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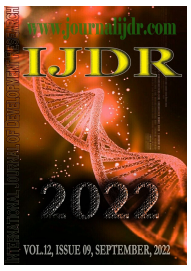

CASE REPORT OPEN ACCESS

ORBITAL HEMORRHAGE DURING BLEPHAROPLASTY ASSOCIATED TO TRICYCLIC ANTIDEPRESSANT: CASE REPORT

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ABSTRACT

A 49-year-old woman with a history of amitriptyline use for migraine headache, had a bilateral retrobulbar hemorrhage during cosmetic upper and lower eyelid blepharoplasty. After performing lateral canthotomy and cantholysis, and IV mannitol, intraocular pressure returned to normal and vision improved from counting fingers to 20/20 in the right eye, and from 20/80 to 20/20 in the left eye. The patient had no permanent visual loss. Retrobulbar hemorrhage is a rare but serious complication of blepharoplasty, with an overall incidence of 0.055%. The majority of retrobulbar hemorrhages after blepharoplasty develop within the first 24 hours after surgery, but have been reported to occur as late as 7 days after surgery. We present the case of a patient who developed a retrobulbar hemorrhage during cosmetic blepharoplasty, secondary to amitriptyline use.

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INTRODUCTION

A 49 year old woman, with a history of migraine headaches treated with amitriptyline, with no further chronic disease or surgical history. Allergic to penicillin, naproxen and sulfa. She suspended the intake of amitriptyline 3 days prior to cosmetic upper and lower eyelid blepharoplasty. The preoperative evaluation was unremarkable, referred by anesthesiologists as a low risk patient for surgery and sedation. On Clinical examination, visual acuity was 20/20 in the right eye and 20/40 with 20/20 best corrected visual acuity (BCVA) in the left eye. Intraocular pressure (IOP) was 14 mmHg in both eyes, the anterior segment and fundoscopy with no pathological findings. Eyelid and adnexa examination had superior dermatochalasis and inferior fat pad protrusion, palpebral aperture 10 mm, upper margin reflex distance (MRD1) 4 mm, and levator function of 15 mm in both eyes. With the previous data, we scheduled upper and lower eyelid blepharoplasty with local anesthesia and sedation. After skin marking, we infiltrated lidocaine/epinephrine and bupivacaine in the 4 eyelids. We performed upper blepharoplasty with no complication, during transconjunctival lower blepharoplasty the patient started with heavy bleeding from the beginning. As fat pads were resected, the patient presented with blood pressure rise, up to 200/100 mmHg; the anesthesiologist started management with midazolam, fentanyl and isosorbide, improving blood pressure to 150/90 mmHg. We stopped the right lower blepharoplasty waiting for the bleeding to stop, and initiated left lower blepharoplasty, having also heavy bleeding. We noticed a progressive proptosis and elevated pressure in both eyes, with predominance on the right eye. We proceeded with canthotomy and cantholysis, and closure of the upper blepharoplasty wounds. We gave direct compression to both eyes for 30 minutes and left the patient in observation. During her stay in the recovery area, the patient presented a visual acuity drop to counting fingers in the right eye and 20/80 in the left eye with near vision chart, high digital pressure in both eyes and afferent pupillary defect in the right eye. We administrated 200 ml of mannitol 20%, timolol, dorzolamide and brimonidine eye drops, oral acetazolamide, and performed an upper cantholysis in the right eye. After these maneuvers, the visual acuity improved to 20/30 in the right eye and 20/40 in the left eye. Next day clinical examination showed bilateral edema and ecchymosis, visual capacity of 20/25 in both eyes, intraocular pressure 20 mmHg in both eyes, no afferent pupillary defect and the rest of the globe with no pathological

findings. Two weeks after the first procedure, we performed closure of the canthotomy with no further complications. 30 days after surgery, she had an improvement of the edema and ecchymosis, BCVA 20/20 in both eyes, and no damage to the globe. (Image 1).

Figure 1. Preopertaive picture of the patient, 2: twenty four hours after blepharoplasty, and canthotomy and cantholysis. 3: one week after closure of canthotomy. 4: one month after closure of canthotomy, 6 weeks after blepharoplasty with retrobulbar hemorrhage

DISCUSSION

Orbital hemorrhage during or after blepharoplasty is a rare complication, however the chance of permanent visual loss makes it fearful. The incidence of this complication is estimated 0.055% (1:2,000) without visual loss, and with visual loss is 0.0045% (1:22,000) to 0.0033% (1:30,000), being the most common cause of visual loss associated with blepharoplasty. (1, 2, 3) The commorbidity associated with orbital hemorrhage posterior to cosmetic blepharoplasty are systemic arterial hypertension, salicylic acid use, Valsalva maneuver and heavy physical activity. The hemorrhage may present during the procedure and up to 9 days after it. (1, 2, 3, 4, 5) The trigger factor in our case was the tricyclic antidepressant intake, which is associated to an exaggerated and extension effect of the epinephrine.

This is because the tricyclic antidepressants exercise their effect through serotonin and norepinephrine reuptake inhibition, which leads to increased levels of alpha-1 post synaptic receptors, and a decreased sensibility of pre synaptic receptors. This interaction leads to the possibility of blood pressure and cardiac frequency rise. Other antidepressant medications associated with adrenergic interactions are monoamine oxidase inhibitors and serotonin reuptake inhibitors (desvenlafaxine, duloxetine, levomilnacipran, milnacipran, venlafaxine); the latter because they inhibit norepinephrine reuptake as well. (6) For the above, we recommend to avoid the use of epinephrine in these patients. There is a recommendation of the administration of no more than 0.05 mg of epinephrine, in a slow manner to avoid this complication. (6) At the moment, there are no cases reporting orbital hemorrhage associated with the use of tricyclic antidepressants during blepharoplasty. The authors certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers ‘ bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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