CASE REPORT

Ocular Flutter Following Adenoviral Conjunctivitis in an Adult

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ABSTRACT

A 37-year-old female presented with ocular flutter and a transient rhombo-encephalitis following acute adenoviral kerato-conjunctivitis. Clinicians are made aware of the possibility of a transient encephalitic illness following adenoviral conjunctivitis.

KEYWORDS: adenovirus; conjunctivitis; encephalitis; keratitis; ocular flutter

CASE REPORT

A 37-year-old woman developed a watery, red right eye lasting for 1 week, followed by sub-acute onset of vertigo and nausea. During the third week she developed unsteady gait and a difficulty focusing on near objects.

Visual acuity and fields were normal. The right eye conjunctiva was white with a tarsal papillary reaction and diffusely scattered non-staining sub-epithelial corneal opacities. Extraocular movements showed frequent bursts of 4–8 conjugate horizontal back-to-back saccades lasting less than 1 second in total occurring both in the primary position and during smooth pursuit. The saccadic intrusions were manifest, but not exclusively, on near effort. Neurological examination was normal apart from slightly wide-based gait and impaired tandem gait, suggestive of mild cerebellar ataxia. Repeat examination 1 week later revealed significant improvement in her eye movements with very subtle saccadic intrusions (Video 1, brief low-amplitude back-to-back horizontal saccades lasting <1 s (see time = 6 s). Haematological, biochemical, inflammatory, and autoimmune profiles and brain magnetic

resonance imaging (MRI) revealed no abnormality. Lumbar puncture showed normal opening pressure, $7 \times 10^6 \text{ L}^{-1}$ lymphocytes of abnormal shape, negative cerebrospinal fluid (CSF) virology for varicella-zoster virus (VZV), herpes simplex virus (HSV), Epstein-Barr virus (EBV), enterovirus, and adenovirus polymerase chain reaction (PCR), protein of $0.4 \text{ g} \cdot \text{L}^{-1}$, and glucose of $3.0 \text{ mmol} \cdot \text{L}^{-1}$ compared to serum glucose $4.3 \text{ mmol} \cdot \text{L}^{-1}$. CSF electrophoresis revealed two unmatched monoclonal bands. Symptoms and signs resolved 3 weeks later and she has remained asymptomatic after 18 months of follow-up.

DISCUSSION

We describe a patient with a transient encephalitis developing 2 weeks after adenovirus conjunctivitis.

Although no adenovirus was isolated from the conjunctiva, serum, or CSF, the presence of sub-epithelial corneal infiltrates in the context of acute conjunctivitis is virtually pathognomonic of adenoviral epidemic kerato-conjunctivitis.

The transient encephalitis most likely localises to the pons and cerebellum, with vertigo, nausea, and motion sickness suggesting vestibular system involvement, ocular flutter suggesting paramedian pontine reticular formation or cerebellar involvement,¹ and ataxia suggesting vestibular and/or cerebellar involvement.

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Straussberg et al.² described three paediatric cases of transient encephalopathy in association with adenovirus conjunctivitis. Similar post-infectious syndromes with ataxia and ocular flutter have been described following enterovirus (which does not cause sub-epithelial opacities),³ cytomegalovirus (CMV),⁴ mumps,⁵ and human immunodeficiency virus (HIV)⁶ infections.

The abnormal CSF findings of two unmatched monoclonal bands, abnormal lymphocytes, and failure to demonstrate direct viral presence in the CSF raises the possibility of a post-infectious immune process mediating the transient encephalitic syndrome.

Clinicians should be made aware of the possibility of a transient encephalitic illness following adenoviral conjunctivitis.

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Note: To view 'Video 1' mentioned in this article, please access this article online at www.informahealthcare.com/oph and view 'Supplemental material'.

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