

Corneal Melt an Undetermined Etiology in Patient Operated with Bilateral Cataract

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ABSTRACT

Purpose: To report a case of corneal melt after cataract surgery

Observations: A fifty year old female with no previous history of corneal symptoms underwent cataract surgery in both eye 1 year apart. Following surgery patient was using topical eyedrop nonsteroidal anti-inflammatory drugs for pain almost for 10 month for both eyes. Patient presented to us with complete loss of vision, discharge and pain in both eye almost 15 days before. The patient didn't have any signs of infections before.

Conclusion: Corneal melt can occur early or late after cataract surgery^{1,2}. Our study highlight that, postoperative use of steroid or NSAID eyedrop beyond recommended dosage are at risk for corneal melt. So there should be cautious use of any steroid and NSAID eyedrop as recommended dosing and regimen^{3,4}.

Keywords: Corneal melt, Nonsteroidal anti-inflammatory drugs

INTRODUCTION

Topically applied non-steroidal anti-inflammatory drugs (NSAIDs) are frequently used to prevent miosis during cataract surgery, to treat ocular allergies, to prevent excessive postoperative inflammation following cataract surgery, and to treat cystoid macular edema following cataract surgery¹⁻⁴. Non traumatic corneal melt is rare entity⁵. It may be seen in neurotrophic ulcer, peripheral ulcerative keratitis, ocular surface diseases such as BKC with or without rosacea and chemical burn^{5,6}. Systemic condition involve Rheumatoid arthritis and Johnson Syndrome. Severe stromal melting or progressive stromal keratolysis with the postoperative use of NSAID drugs has been reported⁷. Corneal melt is a rare yet potentially blinding condition that manifest through rapid and severe corneal stromal thinning⁸. Topical NSAIDs prescribed in management of postoperative ocular inflammation cause corneal toxicity⁹. Though it has been suggested that NSAID usage can lead to corneal melt, evidence proving this association yet to be confirmed. The purpose of this report is to review one case of corneal melt associated with the use of topical NSAID.

CASE HISTORY

A fifty year old female had diminution of vision in with both eye due to cataract development in 2017. Uneventful Manual Small incision cataract surgery with IOL implantation was performed in Right eye first followed by Left eye 1 month later. Patient didn't have previous history of ocular symptoms or underlying systemic disease. Patient didn't give any history of previous ocular trauma. Following surgery patient was using eyedrop (NSAID Topically) for pain almost for 10 month for both eyes. Patient had history of diminution of vision, watering and pain in right eye from 15 days which was followed by similar symptoms in left eye within 1 week after onset in right eye. Patient presented to us with complete loss of vision, discharge and pain in both eyes.

At the time of her referral to our institute, patient had developed lid edema and erythema, conjunctival chemosis and redness, corneal thinning and melting paracentrally more compared to peripheral region. Posterior segment couldn't made out in both eyes. Patient didn't have any perception of light in both eyes.

On further investigation patient didn't have any signs of dry eye. Digitally both eye intraocular pressure was appearing

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normal. Lacrimal apparatus was normal. On B scan, both eyes were having vitreous inflammatory debris and left eye was having 360degree peripheral choroidal detachment.

Patient was thoroughly investigated. Complete hemogram and routine investigation were normal. Specific investigation such as RA factor, Serum ACE, ANA profile, DS DNA, SS-A, SS-B other ANA profile found negative. Chest X-ray and ECG were normal. CT Brain was normal.

Patient was treated with intravenous antibiotic ceftriaxone and metronidazole for 7 days and switchover to oral antibiotic tablet amoxicillin clavulanic acid twice a day and capsule Doxycycline 100 mg once in a day for next 2 week. Patient started topically on fortified cefazolin and tobramycin eyedrop, natamycin eyedrop, atropine eye ointment, timolol eyedrop and lubricating eyedrop. Patient didn't show any improvement with the medication. However, patient refused to undergo any further surgery so couldn't plan for the operation.

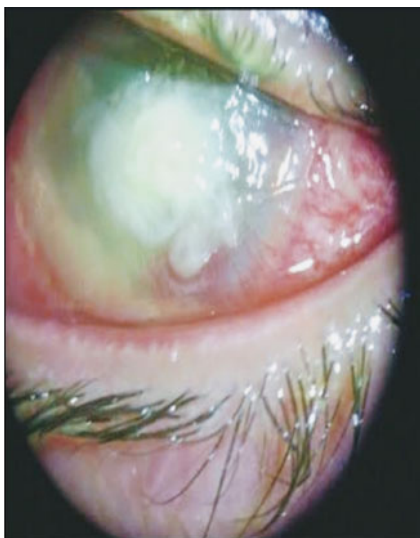


Figure 1 :Right eye showing total corneal thinning with melt

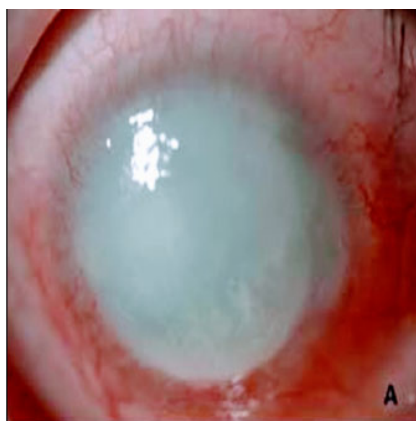


Figure 2 : Left eye showing corneal opacity with thinning

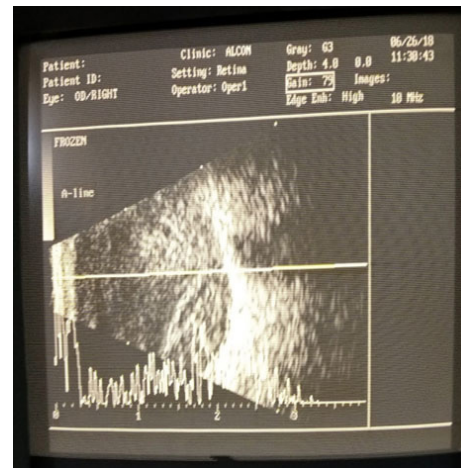


Figure 3: Right eye B scan showing vitreous inflammatory echoes with choroidal detachment

DISCUSSION

Corneal melting of undefined etiology after uneventful cataract surgery is rare yet potentially blinding condition reported⁸. It is not generally recognised and thus, without appropriate treatment, progressive corneal thinning with perforation and loss of vision may occur. Various aetiologies are usually associated with corneal melting after cataract surgery such as rheumatoid arthritis, HZV keratitis, HSV keratitis, Mooren's ulcer, tuberculosis etc. In general, Adjunctive use of ophthalmic NSAID may be used safely with other ophthalmic pharmaceuticals: however concurrent use of agents known to adversely affect the corneal epithelium⁷. The use of corticosteroid along with NSAID in the presence of pre-existing corneal inflammation has been identified as a risk factor in precipitating corneal erosions and melts and should be used cautiously⁹.

The case in the present report developed corneal melt after few months of cataract surgery without any infection. We didn't get any systemic cause related to it. As patient had history of prolonged use of eyedrop (steroid /NSAID), so there was high possibility of corneal melt due to unnecessary use of eyedrop. Timely preoperative and postoperative vigilant recognition plays a major role in lessening this morbidity^{6,7}. Furthermore long term postoperative follow up should be undertaken in patients with topical use of NSAID or any other medication.

CONCLUSION

Our study highlight that, postoperative use of steroid or NSAID eyedrop beyond recommended dosage are at risk for corneal melt. So there should be cautious use of any steroid and NSAID eyedrop as recommended dosing and regimen.

Abbreviation

NSAID-Non steroidal anti-inflammatory drugs
 RE-Right eye
 LE- Left eye
 BE-Both eye
 RA factor-Rheumatoid arthritis factor
 Serum ACE-Angiotensin converting enzyme
 ANA profile-Antinuclear antibody
 DS DNA-Double stranded deoxyribose nucleic acid
 SS-A-Sjogrens syndrome A
 SS-B- Sjogrens syndrome B
 ECG-Electrocardiogram
 CT-Computed tomography
 B scan- Posterior ultrasound scan
 HSV-Herpes simplex virus
 HZV-Herpes zoster virus

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