

Traumatic Dislocation of an Ophtec Artisan Phakic Intraocular Lens

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ABSTRACT

PURPOSE: To report a case of a traumatic dislocation of an Ophtec Artisan phakic anterior chamber intraocular lens.

METHODS: Retrospective case review.

RESULTS: A 38-year-old female underwent successful implantation of an Ophtec Artisan lens in her left eye as part of the phase III U.S. clinical trials. Approximately 5 months postoperatively, the patient was struck with a roll of packing tape in her left eye and noted immediate decreased vision. Following the blunt trauma, the patient had an uncorrected visual acuity (UCVA) of 20/60 and a best spectacle-corrected visual acuity (BSCVA) of 20/20. The wound was intact, however, the superior claw was no longer enclaved to the iris and the lens had dislocated nasally with the optic of the lens resting in the angle. The patient was taken back to the operating room, the lens was repositioned, and the superior claw was re-enclaved to the iris. One week after repositioning, UCVA was 20/30 and BSCVA was 20/20.

CONCLUSION: Despite adequate positioning, significant trauma may result in the iris claw tearing free from the iris with dislocation of the Artisan lens. The lens may be repositioned with good visual outcome, however, the long-term effects on endothelial cell density in this patient remain to be seen. [*J Refract Surg* 2002;18:481-483]

The Ophtec Artisan lens is an anterior chamber phakic intraocular lens that is currently in phase III of a Food and Drug Administration

(FDA) study in the United States. Most complications encountered during a European multicenter study were related to surgery.¹ However, one documented case of detachment of the iris claw haptic and subsequent destruction of iris tissue was reported in Europe.² An additional case, reported from Saudi Arabia, described a dislocation of a Worst claw lens into the inferior angle.³ This occurred due to a fracture of the claw lens haptic during insertion. The damaged lens was later removed and successfully replaced with a second Worst claw myopia intraocular lens.⁴ We report a patient who experienced traumatic dislocation of her Artisan lens 5 months after implantation and subsequently had successful repositioning of the dislocated lens.

CASE REPORT

A healthy 38-year-old female presented for refractive surgery evaluation to the Moran Eye Center with a manifest spherical equivalent refraction of $-10.75 +1.50 \times 135^\circ$ OD and $-12.25 +1.50 \times 60^\circ$ OS with a best spectacle-corrected visual acuity (BSCVA) of 20/20 OU. Corneal thickness (pachymetry) measured 484 mm OD and 497 mm OS. Due to inadequate corneal thickness, the patient was not a candidate for laser in situ keratomileusis (LASIK) and elected to undergo implantation of an Ophtec Artisan lens (Ophtec, Boca Raton, FL) in her non-dominant eye as part of the phase III U.S. clinical trials.

The patient underwent successful implantation of an Artisan lens in her left eye through a temporal clear corneal incision and 2 months postoperative had an uncorrected visual acuity (UCVA) of 20/25 and a manifest spherical equivalent refraction of $-1.75 +1.50 \times 75^\circ$ correcting to 20/20. Approximately 5 months postoperatively, the patient was struck with a roll of packing tape (thrown by her 4 year-old son) in her left eye and noted immediate decreased vision in her operative eye.

Immediately after the blunt trauma, the patient had an UCVA of 20/60 improving to 20/20 with a

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Doctors Moshirfar and Lundergan are clinical investigators for the FDA phase III clinical trial of the Ophtec Artisan lens.

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Figure 1. Dislocation of the Artisan lens into the nasal angle.

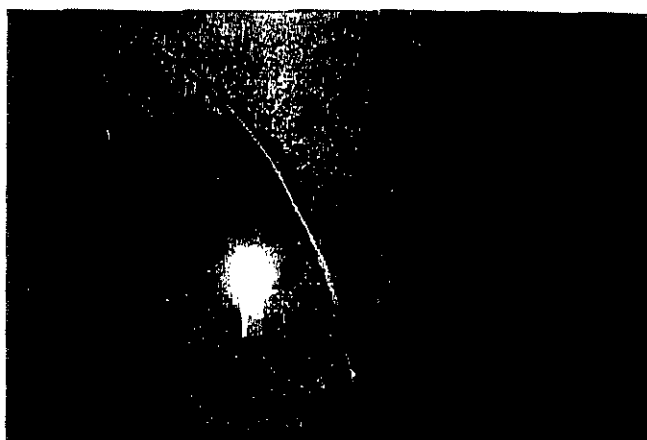


Figure 2. Edge of the optic is seen at the pupil margin.

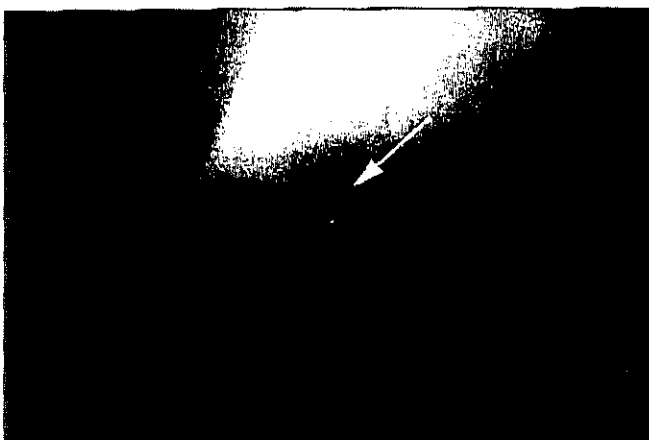


Figure 3. Location on the iris from where the iris claw dislocated (arrow).



Figure 4. The inferior claw remains enclaved.

pinhole. The wound was intact and intraocular pressure was 19 mmHg. The superior claw was no longer enclaved to the iris and the lens had dislocated nasally with the optic of the lens resting in the angle (Fig 1). The superior-temporal edge of the optic was just at the pupillary margin (Fig 2). A pinched configuration of the iris was still visible from where the claw had dislocated (Fig 3). The inferior claw remained enclaved to the iris (Fig 4). No corneal or lenticular touch was observed, however, a small amount of central corneal edema was observed, indicating that the lens had come in contact with the endothelium. The central corneal edema resolved the following day. Prior to placement of the Artisan lens, the average endothelial cell count was 3,046 cells/mm² and following the trauma it decreased to 2,700 cells/mm². The patient was taken back to the operating room 2 days after the injury, the lens was repositioned, and the superior claw was re-enclaved to the iris. One week after

repositioning, UCVA was 20/30 and she corrected to 20/20 with a manifest spherical equivalent refraction of -1.25 +1.00 x 80°.

DISCUSSION

The Ophtec Artisan lens is an anterior chamber implant that utilizes fixation arms (haptics) to enslave the implant to the iris. The haptics ensure centration of the lens over the pupil but also minimize restriction of pupillary dilation and constriction. This lens design allows for the correction of higher ranges of refractive errors not suited for photorefractive keratectomy (PRK) or LASIK.

Although the Artisan lens may circumvent some of the limitations of these keratorefractive procedures, the positioning of the lens presents a unique spectrum of challenges. Difficulty centering, fixating, and enclaving the lens have been reported and have resulted in secondary surgical interventions for repositioning.¹ Although one case of an iris claw

detachment of an Artisan lens in Europe has been reported², this is the first reported case of a dislocated Artisan lens from the U.S. clinical trials. This case shows that despite successful implantation and several months of recovery, significant trauma may result in the iris claw freeing itself from its enclavement site, resulting in dislocation of the lens. This dislocation may occur without rupturing the corneal wound or causing damage to the iris, cornea, or lens. Repositioning of the lens may be done with a good visual outcome for the patient. Since progressive endothelial cell loss has been reported with the Artisan lens⁵, this patient may be at risk for even further endothelial cell loss.

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