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there has been a reported case of small-cell carcinoma of the anus in an HIV-positive patient.⁹ Extensive discussion regarding the treatment of SCCP is beyond the scope of this case report, although recent evidence recommends combination chemotherapy with carboplatin and etoposide, with consideration of surgical resection in stage I/II disease.² Despite treatment, prognosis is poor, with a median survival of 3 months.¹

Disclosure: The authors have no proprietary or commercial interest in any materials discussed in this article.

**Andrew J. Rong, MD,* Catherine J. Choi, MD, MS,*†
Mark P. Ghassibi, MD,* Sander R. Dubovy, MD,*
Thomas E. Johnson, MD*†**

*Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; †Oculofacial Plastic and Reconstructive Surgery, Bascom Palmer Eye Institute, Miami, FL.

Correspondence to:

Thomas E. Johnson, MD, Oculoplastic and Reconstructive Surgery, Bascom Palmer Eye Institute, 900 NW 17th St., Miami, FL 33136; tjohnson@med.miami.edu

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Bilateral simultaneous artificial iris implantation for post-traumatic aniridia



A blunt ocular trauma may lead to sequelae of aniridia and aphakia. Such presentations may need complex reconstructive surgery. Aniridic patients frequently experience symptoms of decreased visual acuity, diplopia, glare, photophobia, and cosmetic discrepancy. A reconstructive

procedure may prove to be challenging when there is loss of capsular support or when minimal iris remnant is present. Oltra et al.¹ reported one case of bilateral traumatic aniridia for which coloured contact lenses were offered because patient was asymptomatic. We believe that definitive single-stage surgical treatment for this rare entity has not been reported in the literature. The present report documents one such case in high-myopic vitrectomized eyes, which was managed by simultaneous bilateral artificial iris (AI) implantation.

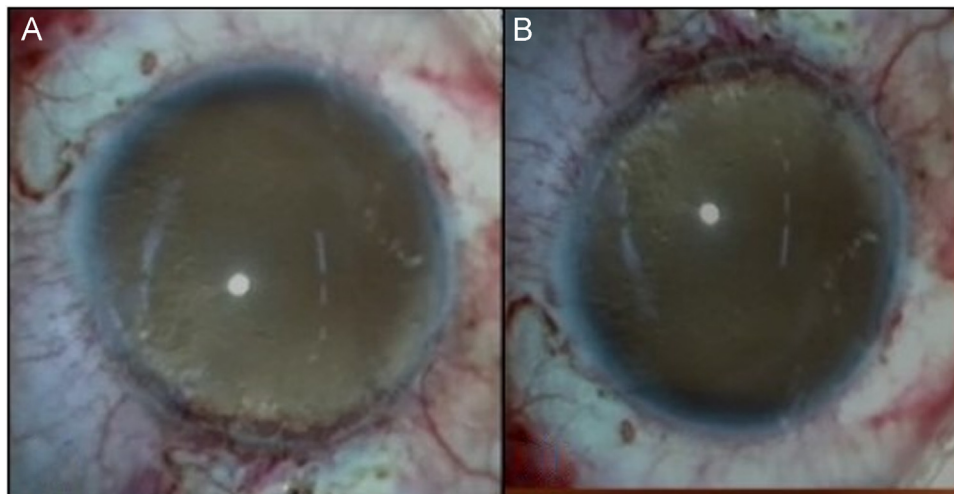


Fig. 1—Preoperative anterior segment photograph showing total aniridia of right eye (A) and left eye (B).

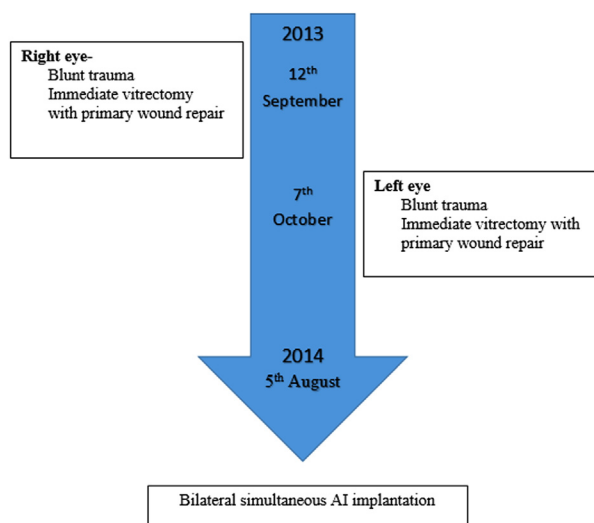


Fig. 2—Timeline of events and interventions.

CASE PRESENTATION

A 52-year-old high-myopic Caucasian female sustained blunt trauma to the right eye while playing with her dog. She developed massive vitreous hemorrhage with intraocular lens (IOL) and iris expulsion. Twenty-four days later, she bumped into a door, resulting in an identical manifestation to her left amblyopic eye. For both eyes, immediate vitrectomy with primary wound repair was done. Postoperatively, both eyes were stable with attached retina, aphakia, and aniridia (Fig. 1A, B).

After the primary repair, the best corrected visual acuity was Snellen's 6/7.5 (logMAR = 0.1) OD and Snellen's 6/15 (logMAR = 0.4) OS. Intraocular pressure was maintained at 15 and 20 mm Hg in her right and left eye, respectively, with topical antiglaucoma medications. However, the patient reported symptoms of photophobia, dizziness, and glare and was also concerned with the poor aesthetic sequelae. After 10 months of primary procedures, the current intervention was planned (Fig. 2).

SURGICAL INTERVENTION

The patient was thoroughly counselled regarding the novelty of small-incision simultaneous bilateral foldable AI implantation and its potential complications. Consent was obtained, and the patient chose an iris colour matching that of her spouse. A fibre mesh-free version of the AI (Dr. Schmidt Intraocularlinsen GmbH, Human Optics AG, Germany) was used.

AI was reduced to 11 mm using Hessburg-Barron trephine (Fig. 3A). Small peripheral triangles were cut at 4, 8, and 12 o'clock positions on the implant (Fig. 3B, C). This improvisation not only provided surgical markings for placement of the sutures but also served as peripheral iridectomies. The corresponding matching scleral spots were marked with a radial marker, and partial-thickness scleral flaps were made. AI was secured with 10-0 polypropylene suture at the 3 marked positions (Fig. 4A). A folded silicone AI was placed in a Busin glide tip for inserting it in the anterior chamber. Two long-curved needles along with the swaged suture were passed through a small, 3-mm superior limbal incision to reach at 4 and 8 o'clock positions, respectively (Fig. 4B). The final suture placement at 12 o'clock position was performed with a more curved needle (Fig. 4C) (See video 1).

FOLLOW-UP AND OUTCOME

The patient had an uneventful recovery. At 1-year follow-up, the AI implant was well centred and firmly fixed within the sulcus with no tilt or torque. There was no evidence of any suture erosion or dehiscence. The patient was relieved of photophobia and glare after the procedure. Visual acuity OD was improved to Snellen's 6/6 (logMAR = 0.0) with correction of -0.50 D Sph with $+2.50$ Cyl at 5 degrees. OS, the preoperative value of Snellen's 6/15 (logMAR = 0.4) was maintained and a correction of $+1.0$ D Sph with -3.50 Cyl at 90 degrees was given. The intraocular pressure with topical antiglaucoma

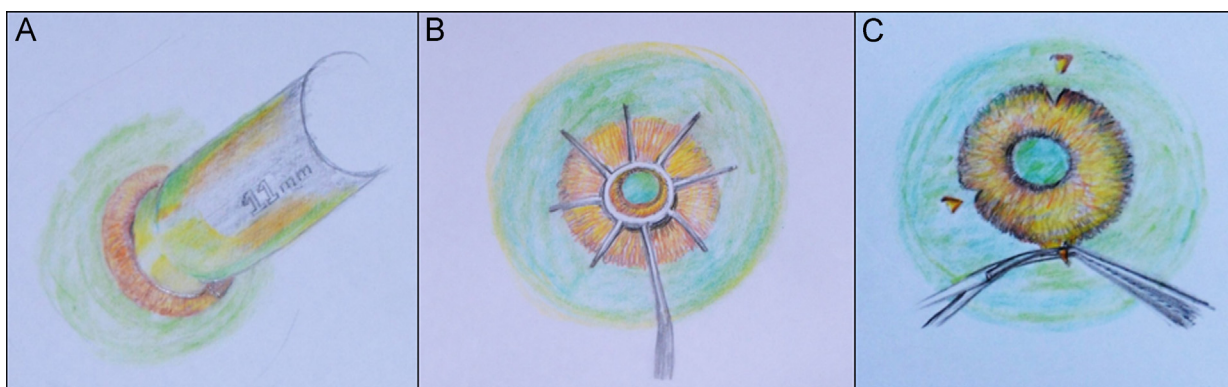


Fig. 3—Pictures show preparation of artificial iris: (A) Trephination of an artificial iris (AI) implant by decreasing its size to 11 mm using manual Hessburg-Barron trephine. (B) Radial marker being used to ascertain 3 suture points at 4, 8, and 12 o'clock positions. (C) Edges of foldable AI cut at 12 and 8 o'clock positions to create small peripheral iridectomies while the same is done at the 4 o'clock position.

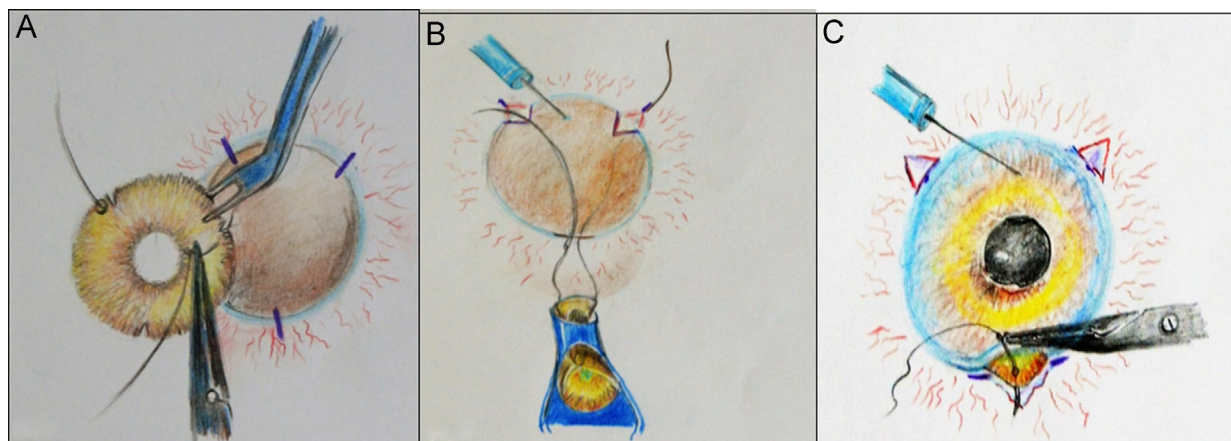


Fig. 4—Pictures show artificial iris (AI) insertion and fixation. (A) Suturing of AI with 10-0 Prolene at 4 o'clock and 8 o'clock positions. (B) Long-curved needle being inserted through superior limbal incision and retrieved through scleral pockets at 4 o'clock position while the same has been completed at the 8 o'clock position. Folded AI is placed in Busin glide tip. (C) AI inserted and fixed at 4 and 8 o'clock positions. Suturing being done at the 12 o'clock position with a curved needle.

medications was 19 mm Hg in the right eye and 18 mm Hg in the left eye. The patient was satisfied with the immediate and long-term aesthetic outcome.

DISCUSSION

AI implantation is an effective procedure for traumatic aniridia. Currently available foldable silicon AIs allow easy and minimally traumatic implantation through a small incision.² AIs offer colour customization with an ability to provide a good match with the fellow iris. In our case, a good match was achieved with the patient's spouse eyes (as desired by the patient) (Fig. 5).

Spitzer et al.^{3,4} reported a 4-point suturing technique for AI fixation. We achieved a stable fixation with our novel 3-point suturing technique. Gooi et al.⁵ described sutureless intrascleral fixation of a custom-tailored AI with an intraocular lens through a 7-mm limbal incision. We used a small 3-mm incision that helped us to reduce the surgery-induced astigmatism. Fernández-López et al.⁶ used a sutureless small incision with sulcal placement of AI in a case of congenital cataract with partial aniridia.

The senior author (C.F.)⁷ has previously reported simultaneous surgical correction of aphakia and aniridia. Yet, a contrary decision was taken for this patient. Preoperative biometric evaluation indicated the futility of any IOL implantation, considering her high myopia (axial

length right eye = 29.80 mm and left eye = 29.95 mm). In the left eye, amblyopic status ruled out any visual benefit of IOL insertion. However, pin-hole evaluation of her right eye improved visual acuity from 6/7.5 (logMAR = 0.1) to 6/6 (logMAR = 0.0). The same was replicated by AI implantation.

The patient was satisfied with the postoperative symptomatic and visual improvement. Residual astigmatism was corrected by glasses, and the patient decided against any further surgical intervention.

Our technique has demonstrated some distinct advantages. The peripheral iridectomies reduced the risk of secondary glaucoma. The simultaneous approach proved to be more cost-effective by reducing the number of procedures and overall logistic expenses. It also eliminated the risk of repeated general anaesthesia. Although there was a higher risk of bilateral endophthalmitis with the simultaneous approach, adequate care was taken to prevent it.

To the best of our knowledge, the present report is the first instance of simultaneous bilateral AI implantation in a post-traumatic scenario. We are aware that the outcomes of our case report need to be validated in a larger series or clinical trials before it can be universally applied. Yet, we believe that it offers a new possibility for optimal management of cases with bilateral aniridia and aphakia.

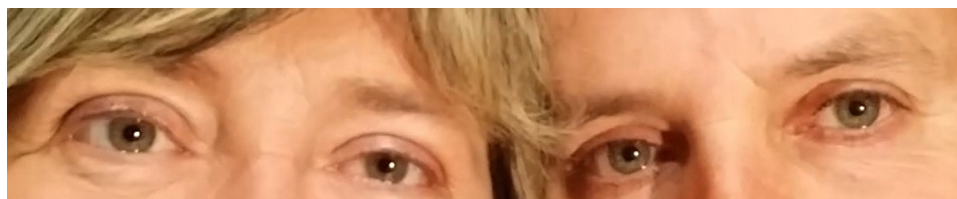


Fig. 5—One-year postoperative outcome after bilateral artificial iris implants showing a good colour match with its control.

CONCLUSIONS

Simultaneous bilateral correction of post-traumatic aniridia using AI implants appears to be a promising and safe technique. It can provide not only a good clinical resolution of subjective symptoms but also a good aesthetic outcome.

Disclosure(s): The authors have no proprietary or commercial interest in any materials discussed in this article.

APPENDIX A

Supplementary data

This article includes online-only material. Video 1 can be found on the CJO web site at <http://pubs.nrc-cnrc.gc.ca/cjo/cjo.html>. It is linked to this article in the online contents of the <http://dx.doi.org/10.1016/j.jcjo.2017.06.015>

**Matteo Forlini, MD,* Purva Date, DNB, FVRS,†
Barbara Gruber, MD,‡ Cesare Forlini, MD§**

*Institute of Ophthalmology, University of Parma, Parma, Italy;

†Aditya Jyot Eye Hospital, Mumbai, India; ‡Department of Ophthalmology, Clinical Hospital Centre Osijek, Osijek, Croatia; §“Domus Nova” Private Hospital, Ravenna, Italy.

Correspondence to:

Purva Date, DNB, FVRS, Aditya Jyot Eye Hospital, Plot No. 153, Road No. 9, Major Parmeshwaran Road, Wadala, Mumbai, Maharashtra 400031, India; drpurvdate@yahoo.in

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Management of positive dysphotopsia in a patient with prior refractive surgery



Dysphotopsias are bothersome visual phenomena experienced by patients after cataract surgery (CS). Positive dysphotopsias (PD) appear as light-related artefacts in various forms, whereas negative dysphotopsias are usually a temporal darkness or shadow in the visual field.¹

PD has been observed after both CS and laser refractive surgery (LRS).² The incidence may be as high as 49% immediately after CS.³ Photic phenomena also cause frustration after LRS.⁴ For the patient population with a history of both LRS and CS, diagnosis and management of PD may be especially challenging. We present a case of a patient with a history of LRS who, despite good objective visual acuity, experienced debilitating PD and was treated with placement of a secondary zero-power intraocular lens (IOL) in the ciliary sulcus.

CASE PRESENTATION

A 63-year-old female underwent CS in her right eye for a visually significant cataract with a refractive target

for distance vision. She had undergone photorefractive keratectomy (PRK) 13 years earlier for myopia. Her medical records before and after LRS were obtained, including corneal measurements. IOL calculations were performed using several formulas for patients with prior myopic LRS.

In January 2016, she underwent uncomplicated phacoemulsification and IOL implantation (AMO ZCB00 21.5 diopter; Abbott Medical Optics, Santa Ana, Calif.) in the right eye. Best spectacle-corrected visual acuity (BSCVA) at day 1 and week 1 was 20/20-2 OD. Manifest refraction was -0.50 sphere at this time, and she denied any PD during these visits.

At 1-month follow-up, she reported flickering lights and streaks in her peripheral vision, most prominent in her temporal visual field; these were worse in bright light conditions and would remit upon closing her eyes. Uncorrected distance visual acuity was 20/25. Slit-lamp examination (SLE), including dilated fundus examination, showed a well-centred IOL and was otherwise unremarkable. She was provided education and reassurance regarding her PD and scheduled for follow-up in 3 months. However, 2 months later, she reported that her PD symptoms had worsened. BSCVA, with manifest refraction -0.25 sphere, was 20/20-2 OD. SLE was unchanged