

## Commentary: Indications and surgical techniques for intraocular lens explantation

The first posterior chamber implant was placed by Sir Harold Ridley in the year 1950. Although rare, intraocular lens (IOL) explantation rates vary from 0.03% to 0.77%.<sup>[1]</sup> The indications for explantation have changed with evolution in cataract extraction techniques and implant characteristics. More common indications for anterior chamber lens explantation include pseudophakic bullous keratopathy, uveitis–glaucoma–hyphema syndrome, and persistent cystoid macular edema. Decentration or dislocation,

incorrect IOL power, persistent negative dysphotopsia, implant opacification, and failure to neuroadapt are the most common indications for explantation in posterior chamber implants.<sup>[2,3]</sup>

IOL dislocation is secondary to improper fixation within the capsular bag or instability of the bag-implant complex secondary to zonular inadequacy or loss of posterior capsular integrity. Late presentations are secondary to trauma or progressive zonulopathy, such as in pseudo exfoliation syndrome. Lens explantation in these cases may be challenging due to loss of structural integrity of the surrounding tissues. Refractive surprises secondary to errors in biometry are easier to correct as the ocular structures are intact and the interval between the procedures is shorter.

While attempting explantation, the ideal method would entail a procedure which does not distort the original corneal incision and allows safe removal without damaging the surrounding ocular tissues. Refolding the IOL within the anterior chamber and subsequent removal via the original wound is a relatively safe and easy approach.<sup>[4]</sup> However, at present, the current technique is not suitable for multipiece implants or thick lenses with high powers.

Bisecting or trisecting the implant in the anterior chamber prior to subsequent removal entails extensive surgical manipulations possibly compromising the corneal endothelium and the incisional integrity. In addition, these maneuvers entail IOL stabilization with forceps, providing a single point for applying counter-pressure, with additional risk of slippage or shift.<sup>[5]</sup>

Silguero Perez *et al.* describe the use of a novel device with a metal loop wherein the distal segment of the implant optic is sandwiched between the two arms.<sup>[6]</sup> This allows a two-point support for counter-pressure and superior stability during bisecting maneuvers. In addition, the technique can be applied for explantation of multipiece implants and thicker optic segments.

The important caveats to remember include liberal use of dispersive viscoelastic for corneal endothelium protection, steady maneuvers to prevent damage to surrounding ocular structures, and minimal corneal wound distortion while attempting removal. Additionally, one should be cautious of the effect of the surgical intervention on the capsular bag and surrounding tissues and should consider suitable alternatives including piggy back IOLs and bioptics where indicated.

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