

## Commentary: To capture or not in pediatric cataract surgery?

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Visual axis opacification (VAO) is one of the most important postoperative concerns in children who undergo cataract surgery at a young age. Some of the risk factors for developing VAO include intraocular lens (IOL) type/design, young age at surgery, increased inflammation, not performing primary posterior capsulorhexis (PPC) and anterior vitrectomy, small capsulorhexis, and so on. Although, there are many factors which lead to VAO, vitreous acts as a scaffold for the epithelial cell proliferation, which eventually leads to the formation of visually disabling VAO. Consequently, VAO remains the most common indication for second surgery in children.<sup>[1]</sup> Ram *et al.* concluded that management of the posterior capsule rather than IOL design and material, influences the incidence of VAO after cataract surgery in children.<sup>[2]</sup>

PPC with anterior vitrectomy is the choice of surgery by most surgeons around the world, especially in children under 6 years. Studies from India show that PPC with anterior vitrectomy and IOL implantation has led to favorable results in the long run with only a small percentage of children developing VAO.<sup>[3,4]</sup> In children over 6 years of age, few surgeons prefer to perform only PPC. Posterior optic capture of IOL is also an alternative to prevent VAO. This surgical modality prevents secondary opacification of the visual axis, even in the absence of vitrectomy.<sup>[5]</sup> An earlier study conducted by Vasavada *et al.* reported that optic capture of 3-piece hydrophobic acrylic IOLs could be achieved in most eyes. The VAO, glaucoma, and inflammation were comparable in both the groups, 12 months postoperatively. Thus, optic capture of an IOL is an alternative surgical technique that can be used to avoid vitrectomy, even in children younger than 4 years.<sup>[6]</sup>

A current study by Kaur, *et al.*,<sup>[7]</sup> compares endocapsular implantation of an IOL with anterior vitrectomy to that of posterior optic capture of IOL. It concludes that both techniques work well in preventing VAO and also suggest that posterior capture of IOL was safer in terms of inflammatory sequelae and epithelial cell proliferation. Although surgically, both the techniques are equally challenging, posterior capture may have a steeper learning curve. The current study included less than 50% children under 1 year of age. In very young infants, posterior optic capture of IOL might be difficult to perform since there could be an issue of decentration during long term follow up which needs to be considered.

The advantages of posterior capture are: it may be a quicker procedure, vitreous is not disturbed, and less epithelial cell proliferation is seen. The disadvantages being that it may be difficult to perform when there is a pre-existing breach in the posterior capsule especially in case of posterior lenticonus, trauma, and so on.

Although there is a risk of retinal detachment in anterior vitrectomized eyes in children, the risk in the long run seems to be limited to 5.5%.<sup>[8]</sup> We are uncertain if the capture technique can reduce this retinal detachment risk at this point of time. In conclusion, one needs to have many techniques handy to provide the best care to children and posterior capture is one such option to consider in selected cases. It is important to remember that "one size doesn't fit all" for cataract surgeries in children.

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