Pigmented free-floating retrolental space cyst

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We report an unusual case of a free-floating pigmented retrolental cyst, which was diagnosed after examination by slitlamp, B-scan ultrasonography, and ultrasound biomicroscopy. Pigmented cysts, which may arise from the ciliary body epithelium, are embryologically and morphologically different from clear cysts.

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Free-floating cysts can be found in the anterior chamber, the retrolental space, and the vitreous body.[1] They are seen in the anterior chamber and vitreous body more often than in the retrolental space.[2] Cysts in the retrolental space can be pigmented and nonpigmented, with different theories of origin. We report an unusual case of a unilateral pigmented retrolental cyst and describe the ultrasound biomicroscopy (UBM) findings. To our knowledge, only 1 case of a pigmented retrolental cyst has been reported.[2]

CASE REPORT

A 4-year-old child was referred to our hospital with complaints of eyestrain. The best corrected visual acuity in both eyes was 6/6 with $+0.5 -1.5 \times 180$. There was no history of trauma or ocular surgery. The anterior segment was normal, with a brisk pupil and a clear lens. Fundus evaluation in both eyes was normal. Slitlamp biomicroscopy in the left eye revealed a well-defined cyst behind the lens with pigment speckling on the surface (Figure 1). It was free floating, and there was no sign of surrounding inflammation. Water bath B-scan (OTI–Scan 1000–B/A/3D, OTI Ophthalmic Technologies, Inc.) and UBM (OTI HF 35–50) (Figure 2) were performed and showed a free-floating cyst with hyper-reflective edges but no internal reflectivity. There was no evidence of a ciliary body tumor or any other cyst of ciliary body. The presence of cysticercus cysts was also ruled out as no sign of scolex was detected on UBM.

DISCUSSION

Sugar and Blau[2] divided free-floating cysts in the ocular media into 3 groups: Those in the anterior chamber, those between the lens and the hyaloid membrane, and those within the vitreous space. Cysts lying between the lens and the anterior hyaloid are extremely rare and may be difficult to distinguish from those in the anterior vitreous lying close to the lens. In their report of a pigmented retrolental cyst, Sugar et al.[3] commented on the origin of such cysts.

We believe the cysts should be further divided into clear cysts and pigmented retrolental cysts. This division provides insight into the cysts' origin, which has been debated. Sugar et al.[3] note that the cysts could be congenital, derived from epithelial elements or remnants of the tunica vasculosa lentis, or derived from the epithelium of the ciliary body. Clear cysts have been associated with posterior lenticular opacities; because they have a short attachment extending posteriorly onto the vitreous, they are assumed to derive from cystic dilation of Cloquet's canal or to be cystic remnants of the hyaloid arterial system. Pigmented retrolental cysts could be derived from the ciliary body epithelium and may be similar to floating cysts in the anterior chamber, which are derived from medulloepithelioma of the ciliary body.

Our case did not have a ciliary body mass, as documented by indirect ophthalmoscopy, B scan, and UBM. Although the cyst is a benign condition (only an incidental finding), B-scan ultrasonography and ultrasonography and/or UBM should be done to rule out a ciliary body mass. The treatment was debated. Photocystotomy of vitreous cysts[3] has been described, but since the vision was good and the cyst was

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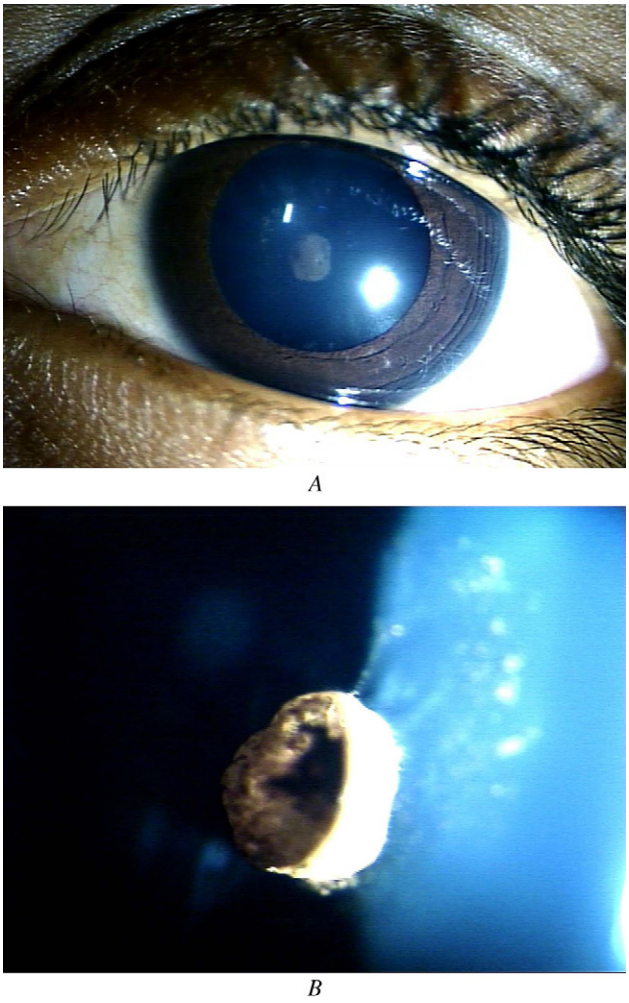

Figure 1. *A*: Gross picture of the left eye shows a central pigmented structure posterior to the lens. *B*: Pigmented retrolental cyst lying between the lens and the anterior hyaloid membrane.

close to the lens, the chance of iatrogenic complications such as cataract were high. Because the cysts were pigmented, there was no double-lens effect and hence no visual disturbance. The cysts do not require intervention as surgical removal or laser lysis will cause cataract because of the close proximity to the lens. If the patient is asymptomatic, we recommend the cyst (although in the visual axis) be left alone.

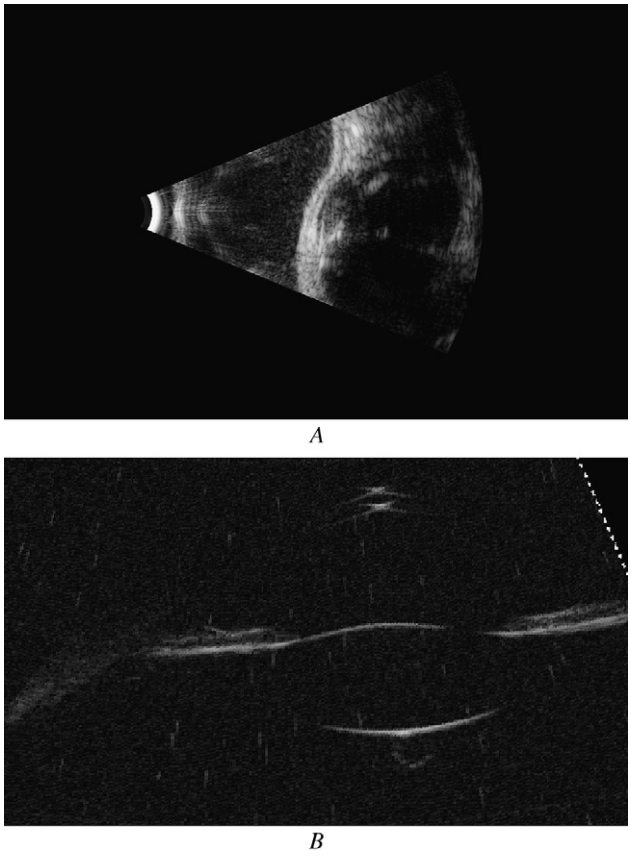

Figure 2. *A*: B-scan ultrasound shows the retrolental cyst. *B*: Ultrasound biomicroscopy shows a mobile floating cyst with hyperreflective edges and no internal reflectivity.

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