorithmic approach discussing a standardized protocol for the management of lower lip asymmetry by botulinum toxin and/or surgery.<sup>[16]</sup> However, the correction of lip asymmetries with soft-tissue fillers has not been discussed in detail in the past.

In these cases, needles were used to most accurately correct asymmetry as this is difficult to achieve with cannula. The injections were administered either by the syringe and



**Figure 6:** (A, B) Correction of asymmetry of the upper lip with hyaluronic acid filler initially and result after the filler had disappeared 3 years later

needles supplied with the product or via decanting into 0.3-mL tuberculin syringes for more accurate implantation.

## CONCLUSION

Fillers for soft-tissue augmentation are a popular procedure worldwide today for enhancement of facial features, but their use for the correction of lip asymmetries has been scarcely explored. In light of these results, we suggest that physicians consider this solution as an effective treatment for congenital, acquired, and postsurgical asymmetries.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the

journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

## Conflicts of interest

None.

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