



## Pearly White Appearance - Cataract or IOL Opacification?

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### ABSTRACT

**Aim** – To report a case of late opacification of single piece hydrophilic acrylic intraocular lens after uneventful phacoemulsification surgery.

**Methods** – A 55-year-old female presented with gradual diminution of vision in right eye for past six months. She had undergone phacoemulsification surgery with hydrophilic IOL implantation two years back. Presently her vision was finger counting at two meters. Slit lamp examination with pupil dilatation revealed IOL opacification.

**Results** – Intraocular lens exchange was performed, hydrophilic IOL was replaced by hydrophobic acrylic IOL by temporal incision. Patient's best corrected visual acuity was 6/18, due to presence of synchysis scintillans as predisposing factor. At 6 month follow up, patient maintained the vision.

**Conclusion** – IOL opacification can be successfully managed by IOL exchange. Patients should be informed about this extremely rare complication of cataract surgery, to avoid unnecessary litigation.

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### INTRODUCTION

In the list of postoperative complications following cataract surgery, IOL opacification is very rare. It may affect one or both the eyes. Opacification may involve the surface of IOL (anterior/posterior or both) or material of IOL (haptic/optic or both) or both. Posterior capsule is usually spared. Mechanism behind opacification is calcium deposition. IOL opacification has been classified as primary or secondary.<sup>1</sup> Primary opacification occurs because of defective material or packaging. Whereas secondary opacification occurs in presence of ocular predisposing factors e.g. glaucoma, uveitis, vitreous hemorrhage, synchysis scintillans, ocular surgeries etc. Significant IOL opacification warrants IOL exchange.

### CASE REPORT

A 55-year-old female presented with chief complaints of diminution of vision right eye for 6 months. She had undergone right eye cataract surgery elsewhere 2 years back. Vision in right eye was Finger Count at 2 meters. Torch light examination revealed white pupillary reflex in right eye - mimicking Pearly white cataract. Slit lamp biomicroscopic examination with pupil dilatation revealed pseudophakia with white opacified intraocular lens. Optic & haptic of hydrophilic single piece IOL were completely opacified, giving the pearly white appearance to eye. No deposits could be seen on IOL surface on 40 X magnification of slit lamp. Patient underwent IOL exchange with acrylic hydrophobic IOL by temporal incision. BCVA after one month was 6/18, as there was dense synchysis scintillans. Due to lack of facilities, special stains for detection of calcium over the lens could not be performed.

### DISCUSSION

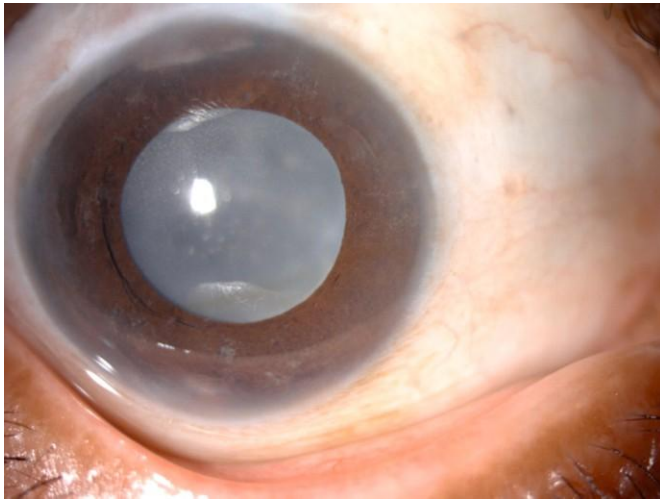
First case report of IOL opacification dates to 1999, when Chang et al first described it in Hydroview IOL's.<sup>2</sup> Intraocular lens opacification is an uncommon complication that typically occurs in the late postoperative period, especially in hydrophilic IOLs. Although any material –

### Key Words

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Lens opacification.

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Legend 1 – Preoperative picture showing opacified IOL with superior limbal scar



Legend 2 – postoperative picture showing exchanged IOL with temporal incision

Silicone, Acrylic and PMMA IOL's have been observed to develop opacification. Incidence may range from 1.1% to 14.5%.<sup>3</sup> Pattern of IOL opacification has been observed to be different in different IOL materials. Snowflake opacification is seen in PMMA IOL's whereas silicon IOL's develop discoloration or clouding. Calcification is typically seen in hydrophilic acrylic IOL's. Hydrophobic acrylic IOL's, although less predisposed to opacification, are known to develop glistening or subsurface nanoglistenings<sup>1</sup>. The precise cause and mechanism underlying this condition remain unclear. It is speculated that disruption to the blood-aqueous barrier due to pre-existing conditions may play a contributory role.<sup>4</sup>

Therefore, the susceptibility of an IOL to opacification depends not only on material but also on the ocular disease of patient.<sup>5</sup> This unique form of opacification, characterized by a pearly white appearance, can be mis-identified as a white cataract or posterior capsular opacification - hence it may be aptly called as "Tertiary cataract".<sup>6</sup>

Accurate diagnosis relies on comprehensive clinical assessment, including meticulous slit-lamp and dilated examination, to avoid unexpected challenges during surgery. Cases where opacification significantly impact vision necessitates IOL exchange surgery, which has shown favorable outcome. Visual prognosis may be guarded if there are any ocular predisposing factors for IOL opacification, as in our patient (synchysis scintillans). If patient had already undergone Nd YAG capsulotomy, lens centration may be an issue. Hence it may be advisable to take informed consent for this unforeseen complication of IOL opacification in all cataract surgery cases.

#### **Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent.

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#### **Conflicts of interest**

There are no conflicts of interest.

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