Short communication

Fine-needle aspiration in an extremely late post-traumatic iris cyst

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ABSTRACT

Clinical case: A 45-year-old woman with unknown ophthalmology history complained of pain, redness and visual acuity (VA) loss in her left eye for the last three weeks. A serous iris cyst with an overlying peripheral corneal leukoma was located in the iris stroma using ultrasonic biomicroscopy. It was assumed that it was secondary to a penetrating trauma from her childhood. The cyst healed and VA improved after fine-needle aspiration and partial posterior synechiolysis.

Discussion: Iris inclusion cysts may appear many years after penetrating trauma or surgery. Fine-needle aspiration is a good choice for its diagnosis and treatment.

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Punción-aspiración con aguja fina en quiste iridiano postraumático de aparición muy tardía

RESUMEN

Caso clínico: Una mujer de 45 años sin antecedentes oftalmológicos conocidos consultó por ojo izquierdo rojo y doloroso con disminución de la agudeza visual (AV) de 3 semanas de evolución. Se localizó un quiste iridiano estromal seroso adyacente a leucoma corneal mediante biomicroscopía ultrasonica. Se orientó como secundario a traumatismo penetrante en la infancia. Tras punción-aspiración con aguja fina (PAAF) y sinequiolisis posterior parcial se resolvió el quiste y mejoró la AV.

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Case report

A 45-year-old woman who did not recall ophthalmological history visited for the first time our hospital due to a red left eye (LE), with pain and diminished visual acuity (VA) with onset 3 weeks earlier. Right eye (RE) uncorrected vision was of 1.2 and LE was of 0.15, and 0.4 with pinhole. LE exhibited peripheral corneal leukemia (at 5 o’clock) and a large iris tumor in the inferotemporal quadrant which affected the visual axis from 3 to 7 o’clock and made contact with the corneal endothelium producing atrophy and iris depigmentation (Fig. 1). Gonioscopy evidenced open angle excepting in the affected quadrant. Intraocular pressure (IOP) was of 11 mmHg in the RE and 9 mmHg in the LE.

Ultrasound biomicroscopy (UBM, Quantel Medical, Clermont-Ferrand, France) revealed a large serous cyst in the iris stroma which posteriorly displaced the lens. The adjacent angle could be occluded with ease (Fig. 2A). Optic coherence tomography (OCT, Cirrus, Carl Zeiss Meditec AG, Jena, Germany) revealed iridoendothelial contact and a full thickness leukoma (Fig. 2B). Central pachymetry was of 511 µm (RE, 477 µm), and inferior, 575 µm. Even though topography exhibited regular corneal astigmatism (K1: 45.0 and 101°; K2: 43.0 and 11°), the autokeratorefractometer gave the following refraction: RE, −0.50 −0.50 175°; LE, +4.25 −6.25 35°. The central and inferior endothelial cell count (Fig. 2C and D) (Mirror Microscope, SP-2000P, Topcon, Japan), the visual fields, macula and papillary cup were normal. The lens section that could be assessed was transparent (Fig. 1).

The diagnostic was serous stromal iris cyst. Considering the proximity of a full thickness corneal scar (Figs. 1 and 2B) and the epidemiology,1,2 it was attributed to past penetrating traumatism. However the patient did not recall any ocular traumatism or had any information about her first years of life. For this reason, said traumatism was attributed to the patients early childhood.

One-week later a puncture-aspiration was carried out with a fine needle (PAAF) with partial posterior synechiolysis by means of viscoelastic. Cytology revealed proteinaceous

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**Fig. 1** – Biomicroscopy at diagnostic. Upper image, large inferior temporal iris cyst which makes contact with the endothelial surface of the cornea. Lower image, incomplete pharmacological midriasis and transparent lens in assessed section. Arrow shows full thickness corneal leukemia.

**Fig. 2** – (A) Ultrasound biomicroscopy (UBM). (B) Optic coherence tomography (OCT). Pachymetry and central (C) and inferior (D) mirror microscopy.
translucent material without cellularity. Four months later the patient had a phacoemulsification with intraocular lens implant after developing phakosclerosis subsequent to surgery, attributable to the surgery itself or to the cyst. In the same operation, posterior synechiolysis was completed.

One-year after diagnostic, the cyst had resolved leaving slight dyscoria as a sequel and a anterior synechiae from 5 to 7 o’clock (Fig. 3). VA had improved up to 1.0 (+0.75 −1.25 178°).

Discussion

Iris cysts can be primary or secondary. A review carried out by an ocular oncology center indicated that 21% of iris tumors were cystic. Of these, 11% were stromal, with acquired tumors being more frequent in the age group of the present case report. The most frequent etiologic of acquired stromal cysts is the implantation of corneal or conjunctival epithelium in the iris after penetrating traumatism or surgery. Iris vascularization enhances the proliferation of epithelial cells producing pearly, serous cysts or anterior chamber epithelization which grow progressively and can interfere with the visual axis, produce iritis, glaucoma and/or corneal decompensation. In the present patient, IOP did not increase due to open angle of 270° (Fig. 1) and to the incomplete aposition of the cyst in the angle with persistence of outflow (Fig. 2A).

Cysts have been diagnosed up to 20 years after traumatism/surgery. In the present case, it is estimated that from the traumatism up to diagnostic at least 35 years elapsed. Stromal cysts that do not involve the pigment epithelium exhibit lower relapse rates.

The diagnostic techniques of choice are biomicroscopy and gonioscopy. The authors consider UBM crucial for differential diagnostic with other processes comprising new formations of the angle and ciliary body as well as for surgery planning. In addition, it evidences the relationship of the cyst with the cornea, the ciliary body and the angle, as well as the possibility of intermittent angle closure. Anterior segment OCT reveals the irido-corneal posterior chamber examination.

There is no consensus on the treatment of choice. On the one hand iridotomy with Nd:YAG argon laser is a noninvasive option but with a high recurrence rate, and release of the cystic content into the anterior chamber. On the other hand, complete surgical resection exhibits better results in the long-term but could significantly alter the anatomy. For this reason it is usually left to 2nd or 3rd choice. Due to the cyst dimensions of this case report, it was decided to perform PAAF. Even though it was not the case, PAAF can be associated to internal sclerosis of the cyst by means of absolute alcohol with safety.

In conclusion, iris cyst evaluations should include UBM in addition to conventional biomicroscopy and gonioscopy. PAAF is a valid therapeutic option for serious iris cysts secondary to traumatism. In addition, it enables the obtention of samples for anatomopathological analysis in a minimally invasive manner.

Conflict of interests

No conflict of interests was declared by the authors.

References