

Decision and timing of removal of dropped lens fragments by par plana vitrectomy

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The incidence of dropped nucleus is more frequent with inexperienced surgeons. Experienced surgeons have performed more cases with predisposing risk factors, they acquire modern vitreoretinal techniques to reduce morbidity and improve the visual outcome.¹ The incidence of nucleus drops is 0.8%.² There are various management to yield favorable visual results in most patients with retained lens fragments, some believe the timing of vitrectomy should not affect the visual prognosis. However, retinal detachment is a recognised complication of vitrectomy and the poor visual outcome is closely related to the presence of age-related macular degeneration and cystoid macular edema.³

Certainly, removal of retained intravitreal lens fragments by vitrectomy is beneficial because it will decrease the incidence of uveitis and glaucoma.⁴ Unfortunately, most of the patients will take longer duration to achieve a better vision if the surgical intervention is delayed.

Apart from the duration of visual recovery, the delayed surgical intervention also endangers the eye to be exposed to more complication like persistent corneal edema, retinal detachment, central retinal vein occlusion, age-related macular degeneration, glaucoma, and Endophthalmitis.⁵ The authors are more concerned of increases of intraocular pressure (IOP). There is significantly less inflammatory cell activity in eyes if retained lens fragments are removed early (within 1 week), but late removal has been shown to be associated with persistently elevated

IOP and poorer visual outcome.⁶ Such incidence may further deteriorate if the patient has chronic glaucoma pre-operatively. Rapid removal of retained lens fragments allows favourable visual restoration, promotes resolution of uveitis, and improves control of glaucoma.

At this stage, the authors have emphasized the benefits of early surgical intervention, the next issue would like to be addressed is the timing of performing surgery. Some studies suggested vitrectomy on the same day as cataract surgery generally yielded favorable visual acuity outcomes and eliminated the need for a second operation at a later date.⁷ In these patients, same day vitrectomy provided good visual acuity outcomes and also reduced the risk of postoperative complications including secondary glaucoma and corneal endothelial cell damage.^{8,9} Al-khaier *et al* showed that in 79 patients (89%), par plana vitrectomy (PPV) was performed from 1 to 357 days (median 15 days) after cataract extraction. In 10 patients (11%), PPV was done on the same day as the cataract surgery. Sixty-two patients (69%) had a final visual acuity of 6/12 or better.¹⁰ Therefore there was no statistically significant difference between early (< 7 days) and delayed (8 days or more) vitrectomy when the incidents of increased IOP, corneal edema, choroidal effusions, cystoid macular edema, and visual acuity were analyzed. So far, vitrectomy is still an effective intervention that significantly reduces the inflammatory response and accerelates visual recovery.¹¹

In short, earlier vitrectomy may lead to improved visual outcomes and

decreased rate of chronic glaucoma. Retinal detachment is a potential risk because it is correlated with vitreous manipulation. Therefore, if the anterior segment and vitreoretinal surgeons religiously work together in these cases, a good visual prognosis should be expected.¹²

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