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Retropupillary Iris-Claw Intraocular Lens Fixation: Indications, Implantation, Results and Complications.

Promotionsfach: Augenheilkunde
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Cataract, defined as the opacity of the crystal lens, is a common eye disease, especially in aged people, to lead to blindness. IOL is the best choice to replace the extracted lens as a refractive element. When the posterior capsule is not available in complicated case, regular in-the-bag IOL implantation technique can't be used. Retro-pupillary iris-claw IOL implantation is a newly developed technique which is special for cases without sufficient posterior capsular support.

In this study, a retrospective case-series study was performed on post-operative effects of retropupillary fixation of iris-claw IOL for aphakia to evaluate the outcome and safety of this procedure.

56 eyes of 54 patients were included in the study. The average follow-up period is 16.5 months. 31 eyes of 16 patients that underwent regular senile cataract phacoemulsification and foldable IOL (Rayner 630F) in-the-bag implantations were included in group 2 as a control group. 22 eyes of 11 patients that underwent anterior iris claw IOL implantation to correct myopia or hyperopia were included in group 3 as another control group when compare the pupil sizes. SPSS 19.0 software was used for statistical analysis.

The LogMAR VA increased from 0.57 ± 0.76 preoperatively to 0.32 ± 0.59 postoperatively. No difference was observed between pre- and post-operative IOP. Though pigment loss was observed in some cases, no pigment dispersion glaucoma was found during the follow-up period.

When calculating the IOL power, Holladay I and SRK-T formula are the best choices for getting smaller MAE(0,77±0,57D and 0,84±0,63D respectively), especially when the ACD is less than 3.5mm (0,57±0,56D and 0,61±0,62D respectively). Compared with anterior iris-claw phakic IOL implantation and in-the-bag IOL implantation, retropupillary iris-claw IOL implantation will lead to a smaller scotopic pupil size (5.24± 0.69mm, 5.05 ± 0.76mm, 4.36 ± 0.86mm respectively) and a less pupil mobility when the illumination changes from scotopic to mesopic low level (1,16±0,77mm, 1,06±0,42mm, 0,41±0,33mm respectively). However, the pupil size under mesopic high lever showed no difference between IOL groups. Complications of this procedure include late onset CME, IOL subluxation, corneal endothelium damage, hypotony and RD.

As a conclusion, retro-pupillary iris-claw IOL fixation is a relatively safe and simple procedure compared with other options for correcting aphakia without sufficient posterior capsule support.