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Case Report
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Pupillary Block by a Luxated Lens and Total Retinal Detachment

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Abstract

We report the case of a 30-year-old male mechanic who sustained blunt ocular trauma to his right eye from a metallic object, resulting in a complex pupillary block. Examination revealed a painful, red eye with bullous keratopathy, retro-Descemet folds, shallow anterior chamber, non-reactive mydriasis, uveal effusion, and an intumescent cataract luxated into the anterior chamber with iris pigment on the anterior lens capsule. Intraocular pressure was markedly elevated at 45 mmHg, and B-scan ultrasonography revealed total retinal detachment adherent to the lens. The patient underwent urgent surgical extraction of the luxated lens, which relieved the pupillary block and allowed partial recovery of ocular structures. Postoperative management included topical hypotensive therapy, resulting in stabilization of intraocular pressure at 16 mmHg and initial corneal clearing. This case highlights the rare combination of lens-induced and retinal mechanisms leading to secondary angle-closure glaucoma after trauma and emphasizes the need for timely surgical intervention.

Keywords: Pupillary Block, Luxated Lens, Traumatic Glaucoma, Retinal Detachment, Blunt Ocular Trauma, Lens-Induced Glaucoma.

Introduction

Severe blunt ocular trauma is a frequent cause of ophthalmic emergencies, predominantly affecting young males, often in occupational settings. Post-traumatic ocular hypertension may result from lens-related lesions, including lens subluxation or intumescence, which can displace the iridociliary plane anteriorly and cause secondary angle-closure glaucoma. Urgent intervention is required to prevent endothelial decompensation and bullous keratopathy [1-3].

Case Report

A 30-year-old male mechanic sustained blunt trauma to the right eye from a metallic object. Visual acuity was no light perception in the right eye and 10/10 in the left. Examination revealed a red, painful eye with inferior chemosis, bullous keratopathy, retro-Descemet folds, shallow anterior chamber, non-reactive mydriasis, uveal effusion, and an intumescent cataract luxated into the anterior chamber with iris pigment on the anterior lens capsule. IOP was 45 mmHg. Fundus examination was initially inaccessible; B-scan ultrasonography revealed total retinal detachment.

The patient underwent urgent lens extraction. Intraoperatively, aspiration of lens material confirmed pupillary block and total retinal detachment adherent to the lens. Postoperatively, IOP decreased to 25 mmHg, necessitating continued topical hypotensive therapy. Follow-up showed stabilization at 16 mmHg with initial corneal clearing.

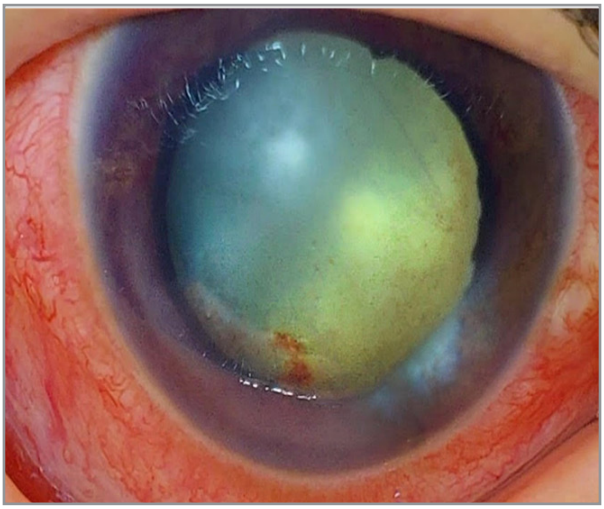

Figure left, pre-op: Anterior segment of the right eye before lens extraction: corneal edema, opalescent lens luxated in the anterior chamber in contact with endothelium, iris pigment on anterior lens capsule.

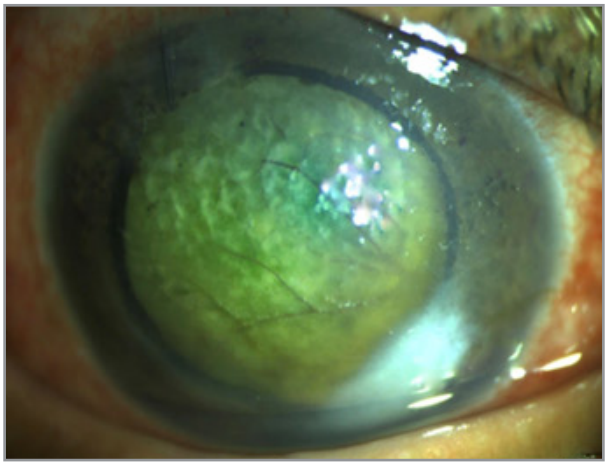

Figure right, top, post-op: Anterior segment after lens extraction: bullous keratopathy secondary to ocular hypertension, pupillary block with uveal effusion, total retinal detachment adherent to the cornea.

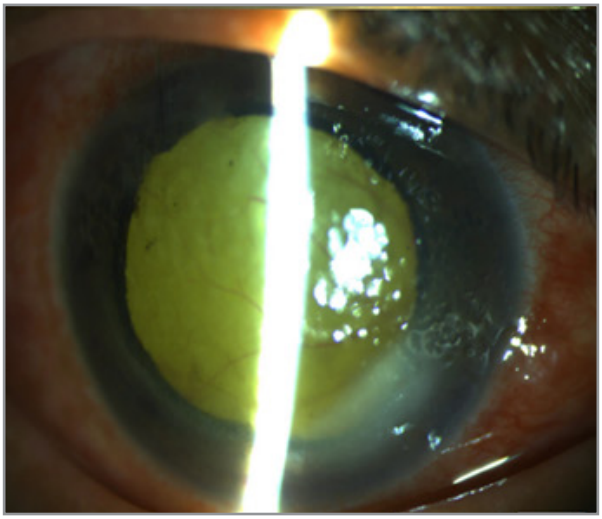

Figure right, bottom, post-op: Anterior segment after lens extraction: 3A – Retinal vessels visible in transillumination with endothelial contact; bullous keratopathy secondary to hypertension, retinal vessels visible in transillumination.

Discussion

This case highlights a rare mechanism of secondary angle-closure glaucoma after trauma, combining anterior displacement of the intumescent lens and total retinal detachment causing pupillary block. Rapid recognition and surgical management are crucial to prevent irreversible corneal and optic nerve damage. Lens extraction effectively relieved the pupillary block, lowered IOP, and allowed initial corneal recovery. Such complex post-traumatic mechanisms are uncommon but should be considered in severe contusive injuries.

Conclusion

Prompt diagnosis and surgical intervention are essential in post-traumatic pupillary block caused by combined lens and retinal lesions. Early management can prevent long-term complications and preserve ocular integrity.

References

1. Bourges, J. (2018). Urgences en ophtalmologie (Vol. 24). Elsevier Masson ; Société Française d'Ophtalmologie.
2. Epstein, D. L. (1982). Diagnosis and management of lens-induced glaucoma. Ophthalmology, 89(3), 227-230.
3. Kaufman, J. H., & Tolpin, D. W. (1974). Glaucoma after traumatic angle recession: A ten-year prospective study. American Journal of Ophthalmology, 78(4), 648-654.

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