Successful Treatment with Injected Hyaluronic Acid in a Patient with Lip Asymmetry after Surgical Correction of Cleft Lip

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BACKGROUND Surgical repair of cleft lip, while correcting deformity and dysfunction, may leave residual cosmetic imperfections. The resultant asymmetry and low volume of the upper lip can be addressed surgically and via less invasive methods.

OBJECTIVE We present the first reported use of injectable hyaluronic acid to correct the characteristic lip asymmetry and poor volume after surgical repair of a cleft lip.

METHODS AND MATERIALS Using injectable hyaluronic acid, we treated the patient's upper lip to restore symmetry and achieve an augmented volume.

RESULTS We obtained a symmetric correction and aesthetically pleasing volume augmentation in the affected lip. These results lasted approximately 4 months.

CONCLUSION Using a temporary, alloplastic, injectable soft tissue filler such as hyaluronic acid satisfactorily achieves correction of asymmetry and low volume in a surgically repaired cleft lip. For patients who have endured multiple corrective surgeries, this is a novel and less invasive way to improve their cosmetic concerns.

The Restylane used in this case was provided free of charge by Medicis Aesthetics.

We present the first reported use of a temporary alloplastic injectable soft tissue filler, hyaluronic acid (HA), for upper lip augmentation in a patient with asymmetry after surgical cleft lip repair. The majority of corrective options for cleft lip and palate are surgical and start as early as 10 weeks of age.[1] Through infancy and childhood, multiple different surgical techniques are employed to improve function and appearance.[2–4] Secondary procedures are used later to address primary complications or functional and aesthetic deficits, such as speech problems or upper lip hypoplasia.[1] By adulthood, patients with cleft lip have often undergone 10 or more defect-related surgeries and many desire less invasive options to improve any residual cosmetic imperfections.

Case History

A 21-year-old female was seen in dermatology clinic with the complaint of lip asymmetry. She reported being born with a unilateral left-sided cleft lip and cleft palate. From the age of 12 weeks to 20 years, she had received an estimated 12 reconstructive procedures by craniofacial surgeons. She also had received specialized care from dentists, oral surgeons, and speech pathologists in the past.

She had no complaints of speech or eating difficulties. She was no longer interested in surgery and wanted to learn about any additional therapeutic options to treat the lip asymmetry. On physical examination, the patient was noted to have two areas of dimpled

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 • Published by Blackwell Publishing •
ISSN: 1076-0512 • Dermatol Surg 2008;34:1–3 • DOI: 10.1111/j.1524-4725.2008.34133.x

retraction on her upper mucosal lip, one located at about midline and the other 1 cm left of midline (Figure 1). A linear scar extended from the vermilion lateral to the left philtral column on the left aspect of the upper cutaneous lip to the left nasal ala.

Procedure

Our patient was successfully treated with injection of HA (Restylane, Medicis Aesthetics, Scottsdale, AZ). She first underwent an intraoral miniblock with 0.5 mL of 1% lidocaine with 1:100,000 epinephrine injected above each canine in the buccal mucosal groove. A quantity of 0.5 mL of HA was then placed into the left mucosal body and vermilion. Additional filler was placed at both areas of dimpled retraction. After the mucosal lip was treated with a goal of 100% correction, an additional 0.2 mL of HA was injected under the left cutaneous upper lip line scar.

Clinical improvement was noted immediately, as was mild bruising. She returned to clinic 10 days after treatment for follow-up and was felt to have an excellent cosmetic result (Figure 2). The results lasted approximately 4 months with a gradual decline to baseline.

Discussion

To our knowledge, this is the first case reported in the literature using HA to treat lip asymmetry in a patient with cleft lip. Cleft lip with or without cleft palate occurs approximately in 1 to 2 per 1,000 births.[1,5] It may be an isolated defect, part of a syndrome due to a chromosomal mutation, or a result of an environmental exposure.[6] Primary and secondary surgical repair may not completely meet the patient's cosmetic expectations, especially regarding upper lip contour and volume. Duskova and Kristen[7] have reported the use of autologous fat transfer to treat cleft lip in five affected patients. In their case series, the authors injected between 3 and 6 mg of harvested fat into the middle third of the upper lip and the base of the columella for augmentation of volume and correction of asymmetry. While several patients required repeat treatments, the aesthetic effect endured 5 to 9 months. The authors reported no complications or adverse reactions. All the patients were pleased with both the results and the procedure.

Soft tissue augmentation using injectable fillers can also be used to address the aesthetic considerations of decreased upper lip volume and asymmetry. HA is frequently used for lip enhancement and is FDA approved for soft tissue augmentation. HA is a natural dermal hydrophilic polysaccharide found in many species.[8] Restylane contains 20 mg/mL stabilized HA purified from bacterial fermentation.[8,9] Adverse reactions have been reported very rarely,[10] but common self-limited side effects include erythema, edema, and ecchymoses. The augmentation effect typically endures 3 to 4 months before returning to baseline.

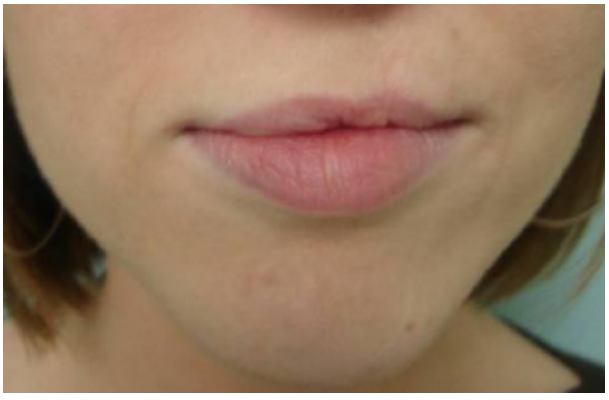

Figure 1. Baseline.

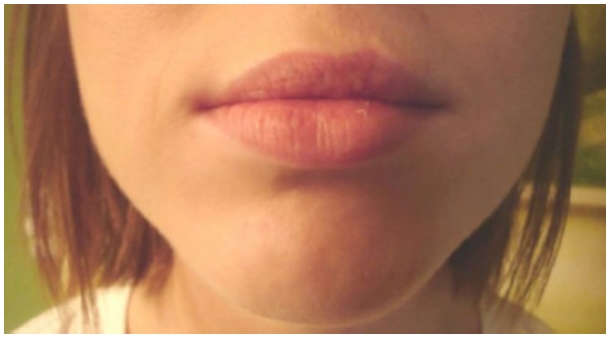

Figure 2. Ten days after HA injection.

Other fillers used in lip augmentation, such as bovine and human collagen, could also be used to correct asymmetry in patients with cleft lip.[11] The longer lasting semipermanent fillers calcium hydroxylapatite and poly-L-lactic acid are not recommended for lip injections, so would not be suitable for this indication.[9,12] Liquid injectable silicon, a permanent filler sometimes used for lip augmentation, may be a long-lasting potential option for these patients.[13]

In conclusion, injectable soft tissue fillers, especially HA, may provide a minimally invasive method for cosmetic enhancement in patients with cleft lip who desire further aesthetic improvement after surgical repair. Patients should be aware that HA is a temporary treatment lasting 3 to 4 months and will require retreatment to maintain benefit. We achieved an excellent result in our patient. Based on our experience, we think that it is reasonable for other practitioners to offer this treatment approach for this patient population.

Acknowledgments Dr. Aires is a consultant for Amgen, Bioform Medical, Centocor, Connetics, and Galderma. He is a speaker for Novartis, Steiffel, and Warner-Chilcott. He denies financial interest in the manuscript.

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