Spontaneous exposure of angle-supported anterior chamber intraocular lens haptic tip

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A 68-year-old man presented with a 3-year history of red eye and sudden intensive gritty and burning sensations in his left eye after angle-supported anterior chamber intraocular lens (AC IOL) implantation. Examination revealed exposure of the AC IOL haptic tip through the interior corneal limbus. The patient had had ocular rosacea for many years but had not experienced any trauma since the AC IOL implantation. Anterior chamber IOL explantation, anterior pars plana vitrectomy, and posterior chamber suspended IOL implantation were performed to restore visual acuity; topical antibiotic and corticosteroid treatments were administered for the ocular rosacea. Surgical interventions were required to prevent ocular complications such as corneal endothelial decompensation and endophthalmitis. To our knowledge, spontaneous haptic tip exposure is rare in patients with AC IOL implantation. In this case, it might have been due to chronic inflammation caused by ocular rosacea.

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Angle-supported anterior chamber intraocular lenses (AC IOLs) have been used clinically for more than 50 years. The most frequent complications associated with AC IOL implantation include corneal decompensation, uveitis, glaucoma, chronic inflammation, and hyphema. However, the incidence of spontaneous IOL haptic tip exposure through the limbus is rare.

Rosacea is a chronic skin disorder that affects the sebaceous glands, especially in the central area of the face. Ocular rosacea is characterized by blepharitis, telangiectasia on the eyelid margin, meibomian gland dysfunction, and chronic inflammation of the ocular surface. We report a case of spontaneous AC IOL haptic tip exposure after cataract surgery in a patient with ocular rosacea.

CASE REPORT

A 68-year-old man presented to our clinic with a 3-year history of red eye and sudden intensive gritty and burning sensations in his left eye. Three years earlier, chronic conjunctivitis had been diagnosed; since then, it had been treated with a range of topical antibiotic and antiviral drops and, occasionally, glucocorticoid drops, but there had been no improvement. Ocular trauma to the left eye had occurred 22 years earlier, and superior scleral rupture, traumatic cataract, lens dislocation, and a foreign body in the vitreous had been diagnosed. Uneventful combined surgeries including scleral suturing, cataract extraction, pars plana vitrectomy, and explantation of the foreign body were performed. Two months after the primary surgeries, secondary AC IOL implantation was performed. The patient denied having other ocular diseases since then, including systemic or ocular trauma. He had no underlying diseases such as diabetes mellitus, hypertension, immune system diseases, or allergy, and he denied having systemic illnesses such as fever, cough, abdominal pain, or myalgia. He did not use systemic drugs, and to his knowledge, he did not have drug or food allergies.

The ocular examination showed a corrected distance visual acuity (CDVA) of 20/200 in the left eye and 20/20 in the right eye. In the left eye, slitlamp biomicroscopy disclosed mildly red and swollen eyelids, tarsal conjunctival papillary hypertrophy and hyperemia, bulbar conjunctiva hyperemia and abnormally thick blood vessels along the...
limbus, and limbus neovascularization. The cornea and anterior chamber were clear. A peripheral iridectomy was detected at approximately 12 o'clock on the superior iris. The AC IOL had shifted downward in the anterior chamber, and the haptic tip was exposed through the interior limbus; the other haptic tip was in the anterior chamber but not supported by the anterior angle. Neovascularization was seen in the region of the cornea, and serious conjunctival injection was detected near this region. The pupil was oval, with a defect in the superonasal iris (Figure 1). The fundus examination showed no abnormality. Ultrasound biomicroscopy revealed that the sclera near the exposed tip was edematous and thickened. The anterior chamber angle structure was unclear in the region. No corneal thinning was detected (Figure 2). An ultrasound B-scan revealed no abnormality in the posterior segment. The intraocular pressure (IOP) was 11 mm Hg, the mean corneal endothelial cell density was 951 cells/mm², and the white-to-white distance was 11.6 mm. The right eye was normal, with the exception of a mild senile cataract.

Surgery was performed to extract the AC IOL because the haptic tip was surrounded by proliferative fibrotic tissue in the interior anterior chamber where it passed through the limbus and could not be calcified clearly. The exposed haptic was cut through a superior scleral tunnel incision, and the IOL was extracted. The maximum diameter of the explanted AC IOL was 12.5 mm and the optic diameter, 5.5 mm. A suspended posterior chamber IOL (PC IOL) was implanted and combined with an anterior pars plana vitrectomy, and the scleral incision and limbal lesion were sutured. Topical prednisolone acetate (4 times a day), levofloxacin (3 times a day), and pranoprofen (4 times a day) were administered postoperatively.

The patient had a hypertrophic nose and signs of erythema, telangiectasia, inflammatory papules, and flushing on his face. He had experienced the facial symptoms for a decade, and was referred by us to a dermatologist to treat the skin disease. Based on the clinical manifestations, the dermatologist diagnosed rosacea, which was treated with a topical antiinflammatory ointment.

At three months postoperatively, the CDVA was 20/65 in the left eye and the gritty and burning sensations had subsided significantly. The signs of conjunctiva hyperemia and eyelid edema had not improved; they were more severe than in the initial presentation before the surgeries. The cornea and anterior chamber were clear, and the IOP was 13 mm Hg. No abnormality was detected in the fundus. Based on the facial changes and the signs in the conjunctiva and eyelids, ocular rosacea was diagnosed. The conjunctivitis–blepharitis was treated with application of a warm wet compress and mild massage to the eyelid margins, as well as mechanical removal of debris in the lid margin. A tobramycin–dexamethasone eye ointment was prescribed for application to the margins once a day and artificial tears (sodium hyaluronate) and flumetholon 1.0% were used to relieve the eye discomfort. In addition, dietary restrictions of caffeine, spicy foods, and alcoholic beverages were recommended to reduce the rosacea symptoms.

At the final postoperative follow-up at 12 months, the CDVA in the left eye was 20/40, with a manifest refraction of −1.75 −3.00 × 160. The hyperemia of the eyelids and conjunctiva had subsided significantly. The limbus neovascularization had improved remarkably, except for the abnormally thick blood vessels along the limbus (Figure 3, A). The PC IOL was centered, and the IOP was 12.7 mm Hg. The tear-film breakup time (TBUT) was 2 seconds. The level of tear secretion in the eye, evaluated with the Schirmer I test, was 20 mm. The tobramycin–dexamethasone eye ointment was withdrawn, but the use of artificial tears in the left eye was maintained. The flushing, erythema, telangiectasia, and papules had decreased considerably, although a few papules remained in the skin on the left forehead (Figure 3, B).

**Figure 1.** Exposure of the AC IOL haptic tip (arrow) (A and B) and limbus neovascularization (B) were observed in the initial examination of the left eye.
The dermatologist’s suggestions for treating the facial skin changes caused by rosacea were continued.

Informed written consent to use the photographic images was obtained from the patient after an explanation of the nature and possible consequence of the report was provided. The case study conformed to the tenets of the Declaration of Helsinki.

**DISCUSSION**

Although AC IOL implantation in cataract surgery is less common than in the past, it has been performed for more than 50 years. The main complications are associated with the chronic and insidious mechanical irritation of ocular tissue, including the cornea, anterior chamber, and iris, by the IOL. Corneal endothelial damage, secondary glaucoma, and chronic inflammation in the anterior chamber are the most common complications in patients with AC IOL implantation. However, very few studies have reported cases of IOL exposure outside the globe. The reported cases involve subconjunctival dislocation of AC IOLs and PC IOLs caused by open-globe injuries.

Spontaneous haptic tip exposure in patients with AC IOL implantation is very rare. To our knowledge, the only case was reported by Gungel et al., who described an allergic patient who had had vigorous pruritus and allergic conjunctivitis in the eyes for many years and had developed bilateral AC IOL haptic tip exposure through the limbus 8 years after cataract surgery, with 1 eye experiencing endophthalmitis. Gungel et al. thought a possible reason for the IOL haptic exposure was the ocular trauma of limbal erosion caused by vigorous haptic rubbing of the eye. Other researchers have suggested that the exposure in this patient might have been the scleral and corneal thinning caused by long-term topical steroid use for the relief of allergy or by an oversized IOL. However, there was no evidence to support the latter view. In our case, the patient stated he had not had an ocular injury since the initial trauma 22 years earlier. He had experienced recurrent episodes of facial flushing, erythema, papules, and pustules in the midface for the previous decade, and rosacea had been diagnosed.

Rosacea is a chronic skin disorder affecting the sebaceous glands, especially in the central area of the face. It is characterized by persistent erythema, telangiectasia, inflammatory papules, and pustules in the flush areas of the face. The disease predominantly affects adults between the ages of 40 years and 50 years; ocular changes are more common in adults between the

![Figure 2. Ultrasound biomicroscopy revealed exposure of the AC IOL haptic tip, edema, and thickening of the nearby sclera, and unclear structure of the anterior chamber angle.](image)

![Figure 3. Eyelid and ocular surface signs improved significantly after treatment (A). The red and hypertrophic nose is indicative of early rhinophyma (B).](image)
The incidence of ocular rosacea varies between 58% and 72% among rosacea patients.11,12 The symptoms of ocular rosacea include blepharitis and meibomian gland dysfunction are frequently observed. Manifestations of the disease include blepharoconjunctivitis, meibomitis, episcleritis, recurrent chalazia, iritis, corneal vascularization, keratitis, and corneal ulceration.13,14 The chronic ocular inflammation might have destroyed the structure of the tissue, exacerbated the erosion, and facilitated the exposure. To our knowledge, this is the first report of spontaneous AC IOL haptic tip exposure caused by chronic inflammation remains uncertain and requires further investigation.

In conclusion, the chronic ocular inflammation caused by rosacea in our patient might have caused the spontaneous exposure of the AC IOL haptic tip. More attention should be given to this complication in patients with AC IOL implantation when they have chronic ocular inflammation. In addition, rosacea is a chronic condition that requires long-term treatment and follow-up care, especially in patients with ocular involvement.

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