Snip Conjunctivoplasty for Postoperative Conjunctival Chemosis

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Objective: To describe a surgical technique to treat postoperative conjunctival chemosis.

Design: Case report.

Results: Two cases of postoperative chemosis in which the conventional methods failed were successfully treated by snip conjunctivoplasty, without recurrence.

Conclusion: Snip conjunctivoplasty is a simple and effective surgical approach to treat refractory postoperative chemosis.

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CONJUNCTIVAL CHEMOSIS, which can be a prolonged, uncomfortable, and cosmetically undesirable complication of cosmetic and functional eyelid procedures, is not uncommon after blepharoplasty. It is especially bothersome after cosmetic blepharoplasty, when the patient expects rapid recovery and improved cosmesis. In addition to complaints of irritation, foreign body sensation, epiphora, and decreased vision, patients often worry about the gelatinous-appearing material that protrudes from their eyes. Typically, chemosis is self-limiting or reversible with time if the underlying conditions are treated. However, persistent conjunctival chemosis can occur. Pharmacological, mechanical, and surgical interventions have been used alone or in combination to manage chemosis. Conservative treatments include pressure patch, lubrication, ocular decongestants, steroid ointment or drops, pressure patching, and oral steroids. The surgical therapies advocated include the use of a silicone bolster in the lower fornix, limbal peritomy conjunctivoplasty, drainage conjunctivotomy, and perilimbal needle manipulation. We describe a snip conjunctivoplasty technique to treat refractory postoperative conjunctival chemosis that has been very useful in our practice over the past 5 years.

REPORT OF CASES

CASE 1

A 69-year-old man underwent bilateral uncomplicated lateral canthal resuspension, medial spindle conjunctivoplasty, and transconjunctival lower eyelid blepharoplasty. He had persistent conjunctival chemosis in his right eye 1 month after surgery despite conservative management with ocular lubrication, pressure patching, and steroid eye drops. He complained only of mild irritation but was very concerned about the appearance of his eye. On examination, his vision was 20/20 in both eyes; his corneas were clear; and he had marked conjunctival chemosis in the right eye (Figure 1).

A snip conjunctivoplasty was performed in the minor procedure room. Two sets of tetracaine ophthalmic drops and moxifloxacin hydrochloride antibiotic drops (Vigamox; Alcon Inc, Ft Worth, Texas) were instilled. The patient's right periorbital area and lashes were cleaned with a povidone-iodine solution, 5% (Betadine; Perdue Frederick Co, Norwalk, Connecticut). The patient was instructed to look up, and Westcott scissors were used to excise a small strip of conjunctiva and the Tenon capsule at the infra-temporal aspect of the chemotic conjunctiva (Figure 2). Immediate release of subconjunctival fluid was noted; massage of the right eye through the closed...
eyelid was performed to facilitate drainage of the fluid. A drop of epinephrine, 10%, was instilled at the end of the procedure to induce vasoconstriction, to reduce ocular congestion, and to hasten resolution. Immediately after the procedure, the chemosis was greatly reduced (Figure 3). An antibiotic and steroid ointment (Tobra- dex; Alcon Inc) was applied to the eye, and a pressure patch was used for 24 hours after the procedure. The patient was given the antibiotic and steroid ointment to use for 1 week after removal of the patch. At the 1-week follow-up, the chemosis had completely resolved.

CASE 2

A 64-year-old man underwent an uncomplicated upper blepharoplasty, ptosis repair, and transconjunctival lower eyelid blepharoplasty in both eyes. One week after surgery, he presented with decreased vision, irritation, foreign body sensation, and chemosis in his right eye. The usual conservative measures had failed to reduce the chemosis, which was getting progressively worse with time. When the patient returned for follow-up, his best-corrected visual acuity was 20/200 in the right eye compared with 20/20 before surgery. He had significant conjunctival chemosis, with the conjunctival tissue prolapsing beyond the lower eyelid margin and causing 3 mm of mechanical lagophthalmos (Figure 4). He had punctate epitheliopathy of the corneal surface. The results of his ocular examination were otherwise normal. After several minutes of manual pressure and forced closure of his right eye to reduce the conjunctival chemosis in the examination chair, his vision improved to 20/50. A snip conjunctivoplasty was performed as described previously. Thirty minutes after the procedure, the chemosis was greatly reduced, and the patient’s vision was 20/50 and improved to 20/25 with pinhole. A firm patch was applied for 24 hours. At the 1-week follow-up visit, the chemosis had resolved (Figure 5).

COMMENT

Conjunctival chemosis is a common postoperative finding after eyelid surgery. In a chart review of 312 primary bilateral lower transcutaneous blepharoplasty procedures, Weinfeld et al found that the incidence of chemosis was 11.5%. Predisposing risk factors for conjunctival chemosis include previous periorcular surgery, history of chemosis, lagophthalmos, conjunctivochalasis, excessive surgical manipulation, swelling, and disruption of lymphatic drainage at a local and regional level as a result of surgical manipulation. Increased vascular permeability induced by local inflammatory response and the vicious cycle of exposure worsening chemosis are both part of the physiological sequence of events that exacerbate postoperative conjunctival chemosis.1,5,6

Figure 1. Case 1. Persistent chemosis presented 1 month after lower eyelid blepharoplasty.

Figure 2. A small strip of conjunctiva and the Tenon capsule was removed.

Figure 3. Immediately after snip conjunctivoplasty, the chemosis was greatly reduced.

Figure 4. Case 2. Conjunctival chemosis persisted despite conservative treatments.
In 2005, Thakker et al.5 used conjunctivoplasty to treat conjunctival chemosis. Their technique involved using Westcott scissors to penetrate through the conjunctiva and the Tenon capsule at the limbus and subsequently to dissect between the Tenon capsule and the sclera. Our technique differs from theirs in that we excised a small elliptical strip of conjunctiva and the Tenon capsule at the inferior aspect of the chemotic conjunctiva. No suture was placed, which allowed fluid to drain. Dissection between the Tenon capsule and the sclera was not performed. In our experience in numerous cases over the past 5 years, sufficient fluid release occurred with gentle massage and globe compression after the snip conjunctivoplasty was made. A drop of epinephrine, 10%, was instilled at the end of the procedure to induce vasoconstriction and to reduce ocular congestion. A firm patch was placed for 24 hours. In our cases, in which conservative measures had failed, this small snip conjunctivoplasty combined with postoperative treatment with epinephrine and a pressure patch was effective in treating conjunctival chemosis in the postoperative period, without recurrence. This procedure is a simple and minimally invasive way to reduce chemosis. As elucidated by Thakker et al., the mechanism of producing scar tissue in the substantia propria and reducing the potential space in which extracellular fluid can accumulate makes the conjunctivoplasty procedure a successful treatment modality for chemosis. Excising a strip of conjunctiva and the Tenon capsule slightly reduces the redundant conjunctival tissue and tightens its surface area, which may further reduce the chance of reaccumulation of subconjunctival fluid. The use of topical anesthesia alone, without using subconjunctival injection, simplifies the procedure and is well tolerated by the patients. We used this approach to treat chemosis in cases in which the conventional methods failed no matter how long it was after the initial surgery. In our experience, early surgical intervention is indicated to break the chain of events that could lead to chronic, harder-to-manage chemosis.

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REFERENCES