IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 25, Issue 1 Ser. 2 (January. 2026), PP 10-12
www.iosrjournals.org

Bilateral Multiple Discrete White Dot Opacities Of The Posterior Capsule

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Abstract:
Posterior capsular opacities are commonly encountered during cataract surgery and are usually seen as diffuse plaques. We report a rare intraoperative finding of multiple, uniformly distributed white dot opacities confined to the posterior capsule in a 55-year-old male undergoing phacoemulsification. The opacities extended up to the equator and were resistant to capsular polishing. Despite extensive involvement, the patient achieved good postoperative visual acuity of 6/6 in both eyes. This case is reported for its unusual morphology, distribution, and favorable visual outcome

Key Word: *Posterior capsule, white dots, capsular opacity, cataract surgery*

Date of Submission: 26-12-2025 Date of Acceptance: 06-01-2026

I. Introduction

Posterior capsular opacities are frequently observed during cataract surgery, with an incidence reported between 10% and 38%, depending on patient age and cataract morphology. These opacities are most often peripheral and are visually insignificant. When central, they typically present as a single diffuse plaque and may affect postoperative visual outcome. We report an unusual case of multiple discrete white dot opacities diffusely involving the posterior capsule, associated with good postoperative vision.

II. Case Report

A 55-year-old male presented with a one-year history of gradual, painless diminution of vision in both eyes. His visual acuity was 6/12 (partial) in the right eye and 6/18 in the left eye using a Snellen chart.Slit-lamp examination revealed posterior subcapsular cataract in both eyes. The anterior segment and fundus examination were otherwise unremarkable. The patient had a history of diabetes mellitus and systemic hypertension for four years, both under medical control. No other systemic or ocular abnormalities were noted.

The patient underwent uneventful phacoemulsification with the implantation of a foldable aspheric intraocular lens in the right eye under local anesthesia. Following nuclear emulsification and cortical aspiration, multiple discrete white dot opacities were noted on the inner surface of the posterior capsule. These lesions were uniform in size and color, evenly distributed, and extended circumferentially up to the equator (Figure 1). Attempts at capsular polishing were unsuccessful, and manipulation produced a gritty sensation, suggestive of calcific changes. As the opacities appeared intrinsic to the capsule and did not compromise intraoperative visualization, the intraocular lens was implanted in the capsular bag. The patient was treated with topical antibiotic–steroid combination eye drops, which were tapered over four weeks. At six weeks, the uncorrected and best-corrected visual acuity was 6/6, with near vision of N6. As the visual outcome was good, no further intervention was required.

Three years later, the patient underwent phacoemulsification with foldable aspheric intraocular lens implantation in the left eye. Intraoperatively, similar multiple white dot opacities were again observed on the posterior capsule, with a comparable postoperative course and visual outcome.

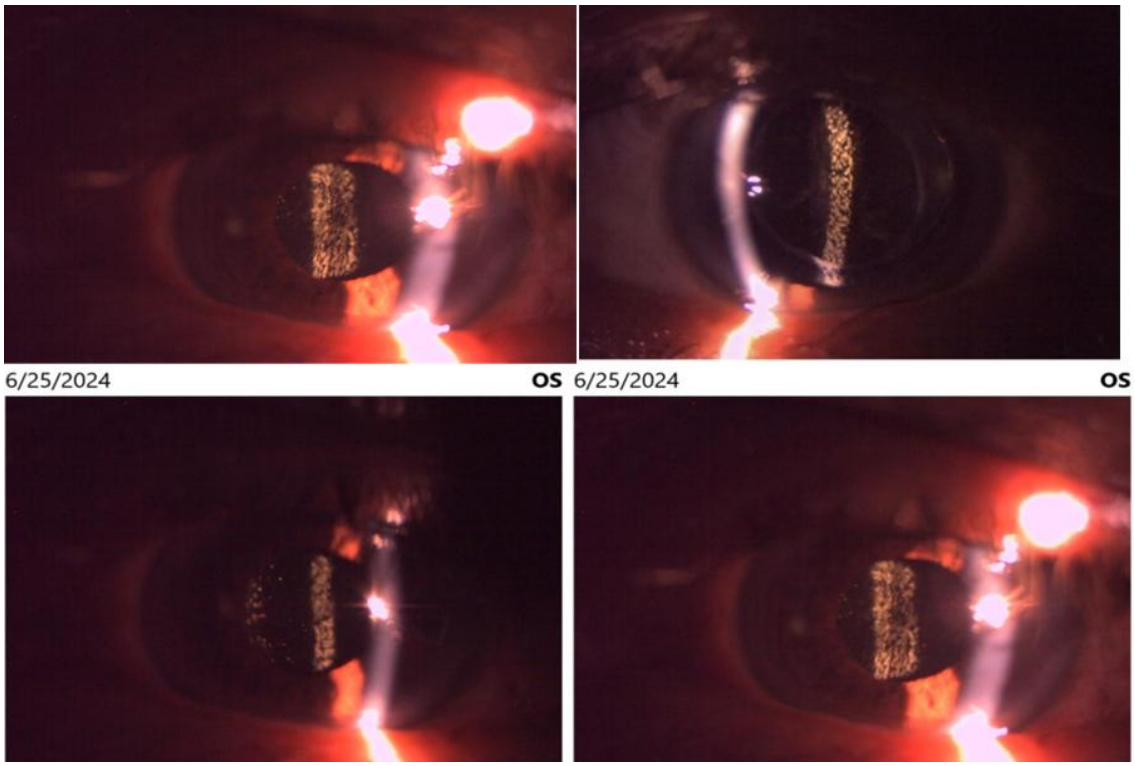

Figure 1: Multiple bilateral discrete white dot opacities were noted on the inner surface of the posterior capsule. These lesions were uniform in size and color, evenly distributed, and extended circumferentially up to the equator.

III. Discussion

Posterior capsular plaques are commonly encountered during cataract surgery and are usually peripheral and clinically insignificant. Vasavada et al. reported that central posterior capsular involvement is typically seen as a single diffuse plaque rather than multiple discrete lesions[1].

In contrast, the present case demonstrated numerous, uniformly sized, white dot opacities that were diffusely distributed across the posterior capsule. These lesions were resistant to mechanical polishing and remained stable during follow-up, suggesting a possible calcific or biochemical alteration of the capsular structure. Despite extensive involvement, there was no adverse effect on postoperative visual acuity or fundus visualization.

Several differential diagnoses were considered for the observed posterior capsular findings showed in Table no1

Differential diagnosis for posterior capsular findings	Presentaions
1.Primary posterior capsular plaque	typically presents as a dense, central, disc-shaped opacity,particularly in younger patients
2.Calcification of the posterior capsule	gritty sensation encountered during capsular polishing and the resistance of the lesions to mechanical removal[4].It has been reported in association with chronic intraocular inflammation, metabolic disorders, or long-standing intraocular lens implantation
3.Posterior capsular fibrosis	linear or wrinkled opacities and are often associated with a history of ocular inflammation or trauma
4.Residual lens epithelial cell deposits	commonly implicated in the pathogenesis of posterior capsular opacification; however, these typically manifest postoperatively and progress over time[2,3]
5.Congenital posterior capsular opacities	Opacification of posterior lens capsule present at birt or developing early in life ,often associated with congenital cataracts
6.Infective or inflammatory sequelae	history of uveitis, intraocular infection, or trauma

Table no1 shows differential diagnosis of posterior capsular findings and their peculiar presentations

Despite extensive capsular involvement in our patient, the lesions did not interfere with the visualization of the fundus or compromise postoperative visual acuity, and Nd:YAG capsulotomy was deemed unnecessary.

This case underscores the importance of recognizing that not all posterior capsular opacities, even when extensive and centrally distributed, mandate aggressive intraoperative manipulation or immediate laser

intervention. A conservative approach with careful postoperative monitoring may be appropriate when the visual outcomes are satisfactory.

IV. Conclusion

Multiple discrete white dot opacities of the posterior capsule represent a rare intraoperative finding during cataract surgery. Awareness of this entity is important, as excellent visual outcomes can be achieved without aggressive intraoperative manipulation or immediate Nd:YAG capsulotomy.

References

[1]. Vasavada AR, Raj SM, Shah GD, Nanavaty MA. Incidence And Management Of Posterior Capsule Plaques During Phacoemulsification. J Cataract Refract Surg. 2006;32(11):1954–1958.
[2]. Apple DJ, Solomon KD, Tetz MR, Et Al.Posterior Capsule Opacification.Surv Ophthalmol. 1992;37(2):73–116.
[3]. Nishi O, Nishi K, Mano C, Ichihara M, Honda T.Lens Epithelial Cell Behavior And Posterior Capsule Opacification. J Cataract Refract Surg. 1997;23(3):350–356.
[4]. Kim SY, Yang JW, Park YH.Calcification Of The Posterior Capsule Following Cataract Surgery. J Cataract Refract Surg. 2008;34(9):1539–1542.
[5]. Ram J, Apple DJ, Peng Q, Et Al.Update On Posterior Capsule Opacification. Indian J Ophthalmol. 2001;49(3):193–202.
[6]. Singh R, Vasavada AR, Kumar A, Et Al. Primary Posterior Capsular Plaques In Cataract Surgery. Indian J Ophthalmol. 2010;58(3):231–234.
[7]. Gimbel HV, Debroff BM.Intraoperative Posterior Capsular Abnormalities And Management Strategies. Ophthalmology. 2004;111(4):691–697.