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## Appendectomy scar graft for lip augmentation

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The mouth represents an important aesthetic unit of the face. Symmetrical, soft, and full lips are perceived as very attractive, so public demand for soft tissue lip augmentation is constantly increasing [1]. Various authors have published different solutions in search of a permanent filler material for lip augmentation [2]. The use of scar fibrous tissue as an autologous filler graft has been suggested together with scar revision [3]. We have used appendectomy scar tissue for lip augmentation in two female patients and want to share our results.

Patients were operated under local anesthetic; the youngest aged 27 years, the oldest 55 years. The causes of defects were a whistle deformity of the upper lip, consequent to previously surgically corrected congenital bilateral cleft lip in the first patient (Fig. 1) and age-related lip atrophy in the second patient. Photographs were taken pre-operatively. The appendectomy scar was marked in the upright position. The scar area was de-epithelialized; scar dermis graft was harvested and the donor site was closed primarily. At the upper lip, bilateral incisions were made 3 mm medial to the angle of the mouth on the inner mucosal surface. Stevens' tenotomy scissor dissection was performed with the creation of a submucosal pocket along the length of the vermilion. Scar graft was tailored to suit the upper lip

length (Fig. 2); a tunnel was created anteriorly between the vermilion submucosal tissue and the orbicularis muscle. Scar graft was positioned into the lip pocket pulling the graft from side to side with a 3/0 polyester suture. Incisions were closed with absorbable 5/0 polyglactin sutures.

Patients were observed at one month postoperatively and at one year. (Fig. 3) There were no perioperative complications such as bleeding, infection, or wound dehiscence. Follow-up included assessment of position, closure, lip sensation, aesthetic results, and donor-site morbidity. No residual retraction of lip borders and no alteration of lip sensation was observed. Patients did not require surgical revision for scarring or tissue protrusion. The donor-site scar healed well and was inconspicuous in both cases. There were no substantial volume changes at the lips over time. Aesthetic results in both patients were considered satisfactory. Patients did not report discomfort during speaking, eating, or during any facial expression.

Results' pictures were evaluated referring to the Lip Fullness Scale (LFS) [4]. This 5-point scale (minimal, mild, moderate, marked, and very marked) is a reliable and objective instrument for lip fullness rating. Two plastic surgeons, blinded to the rating assigned by the other physician, evaluated pre and postoperative photographs. Lip fullness was scored as minimal before surgery in both cases. After surgery, both results were scored as marked. According to LFS, the lip fullness in both patients was improved at one year.

The use of scar tissue graft as an autologous material for lip augmentation proved to be efficient and reliable in reconstructive and aesthetic settings. With the technique presented here, lip augmentation and appendectomy scar revision can be performed at the same time. In

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**Fig. 1** A 22-year-old female with a whistle deformity of the upper lip

case both upper and lower lips need to be augmented at the same time, sufficient dermal-scar tissue can be harvested with larger margins at the scar revision design. Scar tissue graft represents a permanent, versatile, and reliable material to correct lip irregularities deriving from cleft lip repair, thin lips, or age-related lip atrophy.



**Fig. 2** The harvested scar graft ready for positioning in the upper lip subcutaneous tunnel



**Fig. 3** 12-month follow-up showing marked improvement of upper lip fullness

### Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethics approval** This is an observational communication. The AOU Federico II Hospital Research Ethics Committee has confirmed that no ethical approval is required.

**Informed consent** Informed consent was obtained from both participants included in the study.

**Patient consent** Patient showed in the pictures signed informed consent regarding publishing her photographs.

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