Brow Lifting Using the Transbleph Endotine Fixation System

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INTRODUCTION:

Brow fixation through an internal browpexy approach has included various techniques and methods of fixation. The authors describe their experience with the recently FDA-approved TransBleph Endotine fixation system, which is inserted through a conventional blepharoplasty incision. The bioabsorbable Endotine implant allows subperiosteal multipoint soft tissue fixation via a three-tined (3.0 mm or 3.5 mm) design. The implant, composed of a polymer mixture of lactic acid and glycolic acid, provided mechanical fixation during the postoperative healing phase. This technique allows an alternative less invasive browlift procedure for patients with mild to moderate brow ptosis.

METHODS:

Retrospective review of 65 consecutive patient who underwent internal browpexy by 3 surgeons (WPM, JGR, MJL), using the TransBleph Endotine device, in combination with upper eyelid blepharoplasty and/or blepharoptosis repair (Figure 1). 63 patients underwent bilateral surgery: 2 were unilateral. The 3.0 mm implants were used in 27 patients, and 38 received the 3.5 mm devices. The distance of the implant from the orbital rim is summarized in Table 1. The patients were evaluated postoperatively for overall satisfaction, brow position relative to the orbital rim, complications, and need for reoperation.

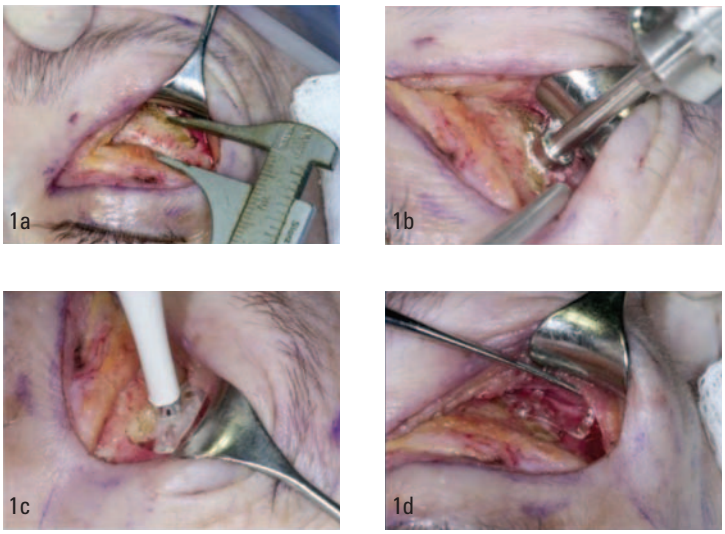

Figure 1a. Measuring site of placement above orbital rim; 1b. Drilling the fixation hole; 1c. Placing device in subperiosteal plane; 1d. Draping periosteum over surface of device

Location of Endotine placement from orbital rim (mm)	# of patients
10	1
8	10
7	19
6	2
5	23

Table 1. Location of Endotine from superior orbital rim.

RESULTS:

Mean follow-up was 3 months (range from 0.5 to 9 months). Of the 65 patients, 61 were satisfied with the surgical results (Figure 2). Three patients had both brows return to the preoperative level, and one patient has recurrent ptosis of one brow. One patient was pleased with the brow height, but returned for reoperation to debulk the brow fat pads. There was no association between the residual brow ptosis and the height of the Endotine device above the orbital rim. All patients with marked residual brow ptosis (>3mm) had the frontal periosteum draped over the device; none of the patients who had the periosteum tucked above the device developed significant residual or recurrent brow ptosis.

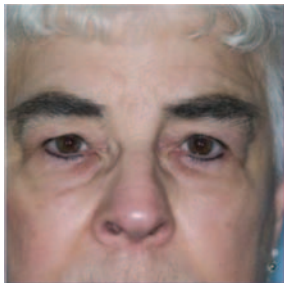

Figure 2a. Preoperative photo.

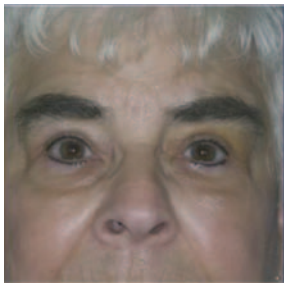

Figure 2b. Postoperative photo.

Eyelid edema and eyebrow tenderness/soreness were common but transient, early complications. More persistent complications included residual frontal/parietal neuralgia in 4 patients, lasting 1-4 months. Two additional patients developed a transient frontal neuralgia 2 to 2.5months postoperatively that lasted 1-2 weeks (Table 2). No patients had frontal numbness. The eyebrows remained stable at (in males) or above (in females) the orbital rims in 61 patients.

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Complication	# of patients
Frontal/parietal neuralgia lasting 1 - 4 mos postop	4
Transient frontal neuralgia starting 2 - 2.5 mos postop	2
Recurrent/residual brow ptosis requiring reoperation	4
Frontal numbness	0

Table 2. Persistent complications

The devices remained palpable at 3 months in 11 patients and at 4 months in 2 patients (Table 3).

Duration of palpability of device	# of patients
1.5 -3 months	51/65 pts
>3 months	11/47 pts
>4 months	2/18 pts

Table 3. Palpability of Endotine device postoperatively.

CONCLUSION:

Long term results as compared to other methods of fixation are not yet known, but short-term results are encouraging. A short learning curve is associated with the drilling of the fixation hole and placement of the device in the subperiosteal place. Short-term complications included postoperative neuralgias that were self-limited. Tucking the frontal periosteum above the device, rather than draping it over the tines, may reduce the occurrence of recurrent brow ptosis. Overall, the TransBleph Endotine fixation system enables satisfactory brow elevations via a minimally-invasive technique.

AUTHOR DISCLOSURE:

W Mack, none; J Rose, none; M Lucarelli, none; C Burkat, none.

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