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Brow-Eyelid Complex Contour After Internal Browpexy Using Three-dimensional Imaging

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PURPOSE

Contemporary upper blepharoplasty methods emphasize the preservation of fat and muscle rather than their removal. The Brassiere suture acts as support to the brow fat pad and suspends the soft tissues below it. The increased visibility of the tarsal platform show, and volume contribute to a more aesthetic and youthful brow-eyelid complex.^{1,2} This study seeks to qualitatively compare the lateral brow-eyelid contour after traditional blepharoplasty versus blepharoplasty combined with brassiere sutures using three-dimensional imaging.

METHODS

This study is a prospective, randomized, comparative, parallel-group trial involving fifty-six female patients with dermatochalasis. Patients with an odd total number of letters in their first names underwent traditional upper blepharoplasty (Group A), while the remaining patients underwent upper blepharoplasty with brassiere sutures (Group B). Patient postoperative images capture and analysis were done using the VECTRA® H1 3D (Canfield Scientific, Inc) handheld imaging system. The images were standardized in three quarter view and the contour was selected using a transparent paper over the three-dimensional image.

RESULTS

In traditional blepharoplasty, the most common eyelid contour pattern was found in 33.3% of patients, with flatter characteristics and a shorter length of the lower convexity. The second most common pattern was found in 18.3%, and the third most common pattern in 12.9%. (Figure 1)



Figure 1: The three main patterns in group A in descending order of prevalence, with the first on the left being the main type of contour showing flatter features and smaller inferior convexity.

RESULTS

In patients who underwent blepharoplasty combined with brassiere sutures, the most common eyelid contour type was found in 31.5% of patients, showing double convexity, a longer length of the lower convexity, and an increased TPS (Tarsal platform show). The second most common pattern was found in 17.7%, and the third most common pattern in 10.8%. (Figure 2)



Figure 2: The three main patterns in group B in descending order of prevalence, with the first on the left being the main type of contour showing double convexity, higher inferior convexity and increase in tarsal platform show.

CONCLUSION

A recent study showed that brassiere sutures and traditional blepharoplasty increase TPS and decrease BFS (Brow Fat Span) after surgery, but there aren't statistically significant differences between these surgeries.³ The most common contour type in traditional blepharoplasty in our study was the flattest, less curved type, indicating little volume change in the eyebrow (Figure 1). Besides, in brassiere group, there was a double convexity, higher inferior convexity, denoting increase in TPS. The authors recommend the preservation and repositioning of fat as an adjunct to upper blepharoplasty due to its safety and aesthetically pleasing results.

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