Haptic Dislocation Mimicking Ciliary Body and Iris Mass

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ABSTRACT

A 79-year-old male applied to our clinic for routine examination. Slit-lamp examination revealed posterior chamber intraocular lens (IOL), iris elevation at 9 o'clock and narrowing of anterior chamber angle in the right eye. Although the clinical findings were suggestive for ciliary body mass, ultrasonic biomicroscopy (UBM) demonstrated IOL haptic dislocation at the elevated area. UBM imaging is an important imaging modality that allows visualization of posterior chamber and provides information in the differential diagnosis of localized bulging of the iris.

Keywords: Iris elevation, Iris bulging, Haptic dislocation, Ultrasonic biomicroscopy.

INTRODUCTION

Ultrasound biomicroscopy (UBM) is a high-frequency B-mode ultrasound that allows visualization of anterior segment, pars plana and peripheral retina at microscopic resolution. The most common indications for UBM are corneal and scleral disorders, glaucoma, anterior segment tumors, uveitis, hypotonia and trauma. Moreover, posterior chamber intraocular lens (IOL), as a whole with its optic and haptics can be evaluated by UBM.[1]

Here, we reported a case with localized elevation in peripheral iris in anterior segment examination which was shown to be associated with IOL haptics dislocated to sulcus on UBM imaging performed with suspicious mass at iris/ciliary body.

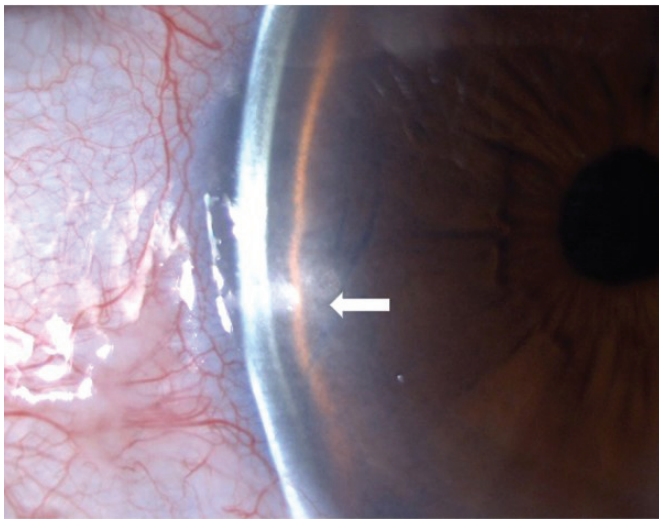

Figure 1: *Localized iris elevation at 9 o'clock position (arrow).*

Case Report

A 79-year-old male admitted to our clinic for routine examination. His medical history revealed extracapsular cataract surgery for both eyes 42 years ago and retinal detachment surgery in his left eye 8 years ago. His best corrected visual acuity was 20/20 in the right eye and finger counting at 1 meter in the left eye. In the biomicroscopy, posterior chamber IOLs were observed in both eyes. Slit-lamp examination revealed a focal elevation of the iris at 9 o'clock and shallowing of the anterior chamber at the corresponding area (Figure 1). No exfoliation was detected in both eyes. The fundus examination was unremarkable in the right eye and retinal detachment- related chorioretinal scarring area and alterations of retinal pigment epithelium were observed in the left eye. The cup to disc ratio was 0.3 in the right eye whereas the optic disc was pale in the left eye. The intraocular pressure (IOP) was 10 and 12 mmHg in the right and left eye, respectively. Gonioscopy revealed angle closure between 9 and 10 o'clock (grade I angle according to the Shaffer classification2) with pigmented trabecular meshwork in the right eye, and open angle in the left eye (grade III angle according to the Shaffer classification[2]). (Figure 2a, b). Ultrasound biomicroscopy imaging showed

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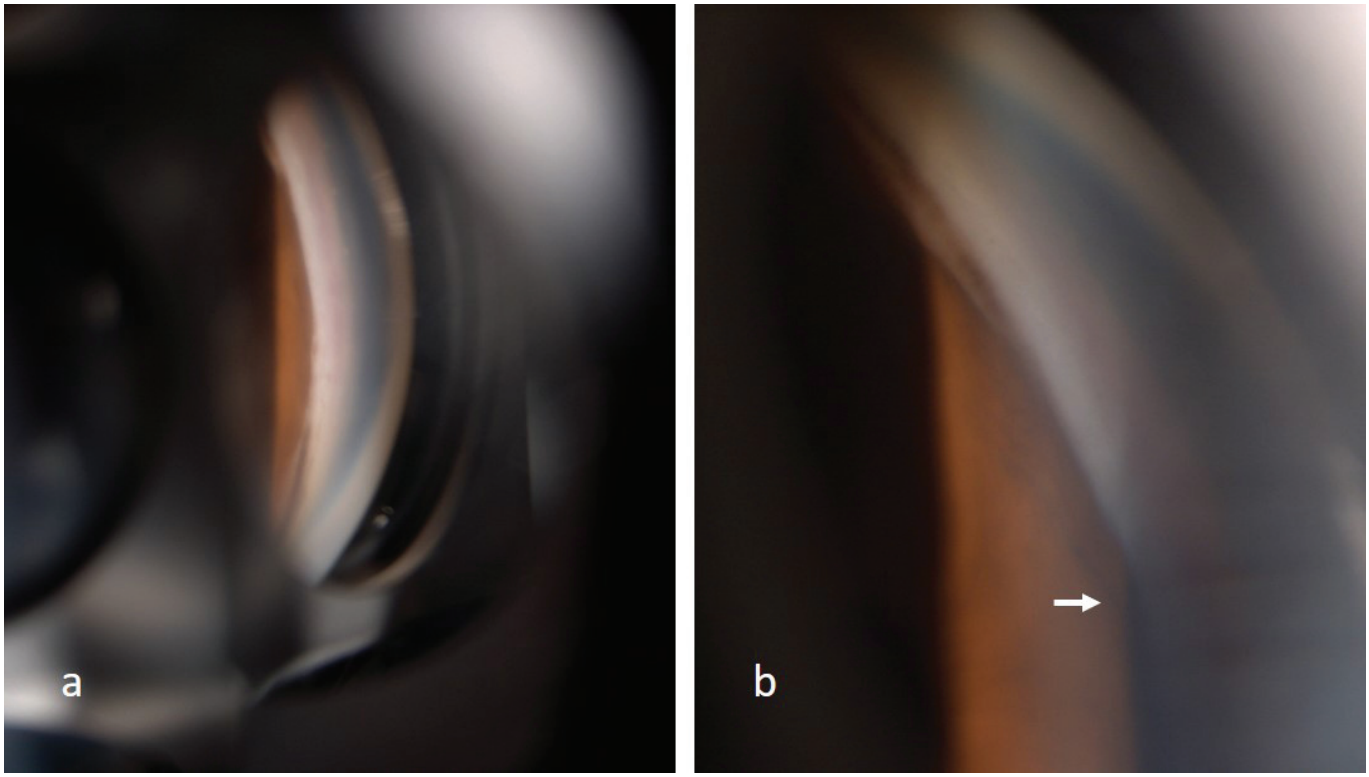

Figure 2: *Gonioscopy revealed trabecular hyper pigmentation (a) and focal angle closure at 9-10 o'clock (arrow) (b).*

that dislocated IOL haptic at 9 o'clock which pushed the root of the iris forward, resulting in iris elevation. No iris or ciliary body mass was observed by UBM (Figure 3).

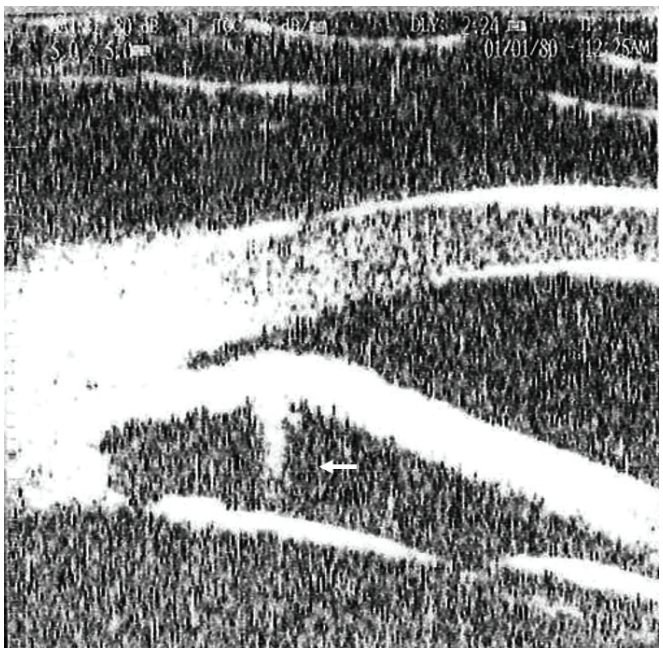

Figure 3: *On ultrasonic biomicroscopy, the inferotemporal haptic was noted to be outside of the capsular bag and touching the posterior iris surface. The hyper-reflectivity of haptic was observed at posterior chamber (arrow).*

DISCUSSION

Lesions arising from the iris or ciliary body should be suspected in cases with a localized iris elevation on biomicroscopic examination. Ultrasound biomicroscopy. The UBM is the preferred modality to determine the size, localization and as well as the extent of iris and ciliary body tumors. Assessment of acoustic internal characteristics of lesions using UBM decreases need for invasive diagnostic methods such as intraocular biopsy in some cases.[3]

The solid or cystic lesions at iris and ciliary body may lead to local alterations in iris architecture. The cysts of peripheral iris pigment epithelium (IPE) are generally located at iridociliary sulcus and have an asymptomatic course. In the previous literature, it has been reported that these cysts are more commonly located in the inferotemporal sector of the iris at 7 to 9 o'clock in the right eye.4 A highly reflective and smooth cyst wall without internal reflectivity or solid component are the main features that further helps to differentiate them from other iris tumors. The majority of solid lesions are nevi and they are usually associated with pigmentary changes. Ultrasonic biomicroscopy of an iris nevus shows minimally elevated iris stromal lesions with medium to high reflectivity. When an iris nevus is located at the peripheral iris, there is an anterior convex bowing pattern on UBM. Conversely, malignant melanoma of iris or ciliary body can be clinically distinguished from benign

lesions by brownish-black coloration and accompanying episcleral sentinel vessels. The melanoma of ciliary body appears as a solid lesion with low-to-medium internal reflectivity on UBM. In the advanced stages of ciliary body melanoma, cavitation, invasion of iris root by melanoma cells and extraocular spread can be observed.[5]

In addition to those tumoral pathologies lens capsule, cortex fragments, Soemmering ring, Elschnig pearls and IOL dislocation should also be considered in the differential diagnosis of the localized iris elevation.[6] The optic and haptic of IOL with high reflectivity can be observed in pseudophacic eyes. In our patient, the diagnosis was confirmed by the characteristic appearance of haptics on UBM and absence other of iris and ciliary body pathologies. Displacement of both haptics from capsule can be attributed to many factors. Firstly, one of haptics could not be implanted in the capsular bag as planned during the surgery. In general, superior haptic is more commonly failed to be placed within the bag, compared to inferior haptic, and thus could be implanted to the sulcus inadvertently.[7]

The chafing of intraocular haptics to uveal structures can lead to many disorders such as focal iris atrophy, pigment dispersion, elevated intraocular pressure, micro-hyphema, and uveitis-glaucoma-hyphema syndrome.[8, 9] Consistent with the literature, our patient had trabecular pigmentation. In his examination, no glaucomatous injury was observed at optic discs. Thus, IOP elevation due to lens dislocation was not observed in the patient. In addition, the resulting window defects in the iris are seen in up to 15% of sulcus-fixated IOLs, of which 91% occur in blue irides.[9] No iris atrophy was observed in our case. This can be attributed to the iris thickness, its brown color or diminished intraoperative manipulation of iris.

In conclusion, patients undergoing cataract surgery should be followed for the lens dislocation and related complications. The dislocation of IOL haptics might mimic cysts of peripheral IPE and ciliary body. UBM is a noninvazive, rapid and high resolution imaging modality that is used for the differential diagnosis of lesions located posterior to the iris and ciliary body and leading to localized iris elevation.

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