

How to Make Your Life Easier: Blepharoplasty Markings with Microsurgical Clamps

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Summary: Preoperative blepharoplasty markings might be challenging, especially for young surgeons. It takes experience to carefully evaluate the amount of skin excess that can be safely removed. In the current study, we explored the use of microsurgical vascular clamps as a novel and useful tool in the preoperative upper blepharoplasty markings; they made it possible to directly visualize the amount of skin to be removed, facilitating the surgeon (especially the young surgeon) preoperative markings process. In our series, 30 patients underwent upper blepharoplasty with preoperative application of microvascular clamps with satisfactory results. (*Plast Reconstr Surg Glob Open* 2018;6:e1873; doi: 10.1097/GOX.0000000000001873; Published online 8 August 2018.)

INTRODUCTION

Upper lid blepharoplasty is designed to restore the upper lid fold and to place it at or above the pretarsal plate, to enhance the aesthetic appearance and improve the functional visual field when impaired. A careful preoperative assessment and a correct surgical plan are mandatory¹: in particular, preoperative planning can be difficult for young surgeons who lack experience in performing this type of procedure.^{2,3} One of the crucial preoperative step is represented by the ability to recognize the amount of skin excess to be removed, avoiding excessive lash eversion or lagophthalmos and trying to correct the asymmetries existing before surgery.^{4,5} In our experience, we believe that the main obstacle in the preoperative marking phase is to obtain a pleasing postoperative symmetry of the eyelids; for this purpose, a microvascular tool, the single clamp, could provide the preoperative help that young surgeons might need and easily use. We present our

experience with the use of microvascular clamps in the blepharoplasty preoperative markings.

SURGICAL TECHNIQUE

After taking preoperative standardized pictures, the incision markings were tailored based on each patients' individual clinical examination. Markings were drawn with the patient in the upright position leaving approximately 20 mm of skin between the lower edge of the eyebrow and the lid margin.⁶ As a first step, the natural upper eyelid crease was identified and marked (lower margin excision line). The skin excision should follow an elliptical shape that maintains the ideal contour of the upper eyelid; the medial border of the lower incision markings normally did not exceed the superior punctum while laterally it inclines toward the lateral canthus (not closer than 5 mm to the lateral canthus line), extending laterally while curving with an ascending angle within patient's crow's feet rhytides.

At this stage, we applied 3–4 expired plastic microvascular clamps (10.5 mm length, 0.06 g weight, applied force approximately 20gr. Biover-Medival).

The first clamp was positioned in the centro-lateral aspect of the eyelid, pinching all the excess of skin to be removed; then the lateral and the medial clamps were placed (Figs. 1, 2) to obtain a steady folding of the skin redundancy. At this point, the patient was asked to open and close the eyelid to assess the dynamic implication that the skin removal could bring (ie, in senile upper blepharoplasty adjustment of the levator function may be needed).

The superior incision markings were drawn between the apex of the clamps while they were still in place; we removed the clamps, finalize the drawings, and continue with the contralateral eye applying the clamps in the same fashion (Figs. 3, 4). Standard upper blepharoplasty was

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This study was designed and conducted as an audit, without adding any type of modification to the blepharoplasty technique routinely performed, focusing on the preoperative markings. Therefore, ethical approval was not required. It was registered within the internal database of audits held in the Plastic and Reconstructive Surgery Unit, Cattinara Hospital, University of Trieste, Italy.

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Fig. 1. Clamp position before markings.



Fig. 2. Upper blepharoplasty markings with clamps in place.



Fig. 3. Contralateral clamp application and direct visualization of symmetry to be obtained.

then performed, removing the skin excess, preserving the orbicularis muscle, and removing the medial fat pads when herniated. Patients were evaluated the following day to assess for any hematoma/swelling and 6 days after surgery, at the time of suture removal.

RESULTS

During 2016, we treated 30 patients with upper blepharoplasty performing the preoperative markings with the aid of the microsurgical vascular clamps. Four were men, 26 women, mean age 56 years (range, 49–68); mean follow-up was 6 months (range, 3–12 months).



Fig. 4. Postoperative result at 3 weeks.

No postoperative complications were recorded (infection, bleeding, or hematomas). The postoperative symmetry was considered satisfactory both by patients and surgeons and postoperative pictures were taken and reviewed.

DISCUSSION

According to the American Society of Plastic Surgeons, blepharoplasty is the fourth most common cosmetic plastic surgery procedure performed in the United States in 2015.⁷

Dermatochalasis is a benign condition characterized by upper eyelid skin redundancy hanging on or even beyond the eyelashes, generally caused by aging, and it is commonly associated with eyebrow ptosis, central and nasal fat compartment herniation. A careful analysis of the goals to be obtained performing an upper blepharoplasty should include a tailored approach that will restore a fresh appearance and meets patient's desires and expectations. Preoperative planning is essential, as it should underline each individual feature: preoperative asymmetry, brow and orbital fat malposition, volume loss, upper eyelid crease malposition, and so on.⁸

In the case of asymmetry, attempts were made to improve this by adapting skin markings and thereby performing extra/asymmetrical excision of skin but method of preoperative evaluation of the asymmetry still lacks.^{5,6,9}

The procedure we developed allows for a direct visualization of the amount of skin to be excised and helps to assess any possible residual asymmetry between the eyes. Moreover, it helps the surgeon to precisely understand and evaluate if the preoperative plan is correct: in particular, the act of rolling the folded skin within the clamp teeth makes the drawing easier and amendable while performing the markings.

Microvascular single clamps are small, light, and delicate clothespin intended for the occlusion of arteries or veins. Because they have a variable and a not negligible cost, we used the ones that were made to be disposed of because of their sterility expiration date.

Although performing the upper blepharoplasty markings with the traditional forceps it could be diffi-

cult, especially for young surgeons, to simultaneously visualize and obtain asymmetry corrections of both eyes. A simultaneous bilateral pinching test obtained with the application of 6–8 microvascular clamps offers an accurate preoperative representation of the final results both in static and dynamic position. In addition, simply rolling the skin inside the clamp allows for preoperative correction of the marking, according with lid movements.

Microvascular clamps are plastic instruments that allow for a clear and punctual evaluation of the amount of skin to be removed; their reproducible use during the preoperative planning and marking could help the young surgeons to obtain the best symmetry and the experienced ones to directly visualize both eye changings during lid movement.

CONCLUSIONS

With the support of microsurgery clamps, we developed a new approach that can lead to an easy and safe preoperative planning while performing the upper blepharoplasty.

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