

Retinal Detachment After Implantation of Iris-Prosthetic IOL in a Case with Traumatic Aniridia

Travmatik Aniridili Bir Olguda İris Protezli Göz İçi Lens İmplantasyonundan Sonra Gelişen Retina Dekolmanı Olgusu

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Case Report

Olgu Sunumu

ABSTRACT

We report a patient who developed retinal detachment after implantation of iris-prosthetic intraocular lens (IOL) because of traumatic aniridia. A 60-year-old male patient referred to our clinic 4 months after ocular trauma with total aniridia, a moderately opacified but stable crystalline lens and attached retina with vitreous hemorrhage in the left eye. He had an uneventful pars plana vitrectomy, phacoemulsification and black diaphragm iris-prosthetic IOL implantation. Three months later, the patient presented with decreased visual acuity due to retinal detachment. Retinal detachment was repaired with a high buckle successfully. The visual acuity was 0.6 without any sign of inflammation or raised intraocular pressure at the end of 6 month follow-up.

Key Words: Iris-prosthetic intraocular lens, retinal detachment.

ÖZ

Travmatik aniridi nedeni ile iris protezli göz içi lens takılan bir olguda gelişen retina dekolmanı ve başarıya ulaşan tedavi yaklaşımını sunuyoruz. Dört ay önce oküler travma nedeniyle müdahale edilmiş olan 60 yaşında erkek hasta kliniğe tam aniridi, saydamlığını orta derecede yitirmiş ancak yerinde kristalin lens, vitreus hemorajisi ve yatışık retina ile müracaat etti. Komplikasyonsuz pars plana vitrektomi ve fakoemulsifikasyonun ardından siyah baskılı iris protezli göz içi lens kapsül kese içine implante edildi. Operasyondan 3 ay sonra hasta retina dekolmanı nedeni ile azalmış görme keskinliği ile tekrar müracaat etti. Retina dekolmanı skleral çevreleme ile başarılı bir şekilde tedavi edildi. Altı aylık takibinde hastanın görme keskinliği, göz içi inflamasyon bulguları ve göz içi basıncı artışı olmadan, 0.6 düzeyine ulaştı.

Anahtar Kelimeler: İris protezli göz içi lens, retina dekolmanı.

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INTRODUCTION

Penetrating ocular trauma is one of the leading causes of acquired iris deficiency. Symptoms due to aniridia range from decreased visual acuity to incapacitating glare and photophobia.¹ Cosmetic concerns also should be taken into consideration in these patient group. We report a case with retinal detachment after implantation of iris-prosthetic intraocular lens (IOL) to repair traumatic aniridia. Successful treatment with visual recovery was achieved after scleral buckling surgery.

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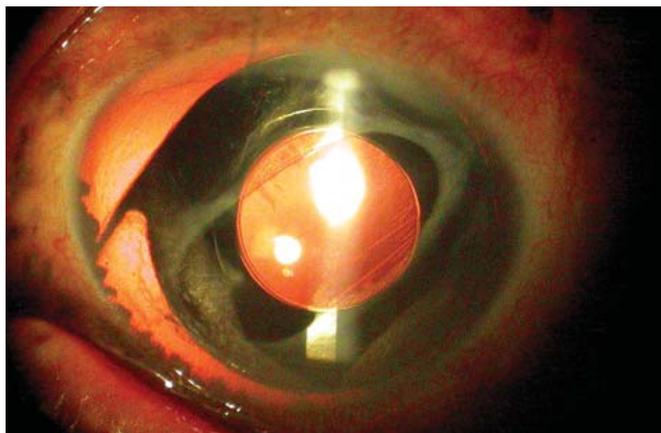


Figure 1: Iris-prosthetic IOL within the capsular bag.

CASE REPORT

A 60 year-old male patient sustained penetrating limbal corneoscleral trauma with significant iris prolapse in the left eye by the broken windshield in a car accident. The prolapsed part of the iris was resected during the primary wound repair and severely injured right eye was eviscerated. The patient was referred to our department with total aniridia, traumatic cataract and vitreous hemorrhage.

His ophthalmic examination 4 months after the trauma revealed a 0.1 best corrected visual acuity (BCVA), total aniridia, a moderately opacified but stable crystalline lens and attached retina with vitreous hemorrhage in the left eye.

Primary implantation of a black diaphragm IOL (Morcher Aniridia IOL Type 94) into the capsular bag in combination with phacoemulsification was performed after the standard three port pars plana vitrectomy (Figure 1). At the follow-up visit one month later his BCVA was 1.0 with a manifest refraction of +2.00 -200x135.

At the postoperative third month the patient was referred with vision loss. Visual acuity was finger counting and his examination revealed mild posterior capsular

opacification and localized retinal detachment between 2 and 6 o'clock hours involving the fovea although no retinal break was identified despite scleral indentation. In his operation subretinal fluid was drained and a high buckle was created by tightening a 2 mm encircling silicon band at 12 mm to the limbus. At postoperative day one his visual acuity was 0.2 and posterior pole was attached although there was a little amount of subretinal fluid in front of the retinal indentation (Figure 2 a, b). 6 months after the operation his BCVA was 0.6, his retina was completely attached and intraocular pressure was normal without any sign of ocular inflammation.

DISCUSSION

Anatomic or functional iris deficiency may occur in congenital conditions such as aniridia and albinism or may be acquired after ocular injury. Iris prosthetic IOL was developed for use in aniridia patients in 1994 and favourable outcomes of its use have been reported for both congenital and traumatic aniridia and albinism.³⁻⁵ Glaucoma was identified as the major complication to be considered when implanting these lenses.^{3,6} Elevated IOP may be complicated by persistent corneal epithelial defects especially in patients with congenital aniridia who are known to have limbal stem cell deficiency.⁶

Postoperative, persistent, chronic, low grade intraocular inflammation has also been reported with the use of these lenses.² Our patient had no intraocular pressure problems or intraocular inflammation which were reported previously. We believe implantation within the capsular bag avoided irritation of ciliary body and angle structures.

In Turkish literature Doganay et al. reported one eye in which black diaphragm intraocular lens was implanted to the sulcus for traumatic subluxated cataract and traumatic mydriasis. Three months after operation fundus examination revealed pigment epithelial irregularity and cystoid macular edema secondary to previous blunt eye trauma.⁷

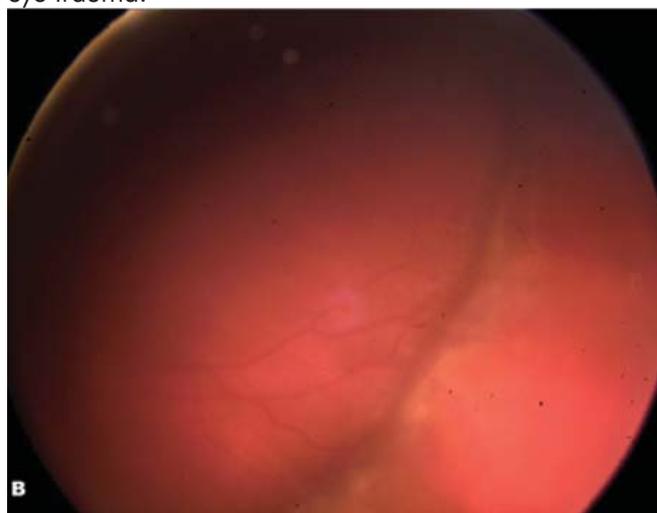
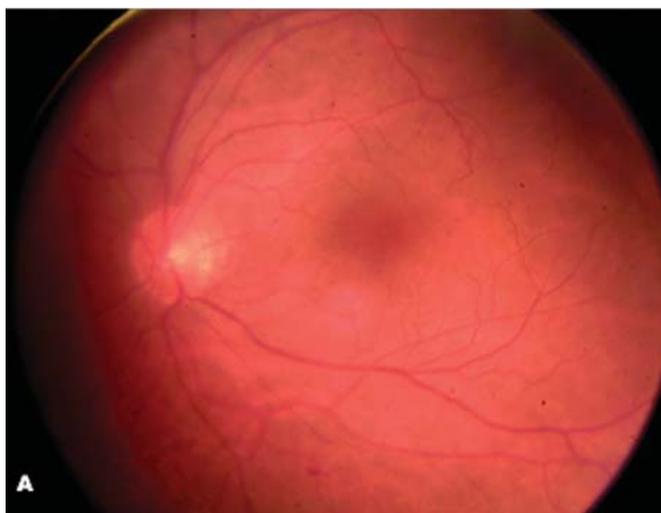


Figure 2: a) Attached retina at postoperative day 1. b) Residual subretinal fluid in front of the indentation.

Söyler and Ünsal reported a case of traumatic aniridia, traumatic cataract and retinal detachment which was repaired with lens aspiration, pars plana vitrectomy and silicon oil injection in the first session and aniridia intraocular lens was implanted after silicon oil removal for restoration of aphakia and aniridia.⁸ Saklamaz et al. reported 8 eyes implanted black diaphragm aniridia intraocular lens for congenital and traumatic aniridia. IOL's were implanted to sulcus in 4 eyes and transsclerally sutured in the other eyes. Best corrected visual acuity improved in all eyes without any postoperative complication such as persistent intraocular inflammation, severe and long standing intraocular pressure elevation, IOL decentration and hyphema.⁹

We report an important complication occurred after implantation of iris-prosthetic IOL and want to share our experience in its treatment.

The IOL used in this case was Morcher single-piece-iris-diaphragm IOL style 94, which have an iris diaphragm 8mm in diameter surrounding a central optic 4 mm in diameter. 4 mm optic aperture restricts the peripheral retinal examination and makes it difficult to localize the retinal break. In this case we preferred a high buckle with an encircling band to repair the presumed peripheral break and achieved a successful result.

Taneri et al. reported two cases with retinal detachment and phthisis bulbi after implantation of iris prosthetic system (IPS, Ophtec).¹⁰ Burk et al. reported retinal detachment in one patient who had successful phacoemulsification with implantation of foldable acrylic IOL and 2 multiple fin prosthetic iris rings (Morcher 50C) in their case series. Retinal detachment was repaired with vitreoretinal surgery and the vitreoretinal surgeon specifically noted that the implant did not interfere with adequate visualization.¹ One important point is that aperture of multiple-fin prosthetic iris rings was slightly larger than 6mm, leaving an adequate optic aperture to view the retinal periphery.

Although iris-prosthetic intraocular lenses and devices are more commonly used to reduce symptoms resulting from iris deficiency, surgeons should be aware of complications which may appear during the follow up period.

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