CASE REPORT

Uveitis-glaucoma-hyphaema syndrome with in-the-bag placement of intraocular lens

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SUMMARY

Uveitis-glaucoma-hyphaema (UGH) syndrome is commonly reported following intraocular lens (IOL) implantation in the anterior chamber or malpositioned posterior chamber IOLs. It is extremely rare to have this complication in an eye with intact posterior capsule and a well placed in-the-bag IOL. We report a case of a 48-year-old man who presented with blurred vision after an uneventful cataract surgery in the right eye, and who was treated for anterior uveitis. The anterior chamber inflammation persisted despite intense treatment with topical steroids for 2 months, and the intraocular pressure was high. The posterior chamber IOL was in the bag and well covered by a capsulorrhexis margin. Dilated gonioscopy revealed inferior capsular bag hyphaema secondary to the superior haptic displacement due to a tear in the equatorial bag. Our case highlights the importance of dilated gonioscopy and a rare possibility of UGH syndrome in an eye with a well-placed IOL.

BACKGROUND

In 1978, Ellingson¹ first reported a case of uveitis-glaucoma-hyphaema (UGH) syndrome as a complication of iris chafing by a first-generation anterior chamber intraocular lens (IOL). UGH syndrome can lead to a decrease in vision from intraocular haemorrhage, chronic inflammation, cystoid macular oedema and glaucomatous optic nerve damage. The syndrome is classically associated with poorly positioned first-generation anterior chamber IOLs. In recent times, reported cases of UGH syndrome have been with a sulcus placement of posterior chamber intraocular lenses (PCIOLs). The incidence of UGH syndrome has decreased with the recent advances in lens design and in bag placement of PCIOLs. Zhang *et al*² described two mechanisms for UGH syndrome when the PCIOLs are placed in the bag. A combination of medical management and surgical intervention is often required to restore normal intraocular anatomy, replace poorly positioned intraocular lenses or to control glaucoma.

CASE PRESENTATION

A 50-year-old man presented to us with blurring of vision in the right eye for 1 month. There was no history of trauma and no similar episodes in the past. He had undergone an uneventful phacoemulsification with posterior chamber intraocular lens implantation (PCIOL) under topical anaesthesia in the right eye 8 years prior. On examination, his unaided visual acuity was 20/150 improving to 20/40 with pinhole in the right eye and 20/20 in the

left eye. Anterior segment examination of the right eye revealed circumcorneal congestion, anterior chamber reaction of 2+ cells and flare. Gonioscopy showed open angles. The PCIOL was well centred in the bag and well covered by the capsulorrhexis margin. Anterior segment examination of the left eye was within normal limits. Fundus examination was normal in both eyes. A diagnosis of right eye anterior uveitis was made and the patient was started on a tapering dose of topical steroids and cycloplegics. He presented to us a month later with persisting symptoms. His anterior chamber reaction had increased to 3+ cells and the intraocular pressure was 38 mm Hg. Detailed evaluation including a dilated gonioscopy was carried out. The disc in the right eye showed a cup disc ratio of 0.7:1 with inferior rim thinning.

INVESTIGATIONS

Humphrey visual fields in the left eye were within normal limits. In the right eye, an early superior arcuate scotoma was noted corresponding to the inferior rim thinning.

DIFFERENTIAL DIAGNOSIS

It would be prudent to rule out causes of recurrent uveitis.

DIAGNOSIS

A dilated gonioscopy of the right eye revealed hyphaema in the inferior capsular bag (figure 1). The cause of the hyphaema was noted to be a displaced superior haptic of the IOL through a tear in the equatorial part of the capsular bag (figure 2). A diagnosis of UGH syndrome secondary to PCIOL haptic in sulcus was made in the right eye.

TREATMENT

The patient was started on nepafenac eye drops 3 times/day, a combination of brimonidine tartrate

Figure 1 Gonio photograph of the right eye showing hyphaema in the capsular bag inferiorly.

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Figure 2 Slit lamp photograph of the right eye showing displaced superior haptic of the intraocular lens through the tear in the equatorial part of the capsular bag. (White arrow)

0.2% with timolol maleate 0.5% eye drops 2 times/day along with atropine 1% eye drops 3 times/day in the right eye.

OUTCOME AND FOLLOW-UP

The patient was on regular follow-up and, at the end of 3 months, the anterior chamber reaction had resolved and vision improved to 20/32. On the next follow-up after 6 months, his best-corrected visual acuity was 20/20 in both eyes and intraocular pressure (IOP) was under control in the right eye with timolol maleate 0.5% eye drops. The anterior chamber was quiet. Fundus examination of the right eye showed a cup disc ratio of 0.7:1 with inferior thinning and a corresponding early superior arcuate defect on Humphrey visual field testing, which was stable. He has been on regular follow-up with no further episodes of uveitis and no hyphaema, and a well-controlled IOP.

DISCUSSION

UGH syndrome, though described earlier to occur in patients with ACIOLs, has implicated mechanical irritation incited by malposition of the IOL in the ciliary sulcus as the underlying mechanism.³ Recently, UGH syndrome was reported with the placement of PCIOL in the bag.²

Foroozan *et al*⁴ described the first case of UGH syndrome with the placement of a single piece acrylic hydrophobic lens in the bag where an iridociliary cyst had displaced the IOL optic, which chafed the pupillary margin. Ultrasound biomicroscopy (UBM) confirmed the diagnosis and the case was managed conservatively with topical steroids and cycloplegics. Boutboul *et al* described a case of pigmentary glaucoma with IOL placement in the bag because of anterior bowing of a haptic within the capsular bag, related to IOL deformation during loading, seen on UBM. This case required trabeculectomy and the deformed haptic contour was restored with a Lester hook.⁵

Zhang *et al* described two cases where, in one of the cases, instability in pseudoexfoliation syndrome led to subclinical pseudophacodonesis of the haptic–capsule complex, resulting in secondary chafing of the posterior iris by the intracapsular-contained square-edged haptic of the single-piece acrylic IOL. A capsular tension ring was implanted to stabilise the capsular

bag. The anteriorly positioned ciliary processes in plateau iris configuration were prone to chafing when focal capsule fibrosis around the square edged haptic created points of pseudoherniation with mechanical contact to adjacent ciliary processes in another case. A focal endoscopic cyclophotocoagulation of the involved ciliary processes was performed to retract them from the area of haptic impingement.²

Management of eyes with UGH syndrome requires diagnosis of the underlying cause by UBM. Medical management with topical steroids and cycloplegics for the control of inflammation is necessary. Surgical management may be required for the management of the underlying cause as well as control of IOP.

Our case had a single piece acrylic hydrophobic intraocular lens in the bag with the superior haptic rubbing on the uveal tissue through a tear in the capsule. This resulted in increased anterior chamber inflammation with ‘in-the-bag’ hyphaema. The tear might have been caused during the dialing of the IOL into the capsular bag. Because of extensive fibrosis of the capsule to the haptic and optic, surgical explantation was deemed risky. The IOP was controlled with a combination anti-glaucoma medication (AGM) initially and later required a single AGM, and no further recurrences of the uveitis was noted in 1½ years of follow-up.

It is important to be aware that an in-the-bag PCIOL can cause UGH syndrome and have a knowledge of the various underlying mechanisms. Although uncommon, in-the-bag UGH syndrome can cause serious morbidity in patients, who often present with recurrent or refractory episodes of anterior uveitis after uneventful cataract surgery. Risk of unnecessary investigations and prolonged steroid use can be avoided if a correct cause is established. This case highlights the importance of performing a dilated gonioscopy along with a detailed anterior segment examination to understand the possible rare aetiology and mechanism of UGH syndrome.

Learning points

- ▶ In-the-bag posterior chamber intraocular lens can cause uveitis-glaucoma-hyphaema syndrome.
- ▶ Recognition of the underlying cause is a key in the management of the condition.
- ▶ Dilated gonioscopy is a simple and easy procedure that may be helpful in understanding the underlying mechanism.

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