



Small incision subperiosteal and trans-blepharoplasty forehead and browlift[☆]

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KEYWORDS

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Subperiosteal
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Summary The purpose of the study is to evaluate the safety and efficacy of non-endoscopic, small-incision subperiosteal forehead and browlift in patients undergoing associated upper eyelid blepharoplasty.

This is a retrospective, non-comparative case series of 14 consecutive patients in 12 months. Eleven patients underwent bilateral and three unilateral surgery. Unilateral surgery was performed in patients with facial palsy and was augmented with cable suspension.

The technique involves five small scalp incisions to create a single subperiosteal and deep temporal cavity. Superior arcus marginalis release and direct visualisation of the supraorbital nerve was achieved via a trans-blepharoplasty approach.

All patients achieved a desirable browlift and contour. Follow up ranged from 2 to 40 weeks. Minor complications included transient diplopia (1), reduced upper eyelid sensation (1), and brief postoperative bleeding from one of the small incision sites (1).

Small incision and trans-blepharoplasty forehead and browlift is a safe and effective method to achieve a cosmetically desirable browlift in patients that require associated upper eyelid blepharoplasty, using standard oculoplastic equipment without the need for an endoscope.

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A wide variety of techniques exist to achieve forehead and eyebrow elevation. Current methods include direct browlift,^{1,2} internal browpexy,³ mid-forehead lift,^{4,5} temporal lift, pretrichial browlift, coronal browlift,⁶ and endoscopic browlift.^{7–14} Endoscopic forehead and browlift is emerging as the procedure of choice.¹⁵ It has greater patient

acceptance because of the smaller incisions necessary to achieve forehead and brow elevation and in comparison to the coronal browlift it has less potential for both postoperative alopecia and sensory loss, and allows for faster recovery. The disadvantages of the endoscopic technique include the learning required to master the use of the endoscope and the expense of the equipment.

The technique of small incision non-endoscopic browlift was described by Kikkawa et al.¹⁶ and is based on the principles and concepts of the endoscopic approach. The technique involves small scalp and upper eyelid blepharoplasty incisions without the need for an endoscope. We describe our experience using a similar technique with modification in both soft tissue release and fixation.

Materials and methods

This is a retrospective, non-comparative case series of 14 patients who underwent browlift and blepharoplasty over 12 months (2004–2005) at The Corneo Plastic Unit, The Queen Victoria Hospital, East Grinstead, UK. Surgery was performed either by or under the supervision of the senior author (RM) under local anaesthesia in seven cases and under general anaesthesia in the remainder. The mean age was 71 years \pm 12.4 (range 60–93 years). Inclusion criteria were any patient with upper eyelid dermatochalasis requiring blepharoplasty and brow ptosis at or below the level of the superior orbital rim. The majority of the patients also had horizontal and vertical glabellar furrows. Of the 14 patients, 10 had involutional brow ptosis and four unilateral brow ptosis due to facial nerve palsy. Eleven patients underwent bilateral and three unilateral surgery. Unilateral surgery was performed in patients with facial palsy and was augmented with cable suspension. The results of the surgery were evaluated subjectively and also quantified by measuring the vertical height between the midpupil and the base of the brow, pre and postoperatively (Fig. 1).

Technique

Five 'Y–V' incisions (one central, two paramedian and two temporal incisions) 3 cm in length are marked, approximately 2 cm behind the hairline. The two paramedian incisions are vertically in line with the lateral corneal limbus on each side. The temporal incisions are centered on an imaginary line extending from the nasal ala to the lateral canthus. Landmarks also marked include:

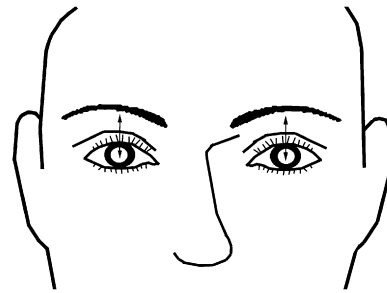


Figure 1 The results of the surgery were quantified by measuring the vertical height between the midpupil and the base of the brow, pre and postoperatively.

temporal line, zygomatic arch, supraorbital notch, and superficial temporal artery. The hair is coated with Aquagel and placed in rubber bands (Fig. 2a). Upper eyelid blepharoplasty incisions are marked whilst the brow is manually corrected by the surgeon. Regardless of whether general or local anaesthesia under sedation is used, local anaesthetic (2% lignocaine with 1:80 000 adrenaline) is then infiltrated to form a vasoconstrictive 'tourniquet'. Up to 40 ml of anaesthetic is injected from ear to ear across the incision lines, and across the supraorbital rims and glabella. The patient is then prepared with topical application of iodine povidone and draped. The previously marked incisions are incised with a 15 blade. The central three incisions are carried down through periosteum to bone. Dissection is performed with standard periosteal elevators through the paramedian incisions in a subperiosteal plane to 2 cm above the supraorbital rims, and laterally to the temporal line (Fig. 2b). No periosteal release is performed posterior to the incisions in order to ensure bone fixation. Temporally, the incisions are made through skin and subcutaneous tissue, to expose the superficial temporalis fascia. Temporal blunt dissection with tenotomy scissors is then performed to expose the deep temporalis fascia. Blunt dissection at this plane is performed up to the conjoined fascia using curved blunt scissors under direct view with the aid of a headlight (Fig. 2c). Particular attention is given to stay on the deep temporalis fascia in order to prevent damage to the overlying facial nerve. The conjoined tendon is dissected from a lateral to a medial direction, connecting the temporal with the central cavity. Through the upper eyelid blepharoplasty incision, following skin and muscle excision, the orbital septum is incised and the levator aponeurosis is exposed. Using Desmarres and malleable retractors the superior orbital rim is exposed and an incision is made to release the periosteum from the superior orbital rim. The supraorbital notch is palpated medially, and

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