

Implantation of iris-claw Artisan intraocular lens for aphakia in Fuchs' heterochromic iridocyclitis

Ahmad Kheirkhah, Mojgan Nikdel, Hadi Ghadimi

Implantation of iris-claw Artisan intraocular lens (IOL) is a surgical option for correction of aphakia; however, these IOLs have not been used in eyes with uveitis including Fuchs' heterochromic iridocyclitis (FHI) due to possible risk of severe postoperative intraocular inflammation. In the case reported here, we secondarily implanted an Artisan IOL in a 28-year-old man with FHI who had aphakia with no capsular support due to a previous complicated cataract surgery. Enclavation was easily performed and no intraoperative complication was noted. Postoperative course was uneventful with no significant anterior chamber inflammation during 12 months of follow-up. Although there were few deposits on the IOL surface, the patient achieved a best-corrected visual acuity of 20/20 without developing glaucoma or other complications. Therefore, Artisan IOL may be considered for correction of aphakia in patients with FHI. However, studies on large number of patients are required to evaluate safety of the procedure.

Key words: Aphakia, Fuchs' heterochromic iridocyclitis, iris-claw Artisan intraocular lens

Fuchs' heterochromic iridocyclitis (FHI) is a chronic low-grade anterior uveitis associated with iris heterochromia. Cataract is common in FHI, and cataract surgery with intraocular lens (IOL) implantation in either capsular bag or ciliary sulcus has been reported to be a safe procedure.^[1,2] However, controversy still exists regarding the safety of secondary IOL implantation in FHI. Although secondary PMMA IOLs have successfully been implanted in the ciliary sulcus of aphakic eyes with an intact posterior capsule,^[3] the surgical options in the eyes without capsular support remain unknown.

Iris-claw Artisan IOLs have been shown to be a safe option for secondary IOL implantation in aphakic eyes without capsular support.^[4-6] However, there has been no previous report of secondary implantation of Artisan IOLs in aphakic eyes with FHI, probably due to an unknown risk of significant

postoperative inflammatory complications. Herein, we report a case of FHI who received secondary Artisan IOL implantation with no complication during 12 months of postoperative follow-up.

Case Report

A 28-year-old man who was known to have FHI in the right eye was referred for secondary IOL implantation. Six years before referral, his right eye had undergone cataract surgery which was complicated by the capsular rupture and vitreous prolapse, for which the patient received complete anterior vitrectomy with removal of all capsular remnants. The patient was left aphakic and was prescribed with aphakic contact lens; however, he developed contact lens intolerance over time. On presentation, his uncorrected visual acuity was 20/20 in the left eye and counting finger in the right eye which could be corrected to 20/20 with aphakic correction. Intraocular pressure was normal in both eyes. Slit-lamp examination of the right eye revealed diffuse fine keratic precipitates over the entire corneal endothelium and mild iris stromal atrophy with notable heterochromia. There was aphakia with no capsular remnant. No cell was present in anterior chamber or vitreous. The left eye was normal. Advantages and unknown risks of the surgery were thoroughly explained for the patient and he consented to have secondary IOL implantation. Under general anesthesia, an iris-claw IOL (Artisan, Ophtec, Groningen, The Netherlands) was implanted in right eye through a limbal incision followed by a superior peripheral iridectomy. Enclavation of the IOL haptics was easily performed; no intraoperative complication including hyphema was noted. After surgery, the patient received a topical antibiotic and topical steroid eye drops. The latter was prescribed as 0.1% betamethasone every 2 hours while awake for 1 week and then four times a day which was tapered within 6 weeks. Postoperative follow-up examinations were performed at 1, 2, 3, 5, and 7 days, then weekly for 1 month, monthly for 3 months, and every 2–3 months thereafter until 1 year. Postoperative course was uneventful with no significant anterior chamber inflammation (more than 1+ cellular reaction) or fibrin formation. On the first postoperative day, the examination showed 1+ cellular reaction and pigments in the anterior chamber which disappeared within 2 weeks. No subsequent exacerbation of the intraocular inflammation was observed during 12 months of postoperative follow-up; therefore, no additional course of steroid was required. Occasional cells in the anterior chamber were seen at some visits which were left untreated. There were few visually insignificant deposits on the IOL surface [Fig. 1]. One month after surgery, the patient achieved a best-corrected visual acuity of 20/20 in the right eye which was maintained for 12 months of follow-up. The IOL remained stable with no subsequent iris atrophy at the enclavation sites, subluxation, or pupil ovalization. Furthermore, the patient did not develop any anterior or posterior segment complication including glaucoma, vitreous inflammation, or clinical cystoid macular edema.

Discussion

Although secondary IOL implantation in the ciliary sulcus has been reported to be safe in FHI,^[3] angle- and iris-supported IOLs have been feared because of the possible risk of postoperative uveitis, glaucoma, and hyphema.^[7] To the best of our knowledge, there has been no previous report of

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Department of Ophthalmology, Farabi Eye Hospital, Eye Research Center, Tehran University of Medical Sciences, Tehran, Iran

Correspondence to: Dr. Ahmad Kheirkhah, Farabi Eye Hospital, Qazvin Square, South Kargar Street, Tehran, Iran. E-mail: akheirkh@yahoo.com

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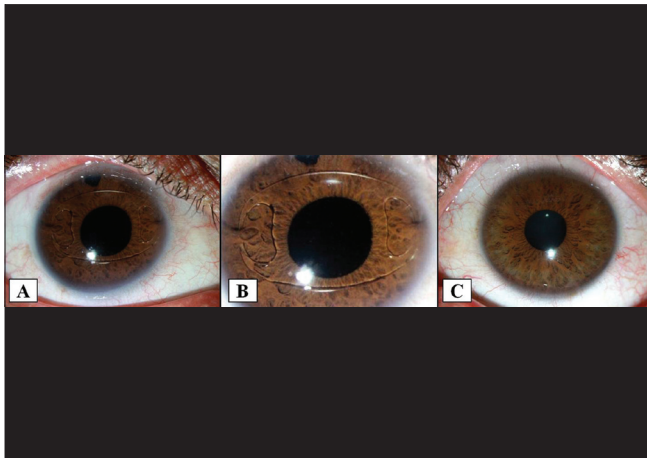


Figure 1: Secondary implantation of iris-claw Artisan intraocular lens (IOL) in an eye with Fuchs' heterochromic iridocyclitis. During 12 months of postoperative follow-up, no remarkable anterior chamber inflammation was observed in the right eye (A) and there were only few deposits on the IOL surface (B). The heterochromia in the involved eye is most obvious compared with the normal left eye (C)

implantation of iris-claw Artisan IOLs in eyes with FHI. Even though our patient only received topical steroids, he did not show any significant postoperative inflammation or fibrinous reaction neither at the early postoperative period nor during 12 months of follow-up. Therefore, it may suggest that in eyes with FHI the uveal irritation by iris-claw Artisan IOLs is less than expected and the IOL is more tolerable, even though recurrent or chronic anterior chamber inflammations has previously been reported in some eyes with these IOLs without preexisting uveitis.^[8,9] However, this lack of exacerbated postoperative inflammation in FHI may not be extrapolated to eyes with other more severe forms of uveitis. On the other hand, although FHI-associated iris atrophy in severe cases may theoretically make enclavation more difficult or compromise the long-term stability of an iris-claw IOL, neither did develop in our case. Therefore, it seems iris-claw IOLs, which have been shown to be safe in aphakic eyes without uveitis,^[4-6] may be an option in

aphakic patients with FHI who do not have capsular support. However, studies on large number of patients with long-term follow up are required to determine the safety of these IOLs in eyes with uveitis including FHI.

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