Short communication

Plateau iris secondary to iridociliary cysts

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A B S T R A C T

Case report: We present a case of plateau iris and glaucoma due to multiple unilateral
iridociliary cysts. The patient was treated with iridotomy Nd:YAG laser and 360° irido-
plasty, without achieving pressure control. Phacoemulsification improved the hypertension.
Dynamic gonioscopy and OCT of the anterior chamber was also performed before and after
treatment.

Discussion: Iridociliary cysts are a benign condition that can cause iris plateau config-
uration, and can produce a difficult to treat ocular hypertension. Cystotomy, peripheral
iridoplasty, and other treatments have been proposed.

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Iris en meseta secundario a quistes retroiridianos

R E S U M E N

Caso clínico: Se presenta un caso de iris meseta con glaucoma por quistes iridociliares múl-
tiples unilaterales. Fue tratado con iridotomía Nd:YAG e iridoplastia 360° sin conseguir el
control tensional. Finalmente se realizó una facoemulsificación que mejoró la hipertensión.
Se hicieron controles gonioscópicos y mediante OCT de segmento anterior.

Discusión: Los quistes iridociliares son una enfermedad benigna que modifica el perfil del iris,
pudiendo dar un aspecto de iris meseta. Esta configuración puede originar una hipertensión
ocular de difícil tratamiento. Se han propuesto como tratamiento la iridocistotomía y la
iridoplastia periférica, entre otros.

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Introduction

Iris tumors are relatively infrequent, with very few cases being reported in the literature. There is a broad range of iris tumors, from nevus or melanoma to juvenile xanthogranuloma or metastasis. Iris tumors were first described in 1958 by Duke and Dunn, followed by Ashton in 1963, Heath in 1964 and finally the largest series comprising 3690 patients was published in 2012 by Shields et al.1

Iris cysts can be classified as primary or secondary. Primary cysts can arise out of the iris pigment epithelium (pupil, middle area, peripheral or free) or from the stroma (congenital or acquired). Only 10% of iris cysts can involve over 180° of the surface, in which case angle closure glaucoma could arise.2 Iris tumors can be classified as cystic or solid, easily differentiated in slit lamp examination, although ultrasound biomicroscopy (UBM)3 or anterior segment optic coherence tomography (AS-OCT) could be required for confirmation. Overall, 21% of iris tumors are cystic.3,4 If the cyst causes secondary glaucoma due to angle closure, treatment could be difficult.

Case report

Female, 63, without relevant pathological or ophthalmological history, with uncontrolled chronic glaucoma diagnosed 2 years earlier, in maximum treatment with latanoprost 50 μg and timolol 5 mg, one drop every 24 h, 0.2% brimonidine and 1% brinzolamide, one drop every 12 h. The initial examination revealed best corrected visual acuity (BCVA) of 0.6 in the right eye (RE) and 0.8 in the left eye (LE); biomicroscope revealed a narrow anterior chamber in the RE (Van Herick grade I) and a broad AC in the LE (Van Herick grade III). Barraquer cataract classification N2 in the RE and N1 in the LE. Goldmann applanation tonometry produced intraocular pressure (IOP) reading of 26 and 18 mmHg, RE and LE, respectively. Goldmann lens gonioscopy showed grade angle 0–1 (Shaffer) in RE and grade 3 in LE. AS-OCT (Visante TM OCT [ZeissMeditec, Germany]) was performed, observing an image compatible with unilateral glaucoma due to plateau iris, secondary to multiple retro-iridial cysts (Fig. 1). Sequential treatment was carried out with peripheral iridotomy applying Nd:YAG laser and iridoplasty without producing changes in the iris morphology or pressure values which remained at 26 and 24 mmHg, respectively. Finally, phacoemulsification was performed which maintained the open angle, producing an IOP of 18 mmHg despite persistence of the plateau iris configuration (Fig. 2).

Discussion

Nevus, melanoma and pigment epithelium cysts are the most common iris tumors.1 The series published by Shields et al. in 20121 reported that out of all iridian cysts (21%), those related with iris pigment epithelium account for 86%, with 11% for stromal cysts and 2% for epithelial growth cysts. Iris pigment epithelium primary cysts can be single or multiple. Thomas proposed that the presence of these cysts in the root of the iris and ciliary body could produce plateau iris

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Fig. 1 – Baseline examination. Plateau iris due to iridociliary cysts with iridocorneal contact. (A) Narrow anterior chamber. (B) Gonioscopy does not display angular structures. (C) Van Herick grade I. (D, E) Retro-iridial cysts in AS-OCT.
with subsequent angle closure. According to Marigo et al., most frequently a single cyst is found and multiple cysts can appear only in one third of patients, in which case the probability of angle closure increases. Size increases involves the displacement of the structures adjacent to the cysts. Accordingly, when cysts involve an area exceeding 180° of the iris, as occurs in 10% of patients, glaucoma due to angle closure could develop.

AS-OCT is a noninvasive technique for studying the structures of the scleral–corneal angle, with high spatial resolution at this anatomical level. AS-OCT enables a quick assessment of angle occlusion grade and iris morphology as it quickly produces images in any meridian and enables a view of the iris root in occluded angular cases. In turn, due to its resolution and penetration, UBM is an adequate method for exploring the majority of anterior segment structures.

The management of the iridociliary cysts is controversial. Different approaches have been proposed in the literature such as sector iridectomy, cyst puncture, argon laser photoagulation and other more recent approaches such as cystotomy with Nd:YAG laser and iridoplasty. In the presence of multiple iridociliary cysts, with secondary plateau iris, treatment requires separating the iris base from the trabeculum in order to facilitate aqueous humor exit. If this cannot be achieved with laser treatment, lens surgery is an alternative as it performs as an effective technique that diminishes iris convexity.

**Conflict of interest**

No conflict of interests was declared by the authors.

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