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Case report

Pigmented free floating vitreous cyst in a 10 years old child

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Abstract

Abstract: Pigmented free-floating vitreous cyst in retrolental space is rare. It can represent its congenital origin after spontaneous detachment from the ciliary body epithelium or after trivial injury. We report a case of pigmented, free floating non-infective vitreous cyst in a 10 year old child who presented with compliant of transient blurring of vision three days after she joined swimming class. A thorough eye examination with ultrasound B scan and ultrasound biomicroscopy was done to rule out any other associated conditions.

Key word: Vitreous cyst, floaters, trivial trauma, congenital cyst

Introduction

Intraocular cyst is an uncommon ocular spectacle. They are usually detected during routine ophthalmological examination. Patients most often remain asymptomatic or may complain of floaters or transient blurring. We report here an unusual case of dislodged pigmented free-floating pigmented cyst in vitreous.

Case Report

A 10-year old girl presented to our out- patient department with complaints of floaters in the right eye since 1 month. She was diagnosed as a case of ocular cysticercosis and started on oral steroids elsewhere. There were no associated symptoms like redness or pain. She had no previous history of trauma or history of contact with pets or any birth complications. However her ocular complaints started 3 days after she joined swimming classes. Her best-corrected visual acuity in the right eye was 6/9, N6 and 6/6, N6 in the left eye. External eye examination was unremarkable. Anterior segment was relatively quiet. A spherical, translucent cyst, about 4mm in diameter with pigment dusting along its wall was seen floating in the anterior vitreous (Figure 1). A differential diagnosis of a parasitic cyst or a detached ciliary body/ iris cyst was made.

Blood investigation showed normal erythrocyte sedimentation rate and differential count. Ultrasound B scan and Ultrasound biomicroscopy (UBM) were performed. Ultrasound B scan confirmed the size, the cyst's inferotemporal location and absence of any hyperdense echo within the cyst, suggestive of a scolex (Figure 2). CT brain and orbit did not

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detect any parasitic cyst either. However, UBM revealed the presence of multiple small ciliary body cysts and the one with largest dimension is shown in Figure 3.

Due to the limited visual disturbance, innocuous nature of the cyst and young age of the patient, a conservative treatment with periodic follow up was recommended and the cyst was stable in 1 year follow-up visit.

Figures

Figure 1: Slit-lamp photograph of the right eye showing the floating cyst with pigmented wall

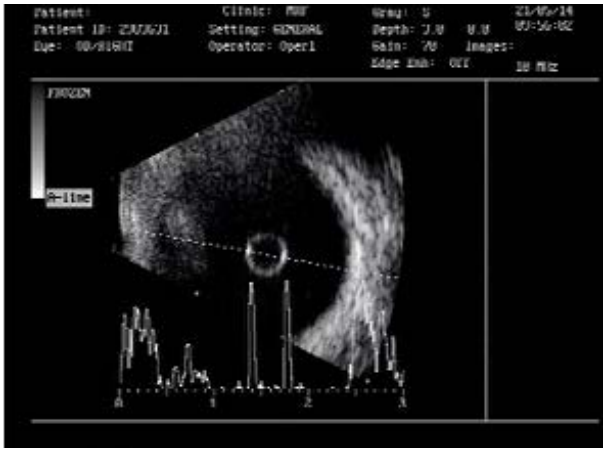

Figure 2: USG Scan showing cystic mass lesion noted in the mid vitreous with high surface reflectivity and low internal reflectivity.

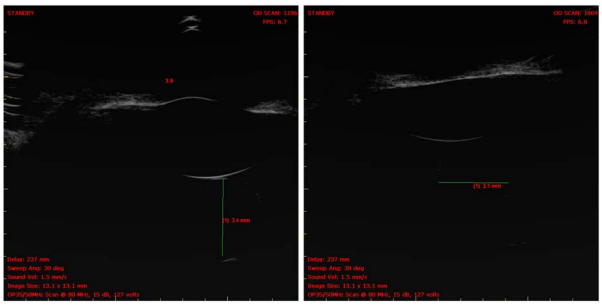

Figure 3: UBM showing the vertical and horizontal diameter of the cyst behind the lens

Discussion

Vitreous cysts are a sufficiently uncommon ocular disorder to be considered an "ocular curiosity" (Bruè et al., 2012). Free-floating vitreous cysts have been classified mainly into congenital and acquired varieties (Cruciani et al., 1999). Congenital cysts originate from remnants of the hyaloid artery or glial remnants of Bergmeister's papilla. These cysts are usually located anterior to the optic disc; some get dislodged into the anterior chamber or angle (Orellana et al., 1985).

Acquired vitreous cysts have been described in patients with uveitis (Cruciani et al., 1999), toxoplasmosis (Cruciani et al., 1999), parasitic vitritis (Cruciani et al., 1999), and nematode endophthalmitis(Orellana et al., 1985), retinal detachment, retinoschisis, and retinitis pigmentosa (Cruciani et al., 1999), cystic growth at a site of a coloboma that enters the vitreous cavity (Orellana et al., 1985). Nork and Millecchia suggest that the cyst is a choristoma of the primary hyaloid system (Nork and Millecchia, 1998). Orellana et al studied aspirated pigmented cysts by light and electron microscope and observed that the pigmented layer of cuboidal cells contain melanosomes, suggesting that the cyst takes its origin from the pigment epithelium of iris, ciliary body and retina (Orellana et al., 1985).

Intraocular cysts have a plethora of presentation. Both children of 6–8 years old (Bianchi et al., 1997) and adults have been reported to

present with intraocular cysts, although it is seen mostly between 10 to 20 years of age. They can be seen in the anterior chamber of the eye, in the retrolental space or in the vitreous cavity. Cysts of varying shape and size between 0.15mm to 12mm have been reported. Cysts can have a yellow-gray (non- pigmented) or brown (pigmented) appearance (Cruciani et al., 1999). Morphologically, congenital cysts are almost always translucent. On the other hand, acquired cysts usually appear opaque or only slightly translucent. Parasitic cysts usually have thick walls and are creamy-white in color (Bayraktar et al., 2003).

Besides clinical examination, serological tests for intraocular infection, ultrasound or OCT detection of scolex inside the cyst may help to make the correct diagnosis (Sinha et al., 2012). UBM is used to look for cysts arising from iris/ ciliary body structures and CT brain & orbit and ultrasound abdomen to rule out extraocular cysts in case of parasitic etiology.

In our patient, the presentation more or less complies with that given in literature. Age at presentation was 10 years. Besides, the morphology was that of a slightly translucent and pigmented cyst freely floating in the anterior vitreous in a relatively quiet eye. We feel in addition to the above classification, a cyst floating in vitreous cavity should be classified in to clear, pigmented and translucent. A differential diagnosis for acquired cyst, parasitic/ detached iris or ciliary body cyst was made initially. However the pigmented nature, absence of significant inflammation optic-nerve perivasculitis taken in conjunction with a normal blood test excluded nematode infection. Further the presence of multiple ciliary body cysts in UBM favoured more towards a diagnosis of a detached ciliary body cyst. The appearance of symptoms few days after the child joined swimming classes could be purely coincidental or the trivial trauma or force exerted during swimming could have caused dislodgement of the cyst from the ciliary body.

These intraocular cysts are usually asymptomatic unless they involve the visual axis, when they are associated with blurring of vision (Nork and Millecchia, 1998) or when they are mobile they cause floaters. Most importantly they need to be differentiated from other potentially serious conditions like malignant melanoma (Tuncer and Bayramoglu, 2011). Management is most often conservative except in symptomatic cysts where Argon laser photocystotomy, neodymium: YAG laser treatment and parsplana vitrectomy with surgical removal of the cyst are possible treatment options (Nork and Millecchia, 1998) (Ruby and Jampol, 1990, Jones, 1998). Prognosis is usually excellent as most of them do not increase in size.

Vitreous cysts are rare ocular findings and treatment remains optional, nevertheless a prompt and detailed clinical examination is required to rule out other infectious and malignant conditions.

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