The Longevity Of Brow Elevation In Endoscopic Brow Lift With Endotine Fixation

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Disclosure/Financial Support: Dr. Lee serves as a consultant to MicroAir Corporation.

INTRODUCTION: After enjoying an initial enthusiasm among plastic surgeons when it was described by Vasconez et al. [1], the popularity of the endoscopic brow lift seems to have gradually waned, with a number of surveys stating that many surgeons had abandoned the procedure due to disappointing outcomes and the brief longevity of the results[2]. To test these assertions, we set out to quantitatively evaluate brow lift results in our own patients with greater than three year follow up.

MATERIALS AND METHODS: Pre and postoperative photographs of thirteen patients with follow up ranging from 36 to 80 months were analyzed. The median age of the patients was 53.6 years, and the median time of follow up was four years. In order to standardize the quantitative evaluation of these endoscopic brow lifts, we applied The Brow Elevation Ratio technique described by Chiang, Goode and Newman to the analysis of the patients' pre and postoperative photographs[3].

RESULTS: Of the 13 patients in this study, eleven were women and two were men. Their ages ranged from 34 to 71, with a median age of 53.6 years. The time of postoperative follow up ranged from 36 to 80 months, with an average time of follow up of 49 months. The mean percentage increase in The Brow Elevation Ratio was 22.7%. Statistical analysis was used to compare the increase in Brow Elevation Ratios from the preoperative photographs to the postoperative pictures. A highly statistically significant increase in The Brow Elevation Ratio was found for the entire study group ($P<0.001$).

CONCLUSION: With a median follow up of 49 months, and a mean percentage increase in the Brow Elevation Ratio of 22.7%, this study demonstrates both the effectiveness and the longevity of endoscopic brow lifting with endotine fixation. Analysis with paired t-tests confirms that these results are statistically significant. We believe an important reason for the difference we observed in our results and their longevity is a broad and complete release of the periosteum and tethering ligaments, careful dissection of the supraorbital and supratrochlear nerves, and the use of 3, rather than 2 endotines to achieve a more secure fixation of the elevated forehead flap.

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[1]Vasconez, LO, Core, GB, Gamboa-Bobadilla, M, Guzman, G, Askren, C, Yamamoto Y. Endoscopic techniques in coronal brow lifting. Plastic and Reconstructive Surgery. 1994;94:788-793.

[2]Chou, ES, Baker, DC. Endoscopic brow lift: a retrospective review of 628 cases over 5 years. Plastic and Reconstructive Surgery. 2003;112:628-623.

[3]Chiang, S, Goode, RL, Newman, JP. Brow elevation ratio: An objective measurement of change in brow position. Presented at American Academy of Facial Plastic and Reconstructive Surgery Meeting, April, 2004; Scottsdale, AZ.