Facial paralysis can have a significant impact on patients’ quality of life, secondary to both functional and cosmetic concerns. Often, patients require multiple procedures to address the upper and lower face. Lip augmentation is frequently performed to aid in swallowing and speaking abilities, as well as to rectify symmetry between the two sides of the face.

Lip augmentation has been performed with a variety of materials, including autologous fat transfer, acellular dermis (e.g. alloderm), and temporary or permanent injectable fillers. Alternatively, surgical approaches can be employed, such as vermilion or mucosal border advancement or subnasal lip lift. Unfortunately, few of these techniques provide reliable, long-lasting results and some are associated with potentially significant complications, such as cosmetic deformity. Use of the superficial musculoaponeurotic system (SMAS) as a graft source has been proposed as a potential solution to these issues, although few studies have tested its effectiveness.

The objectives of this study were to: (1) Evaluate the use of superficial musculoaponeurotic system (SMAS) graft in lip augmentation with placement via a novel angiocatheter technique and (2) compare the results of SMAS grafting to those obtained with Alloderm placement.

RESULTS

Mean operative time for SMAS lip augmentation was approximately 4 minutes. The angiocatheter technique was easily learned by residents. Patients were satisfied with the cosmetic results. Due to persistent facial asymmetry, a right facial advancement flap was performed using standard rhytidectomy techniques. A right upper and lower lip augmentation was performed using a 1.5 cm by 5 cm strip of SMAS harvested during the rhytidectomy. Placement of the SMAS graft was performed using a 14-gauge angiocatheter and 25-gauge wire. First, two small incisions were created; one laterally at the oral commissure, and the other at the philtrum. A 14-gauge angiocatheter was then tunneled through the red portion of the lip between the incisions. Next, the needle was removed from the angiocatheter and a 24-gauge wire was inserted into the angiocatheter. The SMAS graft was attached to the wire and pulled through the tunnel with simultaneous removal of the angiocatheter. Excess SMAS was trimmed. Care was taken to avoid suturing the ends of the graft into the closure of the skin incisions.

The results of this case report support the findings of Leaf & Firouz, although limited data is available regarding the longevity of the plumping effect. Our patient had an excellent cosmetic result, with significant increase in the volume of both the upper and lower lips. The patient’s lips were symmetric. In comparison to the standard rhytidectomy, the SMAS graft provided a more natural looking and feeling result. This result was maintained for at least 2 months post-operatively, the duration of follow-up.

CONCLUSIONS

SMAS grafts can be easily and quickly utilized in lip augmentation procedures for patients undergoing a concurrent rhytidectomy. Compared to Alloderm lip augmentation, the SMAS graft provided a more natural looking and feeling result. Additional studies are needed to evaluate the longevity of results utilizing this technique.