
BILATERAL ACUTE ANGLE-CLOSURE GLAUCOMA AFTER BLEPHAROPLASTY

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ABSTRACT

A 54-year-old man had bilateral acute angle-closure glaucoma that resulted in severe loss of vision in both eyes the day after undergoing uneventful upper eyelid blepharoplasty. Acute angle-closure glaucoma is a rare, but potentially blinding complication after uneventful eyelid surgery. In the literature only four previous cases have been reported to our knowledge (1,2,3,4). Moreover blepharoplasty is frequently performed by plastic surgeons and dermatologists who are unaware of this serious complication. Considering that immediate appropriate therapy may reverse the angle closure and thus prevent visual loss, a better awareness and prompt recognition of this condition is imperative.

KEYWORDS

acute angle-closure glaucoma; blepharoplasty

CASE REPORT

A 54-year-old hypermetropic employee presented to the eye department with a one-week history of increasing ocular pain and decreasing vision in both eyes. The week before the onset of these symptoms he had undergone bilateral upper eyelid blepharoplasty under local anesthesia. Local infiltration with lidocaine 2 % and adrenaline was administered.

Bilateral excess upper eyelid skin excision and removal of the medial orbital fat pad was performed. Hemostasis was achieved with cautery. There were no surgical complications. The patient was discharged home the same day.

The day after blepharoplasty the patient went to an ophthalmologist with nausea and bilateral red, painful eyes. He was treated for an allergic keratoconjunctivitis with dexamethasone, neomycin sulfate, polymixin b sulfate and preservative-free natural tears. The following two days his symptoms got worse and he went to another ophthalmologist for a second opinion. There he was treated with retinol palmitate ointment and paracetamol.

Eventually the patient presented to our eye department 5 days after surgery with persistent ocular pain and reduced vision in both eyes. Before surgery his visual acuity was reported as 20/20 ODS.

On examination his visual acuity was 1/20 OD (+ 2,25 D) and hand movements OS (+ 3,5 D). In both eyes the cornea was hazy, the anterior chamber was shallow and no fundus view was possible. Ciliary flush was present in both eyes and the pupils were fixed in the semi-dilated position.

Gonioscopy showed a narrow angle with peripheral iridocorneal contact in both eyes. The intraocular pressures were 28 mmHg OD and 30 mmHg OS.

The patient was treated for bilateral angle-closure glaucoma and given intravenous mannitol, acetazolamide and frequent topical pilocarpine 2%, dexamethasone 0,1% and timolol 0,5%. A Yag laser iridotomy was performed in both eyes 1 week after blepharoplasty. Initial response to therapy was good in the left eye with visual recovery up to 2/20 and an intraocular pressure of 13 mmHg after 1 week.

The right eye got worse despite maximal medical therapy and Yag laser iridotomy. One week

after blepharoplasty visual acuity OD dropped from 1/20 to hand movements. The intraocular pressure in the right eye initially decreased (24 mmHg), but rose again to 38 mmHg three days after the first laser iridotomy had been performed. Clinical examination of the right eye showed a peripheral iridotomy which was not totally perforating. Three more attempts were made to perforate the iris of the right eye and only after the fourth laser treatment the iridotomy was definitely open and the intraocular pressure decreased to 15 mmHg.

One month after blepharoplasty, visual acuity was 5/20 OD and 12/20 OS.

The intraocular pressure in both eyes was within normal limits : 15 mmHg OD and 9 mmHg OS. The cornea was clear and fundus examination showed glaucomatous damage to the optic nerve in both eyes. The cup-disc ratio was considered as 0.6 OD and 0.5 OS. Both optic discs appeared pretty small in this hypermetropic patient and in the left eye we diagnosed a temporal notching of the neural rim. Severe visual field loss was documented in both eyes. Gonioscopy showed goniosynechia and residual angle closure in the right eye. No goniosynechia were found in the left eye.

Four months after the episode of acute angle-closure glaucoma, cataract surgery was performed in the right eye. The latter resulted in further visual recovery up to 12/20. The intraocular pressure remained controlled at 16 mmHg after surgery.

DISCUSSION

Blepharoplasty is a common operation and ocular complications are rare. Postoperative complications range from cutaneous changes to vision-threatening emergencies like retrobulbar hemorrhage and acute angle-closure glaucoma (5). Visual loss after blepharoplasty has been estimated to occur in 0,04 % of cases (6). Our patient suffered from severe visual loss in both eyes.

As we know, acute angle-closure glaucoma (AACG) occurs in predisposed individuals. Predisposing factors include all underlying causes of a narrow anterior chamber such as hypermetropia and cataract. Our patient had axial hypermetropia (refractive error + 2,25 OD, + 3,5

D OS) and a mild degree of age related cataract in both eyes.

In addition, prolonged pupillary dilatation with the likelihood of peripheral irido-corneal contact increases the risk of angle closure. Possible factors causing mydriasis in the setting of oculoplastic surgery are local anesthesia containing adrenaline or anticholinergic drugs used during general anesthesia (7, 12).

Lidocaine is also thought to cause mydriasis and transient internal ophthalmoplegia by anesthesia of the short ciliary nerves or ciliary ganglion (8,10). In this case, the patient was exposed to both adrenaline and lidocaine.

Other causes of pupillary dilatation, such as the patient's psychological stress and his dark-adapted eye under the postoperative bandaging could also have contributed to the angle closure in both eyes (1).

Different mechanisms were at play. In most cases laser peripheral iridotomy successfully eliminates the relative pupillary block component of the angle closure process (9). This also occurred in our patient's left eye.

On the other hand 38 % of eyes show residual goniosynechia after iridotomy (12). This is what happened with the patient's right eye.

Fortunately our patient's visual recovery was good for both eyes. In one case there was no functional eye sight left after blepharoplasty (4). We recommend that all patients undergoing blepharoplasty be examined at the slit-lamp before surgery and have their vision assessed. As most attacks involving pupillary block occur in individuals that are unaware that they have narrow iridocorneal angles, patients must be warned to seek medical help early if a problem develops after surgery.

On the other hand, all specialists performing blepharoplasty should be aware that in predisposed individuals acute angle-closure glaucoma can be a potentially blinding complication and that only immediate appropriate therapy may prevent visual loss.

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