EDITOR'S CORRESPONDENCE

RESEARCH LETTER

Bump Thermoplasty as a Simple Treatment for Lateral Incision Closure Artifacts After Upper Eyelid Blepharoplasty

Upper eyelid blepharoplasty is the most commonly performed facial rejuvenation surgery with a high rate of success.1-3 It is also one of the most gratifying procedures because functional and cosmetic improvements are readily appreciated by the patient. Precision is required when creating a blepharoplasty incision.1,4,5 The inferior portion of the incision is routinely made in the patient's existing eyelid crease or placed at the desired height for skin crease reformation centrally. Laterally, the inferior edge of the incision should continue 5 mm above the lateral canthus with a gentle upturn to end before the lateral orbital rim. The shape of the upper portion of the incision relative to the lower portion is dictated by the patient’s anatomy, the degree of dermatochalasis, lateral hooding, and the surgeon’s preference.

Incisions that extend beyond the lateral orbital rim leave a noticeable scar and should be avoided.4 In addition, if the underlying orbicularis is not removed from the lateral extent of the incision, it is likely to heal in a raised, full fashion that is aesthetically unacceptable. Given the cosmetic and functional nature of the procedure, avoidance of a noticeable scar and closure artifacts is vital.4,6,7 Nevertheless, artifacts of skin closure can occur despite taking the precautions mentioned. A small elevation of tissue appearing as a bump can be noted in the lateral aspect of the incision in a small proportion of patients after blepharoplasty. The raised tissue usually improves and settles with time; however, in some patients it persists. Few descriptions regarding these bump artifacts and their treatment are present in the literature. Anecdotally, they have been treated in a number of ways, including massage, steroid injection, and/or surgical excision. Herein, we describe the incidence of these closure artifacts after upper eyelid blepharoplasty. We provide a new, quick, and simple method of their correction: bump thermoplasty.

Methods. With institutional review board approval, a retrospective medical record review of the last 200 patients having upper eyelid blepharoplasty surgery performed by 1 surgeon (R.L.A.) was completed. We identified patients who developed a noticeable elevation of the lateral aspect of the blepharoplasty incision closure site requiring treatment. Photographs taken before and after the procedure and patient satisfaction were assessed.

Bump artifacts were treated as follows. The elevated tissue was anesthetized with topical lidocaine ointment, 5%, or (rarely) with a small, local injection of lidocaine hydrochloride, 1%. High-temperature cautery (Accu-Temp Solan; Medtronic, Jacksonville, Florida) was briefly applied to the raised tissue with the treatment end point of creating a flat surface (Figure 1). This usually required only a 1- or 2-second touch of cautery. Care was taken to not overapply thermal energy to the tissue and create a hollow. Patients were instructed to hold very still with the eyelids closed and not turn the eye toward the hot cautery tip. The resulting area was left to granulate. Neomycin and polymyxin B sulfates and dexamethasone in a single ophthalmic ointment (Fougera, Melville, New York) was applied twice daily for 1 week.

Figure 1. Bump thermoplasty for lateral incision closure artifacts after upper eyelid blepharoplasty. A, After application of local anesthetic, the patient is instructed to hold still with the eyes closed. B, High-temperature cautery is briefly applied to the raised tissue at the lateral aspect of the upper eyelid with the treatment end point of creating a flat surface.
Results. Nine patients of 200 (4.5%) who had upper eyelid blepharoplasty surgery noted bump artifacts requiring treatment. All of the patients were female and of fair complexion, with a mean age of 57 years (range, 44-68 years). Five patients had raised areas on the lateral aspects of both upper eyelids, and 4 had areas involving just the right side. The elevated tissue was marked enough that the patients desired treatment. On average, the procedure was performed 8 months after initial surgery. Clinical examination of patients and of photographs taken before and after the procedure revealed resolution of incision closure artifacts (Figure 2). Patient interviews conducted once healing was complete revealed that all individuals were pleased with the aesthetic appearance of their upper eyelids.

Comment. Upper eyelid blepharoplasty is a crucial surgery in the armamentarium of a facial plastic surgeon. An aesthetically pleasing result requires careful incision design and execution. Even when care is taken during surgery, closure artifacts can be created, usually in the lateral extent of the incision. Although most of these bump artifacts settle with time, some may persist and are cosmetically unacceptable.

We found the incidence of lateral incision closure artifacts to be 4.5% when reviewing the last 200 patients having upper eyelid blepharoplasty. One of the authors (R.L.A.) has noted a similar incidence of bump artifacts in 32 years of practice as an oculoplastic surgeon. We believe that there are several factors contributing to the formation of closure artifacts. The geometry of the blepharoplasty incision in which 2 arched cuts of different lengths are closed in a radial manner predisposes the skin to formation of a lateral pleat of tissue. Furthermore, the lateral closure site involves an area in which there is a transition from delicate eyelid skin to more coarse facial skin. In addition, patients having concomitant lateral canthopexy or midface elevation through the lateral aspect of the blepharoplasty incision tend to accumulate soft tissue in this area.

Our present patient group comprised both individuals having blepharoplasty because of visual impairment as well as those having blepharoplasty for cosmetic purposes. Some of our patients would have benefited from eyebrow-lift procedures but declined such surgery. It has been our experience that the incidence of bump artifacts is higher in patients with larger amounts of skin removal and is decreased in those having eyebrow elevation surgery. Furthermore, as is demonstrated by the fact that all the patients expressing concern of closure artifacts were female, women tend to be more critical of results. They also usually desire an eyelid with less excess skin postoperatively, which can predispose to a more noticeable bump artifact.

In the past, bump artifacts have been treated with massage, steroid injection, and/or surgical excision. Steroid injections do not provide a titratable response and can lead to excessive tissue atrophy, skin thinning, or blanching. Revision of an incision artifact requires a second procedure, often only to have the elevated tissue return after reclosure and healing have taken place. Although some patients would certainly benefit from elevation of their eyebrows to aid in tightening and reposition of temporal eyebrow and eyelid tissue, this may not be feasible or financially desirable. Nevertheless, caution must be taken in the application of high-temperature cautery when performing bump thermoplasty. In the development of this technique several years ago, 2 patients were overtreated, leaving a slight indentation in the lateral aspect of the upper eyelid. Furthermore, the procedure has only been performed in individuals with Fitzpatrick skin types I to III. Discretion must be used when considering this technique in patients with darker complexions because they may be more prone to developing hyperpigmentation or scarring in the area of treatment.

In conclusion, bump thermoplasty provides a novel, simple technique that can be quickly performed in an office setting. Minimal preparation or instrumentation is required. Our experience with the technique has been excellent, with prompt resolution of incision closure artifacts and patients who are pleased with the final outcome of their upper eyelid rejuvenation surgery.

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