J Stomatol Oral Maxillofac Surg 118 (2017) 283–288

Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en

Original Article

Midface rejuvenation surgery combining preperiosteal midcheek lift, lower blepharoplasty with orbital fat preservation and autologous fat grafting

H. Chatel, B. Hersant *, R. Bosc, S. La Padula, J.P. Meningaud

Department of Plastic, Reconstructive and Maxillo-facial Surgery, Henri-Mondor Hospital, 51, avenue du Maréchal-de-Lattre-de-Tassigny, 94010 Créteil, France

ARTICLE INFO

Article history:
Received 7 February 2017
Accepted 26 June 2017
Available online 3 July 2017

Keywords:
Aesthetic
Blepharoplasty
Midface
Lifting
Aging
Lipofilling

ABSTRACT

Objective: The aim of this study was to describe a technique for midface rejuvenation combining lower blepharoplasty, midcheek lift and autologous fat transfer.
Methods: All patients who underwent a midface rejuvenation procedure performed by the same surgeon and using a classic subciliary blepharoplasty surgical approach were identified. The technique combined three distinct procedures: lower blepharoplasty with use of a transposition flap of orbital adipose tissue in the medial and central compartment to reduce the subpalpebral bags and attenuate the palpebrojugual sulcus; midcheek lift in the preperiosteal plane with trans-osseous fixation exerting traction on the soft tissues of the cheek along several vectors; autologous fat transfer to offset the loss of volume in the target area.
Results: Between January 2011 and December 2015, 14 patients were operated with the described technique. Long-term results were good and stable over time. Two complications in the form of ectropion were observed in the series but resolved with daily massages.
Conclusions: The combination of lower blepharoplasty, midcheek lift and autologous fat transfer appear to enable treatment of midface ageing. The results were satisfactory and durable, and the procedure was well tolerated. The procedures could be combined with others for the treatment of the upper and lower face during the same surgical procedure.

1. Introduction

Midfacial ageing manifests clinically as bags under the eyes, accentuation of the "valley of tears" with marked palpebrojugal sulci and ptosis of the soft tissues of the cheeks [1–3].

Subpalpebral bags are generally considered, by the surgeon as an excess of periorbital fat, and treated with adipose tissue exeresis. Dark circles are caused by structural ageing, which, over time, result in a change in fat distribution in the various adipose compartments surrounding the eyeball. In that context, rejuvenation surgery should aim to restore the adipose tissue distribution. Since the early 1980s, several fat transposition techniques have been reported by Loeb [4], and then by Hamra [5,6] and Eder [7], and by Goldberg [8]. Although each technique has its own specificities, the unanimous consensus is that it is necessary to distribute the adipose tissue so to smooth the contrasts between the various periorbital contours induced by fat migration.

The other aspects of midface ageing should be treated concomitantly. While the most widespread midcheek lift technique is subperiosteal [8–11], a preperiosteal approach in non-vascular dissection plane is possible. The recent anatomical descriptions of facial soft tissues have allowed better understanding dissection [12–14]. The advantages of the technique are under study [15]. The technique provides excellent results with high patient satisfaction rates and limited complications.

Combining lower blepharoplasty, midcheek lift and autologous fat graft may constitute the key to treatment [16–19] in the overall management of midface ageing.

The aim of this study was to describe the technique and report on a series of midface rejuvenation results obtained by combining the above procedures.

2. Material and methods

All patients having undergone a midface lift rejuvenation procedure in our department between January 2011 and December 2015 were identified.

* Corresponding author.
E-mail address: barbara.hersant@gmail.com (B. Hersant).

http://dx.doi.org/10.1016/j.jormas.2017.06.014
2468-7855/

2.1. Surgical technique

The procedures were performed under general anesthesia with orotracheal intubation using a preformed median oral tube. In all cases, 5 mL of lidocaine and epinephrine were infiltrated into the inferior orbital rim. The surgical approach was the classic subciliary incision route for lower blepharoplasty.

2.1.1. Lower blepharoplasty with fat grafting

Procedures began with a subciliary incision exceeding the outer canthus by 5 mm in a "crow's foot" wrinkle. Dissection, using Stevens' scissors, happened between the orbicular muscle, in the anterior plane, and the posterior tarsal plane, throughout the length of the lower eyelid at the subciliary level. Extension of the skin and the orbicular muscle incision was performed using scissors, throughout the necessary length and stopping 3 mm beyond the lacrimal point.

The lower orbicular muscle was displaced downward to expose its insertion on the inferior orbital rim. The *arcus marginalis* was detached, using a periosteal elevator, from medial to lateral, avoiding disinsertion of the lateral third to preserve satisfactory muscle function. A subperiosteal pocket was formed aiming at subsequently hosting the transposition flap.

The periorbital fat was accessed using a septum incision. Any excess (evidenced by light pressure on the eyeball) could be resected at this stage. A periosteal elevator was used to detach the periorbital fat from the periosteum of the orbit floor. An adipose flap with a superior pedicle of the correct dimensions was dissected. It was necessary to release the anterior third of the orbit floor to prevent tension and the risk of ectropion. Meticulous hemostasis was performed to preserve the flap vascularization and prevent the risk of orbital hematoma.

The adipose transposition flap was used to offset the adipose deficit at the posterior face of the orbicular muscle (Fig. 1).

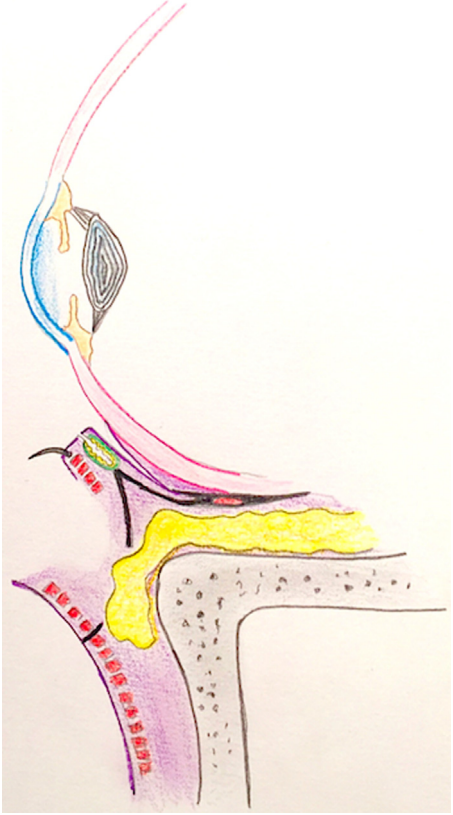

Fig. 1. Dissection of a fat flap during lower blepharoplasty.

2.1.2. Preperiosteal midcheek lift

The surgical approach was the previously described using subciliary incision. The procedure was performed after the inferior blepharoplasty procedure. Depending on the number of traction vectors to be exerted, one or several trepanations were made on the edge of the inferior orbital rim (beginning at the junction between the medial third and intermediate third). Discision was made in the deep preperiosteal plane toward the nasolabial fold. The exact direction depended on the traction vector(s) required. Thus, there was no risk of damaging the infraorbital nerve at its point of emergence or the angular vein. The scissors were positioned vertically.

A non-resorbable suspended the soft tissues using a specific needle (double-beveled hollow straight needle through which the suture runs). This enabled the surgeon to pass the needle through the cutaneous plane without the suture coming out and to impart a second direction to the suture thanks to the fact that both ends of the needle were beveled (Fig. 2).

The suture was thus run through the trepanation hole in the margin (1-mm drill) and then into the previously-dissected preperiosteal deep space, before partially exiting the needle at the point of reflection in the nasolabial fold. A second direction was then imparted to the suture, returning it toward the orbital rim in a more superficial plane and exiting under the orbicular muscle. It was important not to snag the deep dermis to prevent pad formation. It was also important not to snag the orbicular muscle and to pass beneath it to avoid compromising eyelid dynamics. The knot was fixed with a degree of traction suitable for the desired result. The knot was then slid, buried and flattened against the orbital floor to prevent it bulging under the palpebral skin.

The inferior blepharoplasty procedure was then completed. The pediculate adipose flap was sutured with a U 5/0 resorbable suture running to the inferior margin of the posterior part of the orbicular muscle (the positioning of the suture was determined preoperatively with the patient in the vertical position). Cutaneous resection was then performed as required by the excess. The subciliary incision was closed by intradermal running suturie with Nylon 5/0.

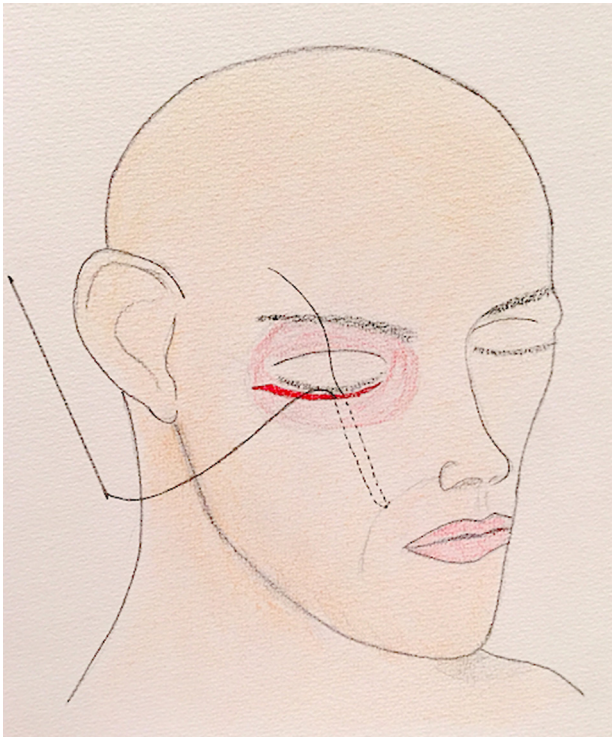

Fig. 2. Use of a traction suture for a midcheek lift (submusculus orbicularis oris fat).