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## Sir

# Relapsed T-cell acute lymphoblastic leukaemia in the vitreous of an adult: a case report

Adequate vitreous sampling is essential to secure a timely diagnosis of a vitreous haematological malignancy, be it lymphoma or leukaemia. We report an adult with a vitreous relapse of T-cell acute lymphoblastic leukaemia, in which a positive vitreous biopsy altered the course of previously planned treatment.

#### Case report

A 20-year-old African male presented with night sweats and lymphadenopathy. Flow cytometry of a bone marrow aspirate revealed a diagnosis of T-cell acute lymphoblastic leukaemia (T-ALL—WHO classification) and he was treated with the UK ALL 2003 trial protocol.<sup>1</sup> Follow-up showed remission with high-risk minimal residual disease. Regular protocol lumbar punctures for intrathecal methotrexate showed no blasts at any time in the cerebrospinal fluid (CSF).

Towards the end of the reconsolidation phase of treatment, he complained of painless vision deterioration. Visual acuity was 6/60 in RE, 6/18 in LE, with fundoscopy showing bilateral partial vitreous detachment with accumulation of cells at the vitreous



Figure 1 For caption see next page.

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# **Figure 1** (a and b) Colour fundus photographs showing severely swollen optic discs with partial obscuration of the retinal vasculature. (c) Colour fundus photograph of the inferior mid-periphery showing dense cellular vitreous infiltrate. (d) Spectral domain OCT image through left optic nerve showing gross swelling of the optic nerve head and cellular infiltrate in the retro-hyaloid space and vitreous cortex. (e) Haematoxylin and Eosin stain (H&E) of the pars plana vitrectomy sample, showing numerous lymphoid blasts ( $\times$ 400). Inset figure (top right) is immunohistochemistry staining showing nuclear positivity of the blast cells with terminal deoxynucleotidyl transferase (TdT), confirming it to be a lymphoblastic leukaemia ( $\times$ 400). (f) Immunohistochemistry showing cytoplasmic positivity for the pan-T-cell marker CD3 ( $\times$ 400).

interface. Both optic discs were swollen with diffuse thickening of the adjacent neuro-retina (Figures 1a–c), confirmed by B-scan and OCT (Figure 1d). An MRI scan of head and orbits was unremarkable and a lumbar puncture showed no CSF blast cells. The appearances were consistent with leukaemic infiltration of the vitreous and retina, and the patient underwent a pars plana vitrectomy, with cytological assessment of the vitreous confirming vitreous involvement by T-ALL (Figures 1e and f). A repeat lumbar puncture then demonstrated an infiltrate of lymphoid blasts. He was treated with radiotherapy (24 Gy) to the orbits and an allogeneic stem cell transplant, with vision improvement to 6/12 in both eyes and CSF blast clearance.

## Comment

This is the first time T-ALL has been recorded in the vitreous of an adult eye and diagnosed by vitrectomy cytology. The only previous report of T-ALL was in a child presenting with bilateral bullous retinal detachment, diagnosed by subretinal fluid cytology.<sup>2</sup>

An adult case series of acute lymphoblastic leukaemia (B and T types) has shown a central nervous system relapse rate of 7% in those achieving remission with a median survival of only 6 months.<sup>3</sup>

The confirmation of relapsed leukaemia in this case dramatically altered the management and prognosis for this patient. Rather than proceeding to maintenance chemotherapy the patient was treated with further induction and consolidation chemotherapy, radiotherapy to the orbits, and ultimately allogeneic stem cell transplantation. Finally, it illustrates the importance of obtaining a proper pars plana vitrectomy specimen with sufficient cellular material permitting an accurate and timely diagnosis of vitreo-retinal haematological malignancy.<sup>4</sup>

# **Conflict of interest**

The authors declare no conflict of interest.

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#### Sir,

#### Spontaneous relocation of a trapped retrolenticular slow-release dexamethasone implant (Ozurdex) in a silicone oil-filled eye of a pseudophakic patient

We read with interest the recently published article by Wai Ch'ng *et al* entitled 'Anterior vitreous displacement of the intravitreal dexamethasone implant (Ozurdex)'<sup>1</sup> and wish to share our similar experience in a pseudophakic patient in whom the eye was filled with silicone oil.

# Case report

A pseudophakic, 53-year-old Caucasian female required a three-port pars plana vitrectomy with silicone oil tamponade for a recurrent retinal detachment complicated with proliferative vitreoretinopathy. She was a participant in a prospective randomised controlled clinical trial (EudraCT No: 2011-004498-96) and