

Photographic Essay: A Hypermature and Shrunken Cataract with Phacolytic Glaucoma

Olivia S Huang^{1,2*} and Tina T Wong^{1,2,3,4}

¹Department of Ophthalmology, Singapore National Eye Centre, Singapore

²Department of Ophthalmology, Singapore Eye Research Institute, Singapore

³Ophthalmology Academic Clinical Program, Duke-NUS Graduate Medical School, Singapore

⁴Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

*Corresponding author: Olivia S Huang, Department of Ophthalmology, Singapore Eye Research Institute, Singapore, Tel: +6581016102; E-mail: huang.olivia@gmail.com

Received date: December 15, 2017; Accepted date: January 15, 2018; Published date: January 22, 2018

Copyright: ©2018 Huang OS, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

We report an unusual presentation of a hypermature cataract that has shrunk in size over time due to resorption of the liquefied cortex and shrinkage of the lens capsule, and developed complications of lens subluxation and phacolytic glaucoma.

Keywords: Hypermature cataract; Subluxated cataract; Phacolytic glaucoma

Case Report

A 65-year-old female presented with left eye redness for 5 days, on a background of long-standing blurred vision. There was no history of ocular trauma. Slit lamp examination revealed a brunescient cataract that had shrunk significantly in size, such that the zonules and lens equator could be seen through the pupil (Figure 1). The intraocular pressure (IOP) was high at 43 mmHg, and there was a significant amount of anterior chamber cells and flare, but no hypopyon or keratic precipitates. There was a grade 3 relative afferent pupillary defect and a poor visual acuity of light perception in the affected eye. There was no view of the fundus, and a B scan that was performed did not show any significant posterior segment pathology (Figure 2).

An ultrasound biomicroscopy (UBM) showed a shrunken cataract that had dislocated into the anterior chamber from the inferior quadrant and was blocking the pupil (Figure 3). The inferior zonules were lax, while the rest of the zonules appeared to be still attached to the capsular bag.

After medical therapy with oral acetazolamide and maximal topical intra-ocular lowering medications, the patient's IOP was lowered to the mid-twenties. She was also given topical prednisolone acetate to reduce the anterior segment inflammation. She subsequently underwent a phacoemulsification and anterior vitrectomy. A guarded visual prognosis was provided to the patient in light of the pre-existing relative afferent pupillary defect.

Post-operatively, her vision improved from perception of light to hand movements. On the first post-operative day, the cornea was clear, and there was no vitreous in the anterior chamber. There was some post-operative anterior segment inflammation initially, which resolved by the second post-operative week with topical steroids and antibiotics. The intraocular pressure was normal on the first post-operative day, but slowly increased over the next few months, requiring the addition

of 3 topical IOP-lowering drops. Fundus examination showed a pale disc.

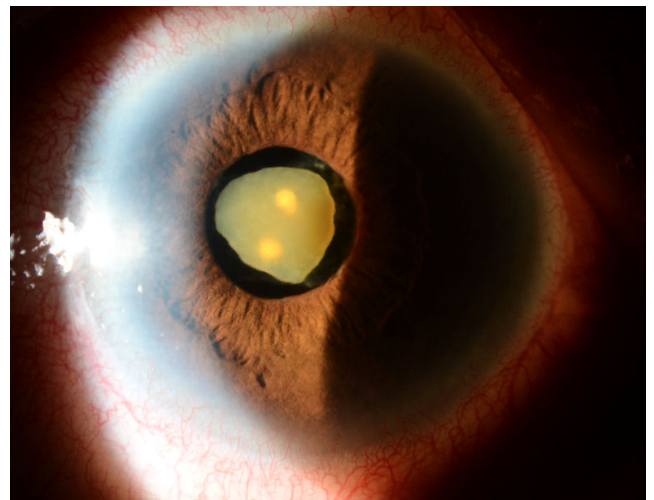


Figure 1: Slit lamp photograph of a hypermature shrunken cataract.

Discussion

This case highlights a hypermature cataract that is unusual in its presentation in that the liquefied cortex had partly resorbed and partly leaked out of the anterior capsule, and the capsular bag has shrunk over time, leaving behind a shrunken nucleus with complications of lens subluxation and phacolytic glaucoma.

As a cataract matures, the lens fibers degenerate, leaving cytoplasmic protein globules that coalesce to create accumulations of liquefied lens protein. A Morgagnian cataract forms when the lens nucleus is left floating in the liquefied cortex [1].

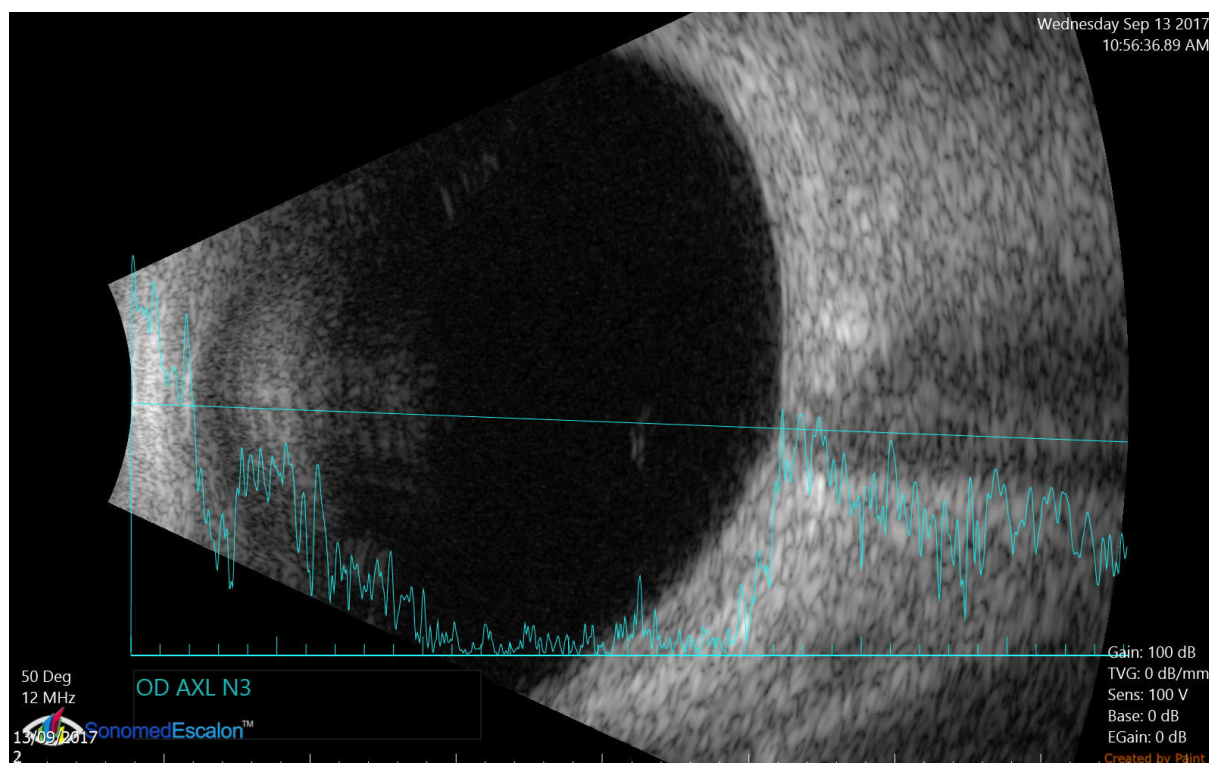


Figure 2: B scan of posterior segment of affected eye.



Figure 3: Ultrasound biomicroscopy of a hypermature shrunken cataract.

The molecular weight of the lens proteins also increases as the lens ages, and together with protein-laden macrophages, can leak through microscopic openings in the lens capsule into the anterior chamber. This precipitates an inflammatory reaction and causes obstruction of trabecular outflow, resulting in an open angle inflammatory glaucoma that is termed phacolytic glaucoma. Although the anterior lens capsule

appears intact macroscopically in phacolytic glaucoma, disruptions of the anterior lens capsule have been reported on scanning electron microscopy [2].

The definitive treatment for phacolytic glaucoma is cataract extraction. Performing a UBM prior to the surgery would be helpful to identify any pre-morbid ocular complications that may pose risks to the surgery, such as lax zonules in this case. In view of a poor visual potential, the surgical management for this case was to remove the cataract, perform an anterior vitrectomy and to leave the eye aphakic. The potential intraoperative complications of the surgery include nucleus drop into the vitreous, which may require pars plana vitrectomy. This patient did not have any intraoperative complications.

References

1. Albert D, Miller J, Azar D, Blodi B (2008) *Cataractogenesis in the Adult*, Albert & Jakobiec's Principles and Practice of Ophthalmology, Philadelphia: Saunders Elsevier Inc.
2. Woong-Sun Y, Byeong-Jae K, In-Young C, Seong-Wook S, Ji-Myong Y, et al. (2014) A case of phacolytic glaucoma with anterior capsule disruption identified by scanning electron microscopy. BMC Ophthalmology 14: 1-4.