Retinal complications after anterior versus posterior chamber phakic intraocular lens implantation in a myopic cohort

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Purpose: To compare the incidence and characteristics of retinal complications following implantation of two types of phakic intraocular lenses (PIOLs) in patients with myopia.

Methods: In this comparative, retrospective study, 603 eyes of 344 patients with myopia underwent implantation of either an Artisan iris-fixated phakic intraocular lens IOL (Artisan; Ophtec, Groningen, Netherlands) (Artisan group) or a Visian implantable collamer lens (ICL; STAAR Surgical Company, Monrovia, CA) (ICL group) between June 2005 and December 2013. Pre-operative, operative, and postoperative clinical data were collected on the incidence of retinal complications, including rhegmatogenous retinal detachment (RRD) or choroidal neovascular membrane (CNVM).

Results: The Artisan lens was implanted in 185 (30.68%) eyes and 418 (69.32%) eyes underwent ICL implantation. Mean follow-up was 26.78 months (range: 9 days to 98 months). Mean preoperative spherical equivalent (SE) was -12.44 ± 4.43 D (range: -1.13 to -31.00 D). The overall rate of retinal complications was 1%. Post-operatively, 3 (0.7%) eyes developed RRD in the ICL group, and no eyes developed RRD in the Artisan group. Sub-macular hemorrhage was observed in 1 (0.24%) eye in the ICL group. Two (1%) eyes developed CNVM in the Artisan group. The mean time from PIOL implantation to retinal complications was 15.6 months (range: 0.03 to 43 months).

Conclusions: Implantation of ICL or Artisan phakic IOL demonstrated comparable rates of retinal complications. Anterior chamber PIOL does not increase the risk of retinal detachment or CNVM in patients with myopia.

Biography
Abdulelah A Al-Abdullah has completed his vitreo-retinal and Uveitis fellowship 2014 at King Khaled Eye Specialist Hospital. He is currently vitreo-retinal and uveitis consultant at King Khaled Eye Specialist Hospital.

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