

Pigmented Cyst Free Floating in the Anterior Chamber

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Abstract

An interesting case of a pigmented cyst floating freely in the anterior chamber. A 40-year-old male patient presented with symptoms of a dark spot moving across his vision which was triggered by head movement. The patient had a history of ocular trauma many years previously. Gonioscopic examination revealed a pigmented cyst in the inferior angle. We discuss the causes of free floating iris cysts and the management options available. This cyst had no effect on his visual acuity, and he will be followed up yearly unless symptoms arise.

Keywords: Iris Cyst, Pigment Cyst, Free floating Cyst, Anterior Chamber Cyst, Gonioscopy

Abbreviation

IPE: Iris Pigment Epithelium

Introduction

We describe a pigmented, free-floating iris cyst occurring in a 40-year-old male patient. The patient had first noticed a mobile dark spot moving around inside his right eye that would only appear at certain times. Gonioscopic examination of the anterior chamber angle revealed a pigmented cyst in the inferior angle. Our case highlights the importance of this examination and discusses the aetiologies and management of this rare finding.

Case Presentation

A 40-year-old man presented to the eye clinic complaining of a mobile spot moving across his right iris, which would appear as he moved his head, this could be induced by leaning his head forwards then looking straight ahead. This manoeuvre would make the dark dot transiently appear before floating out of view again.

18 years prior to this presentation, the patient had sustained a traumatic facial injury resulting in a right orbital floor fracture and traumatic mydriasis.

On examination, visual acuity was 6/5 in each eye, intraocular pressure was 16mmHg right eye and 14 mmHg left eye. Fundal examination revealed a pre-existing macular scar, peripapillary atrophy in his right eye and a normal fundus examination in his left eye. Gonioscopy of the right eye revealed a pigmented iris cyst that had settled in the inferior angle (Figure 1). Gonioscopy of the left eye was unremarkable.

Figure 1: Gonioscopy contact lens with mirror superiorly showing iris cyst in inferior angle of the right eye (taken on a Haag-Streit slit lamp bio-microscope with iPhone 12).

Discussion

Iris cysts are classified as either primary or secondary. Primary cysts arise from either the iris stroma or the iris pigment epithelium (IPE). Rarely, free floating cysts can form as a result of a dislodged pigment epithelial cyst passing from the posterior chamber through the pupil and into the anterior chamber [1]. These account for <1% of primary IPE cysts [2].

Secondary cysts are categorised depending on their underlying cause, such as implantation cysts, tumour or drug induced, uveitic or as a result of an underlying systemic disorder [3].

The iris consists of two layers: the stroma situated anteriorly, and the pigmented epithelium posteriorly. Primary cysts form as a result of the embryogenesis of these structures, with stromal cysts due to the entrapment of surface ectodermal cells within the stroma, which grow in the iris tissue. Epithelial cysts arise when the two layers of epithelial cells separate, leading to a primary cyst lined by epithelium [3]. Free-floating pigmented cysts of iris origin have been described in the vitreous [4] and in the present case the cyst had become mobile in the anterior chamber.

Differential diagnoses of a static pigmented iris cyst include an iris or ciliary body melanoma, IPE adenomas and medulloepitheliomas [5]. Ultrasound biomicroscopy is the preferred imaging modality to distinguish between these conditions, which may require biopsy [6].

Complications associated with iris cysts are rare, however angle closure, plateau iris syndrome, secondary pigment dispersion syndrome and have all been reported [7].

Treatment of IPE cysts is rarely needed and is guided by symptom severity. In our reported case, the patients' vision remains excellent, and conservative management with observation is appropriate. Indications for intervention of IPE's include significant visual disturbances, documented increase in size of the cyst, recurrent iridocyclitis or secondary glaucoma [5]. Treatment options involve either surgical excision, laser treatment, fine needle aspiration or cryotherapy [5].

Conclusion

Gonioscopy is an important examination technique for the diagnosis and monitoring of patients presenting with symptoms of an iris cyst. Causes of iris cysts are split into primary or secondary

depending on the known etiology. The majority of cases require no intervention, however if a secondary cause is suspected, patients should undergo further evaluation. Patients need to be monitored regularly due to the risk of developing glaucoma.

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