CASE REPORT

Optical coherence tomography in a patient with congenital vitreous cyst

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Accepted 6 June 2014

SUMMARY

A case of congenital vitreous cyst is presented. An optical coherence tomography scan has been performed, which has shown that the cyst is free floating and is multilobular. Its content was hyper-reflective.

BACKGROUND

Congenital vitreous cysts are very rare findings. To our knowledge, there are only two other published case reports of optical coherence tomography (OCT) in this condition. The OCT scan showed that the content of the cyst is not just fluid, but has hyper-reflective material as well. The scan showed that the cyst is multilobular which was not obvious on biomicroscopy. OCT proved to be a useful test in this condition.

CASE PRESENTATION

A 55-year-old female patient presented to our clinic with a floater in the right eye. She noted the floater when she was 18 years of age, but in recent time it was more pronounced. She did not have any trauma to her eyes in the past. Visual acuity was 6/6 in both eyes. Anterior segment examination was normal. In the right eye free-floating spherical vitreous cyst (figures 1 and 2) around 5 mm in diameter was noted. Fundus was otherwise normal. B-scan and OCT scan (Cirrus HD-OCT, Carl Zeiss Meditec) were performed. The patient was diagnosed with congenital non-pigmented mobile vitreous cyst. No treatment was required as the symptoms were mild.

DISCUSSION

Vitreous cysts are extremely rare.¹ The first one was described by Tansley in 1899.² Vitreous cysts can be congenital and acquired, pigmented or non-pigmented, single or multiple, spherical, oval or lobulated.³ They are described in patients from 5 to 68 years of age, but most often between 10 and 20 years.³ Their dimensions vary between 0.15 and 12 mm.³

Histopathological examinations show that vitreous cysts contain immature melanosomes and pre-melanosomes.¹ Pigment granules are no further formed after birth, which makes the primary hyaloid system the most likely origin of congenital vitreous cysts.¹

In most of the cases vitreous cysts do not need treatment as the symptoms are usually not affecting the patients significantly. Laser photocystotomy or

Figure 1 Right eye vitreous cyst.

vitrectomy can be performed in symptomatic patients.¹

In our patient the long history, clinical picture and the lack of any signs of inflammation in the eye made the diagnosis of congenital vitreous cyst most likely. The B-scan and clinical examination showed that the cyst was free floating. This was confirmed by the OCT scan (figures 3 and 4), which showed that the cyst was multilobular and the content was a hyper-reflective material. We speculate that these hyper-reflective spots correspond to premelanosomes. To our knowledge, there are only two published case reports of OCT investigation in a patient with vitreous cyst.^{4 5}

Our case shows that OCT can be useful in patients with vitreous cysts.

Figure 2 The same cyst 2 months later moved in a different position.

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To cite: Dragnev D, Shanmugalingam S. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-204474

Figure 3 Optical coherence tomography scan of the vitreous cyst.

Figure 4 Three-dimensional reconstruction of the optical coherence tomography scan.

Learning points

- ▶ Vitreous cysts can be pigmented or non-pigmented.
- ▶ Vitreous cysts can be congenital or acquired.
- ▶ Congenital vitreous cyst most likely originate from the primary hyaloid system.
- ▶ Optical coherence tomography can be useful in patients with vitreous cysts.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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