Sir,

Oral valganciclovir treatment of varicella zoster virus acute retinal necrosis

Eye (2004) **18,** 544–545. doi:10.1038/sj.eye.6700703

We describe a case of varicella zoster virus acute retinal necrosis (ARN) in an immunocompetent woman that was successfully treated with oral valganciclovir. We believe this to be the first reported case of the use of oral valganciclovir for ARN.

Case report

A 30-year-old healthy Caucasian woman was referred to our Uveitis Clinic with a 2-week history of increasing blurred vision and floaters in her left eye. She had recently recovered from varicella that she caught from her two children 2 weeks prior to her visual symptoms. She had no relevant past medical history. At the referral hospital 5 days earlier she was noted to have a left panuveitis and was treated with guttae dexamethasone 0.1% two hourly and guttae cyclopentolate 1% three times a day.

On examination her best-corrected visual acuities were 6/5 in the right eye and 6/36, improving to 6/12 with pinhole in the left eye. She was a low myope. There was no relative afferent pupillary defect. There were 3+ cells and 2+ flare in the left anterior chamber, and 3+ vitreous haze. Her left optic disc was swollen and there were two focal white patches of retinitis/retinal necrosis in the supero and infero-temporal peripheral retina, each patch being 3–4 disc diameters in size. The right eye was healthy. A provisional diagnosis of the acute retinal necrosis syndrome was made.

A left anterior chamber paracentesis was performed and varicella zoster virus DNA was detected in the aqueous using the polymerase chain reaction. As she was unable to stay in hospital for intravenous aciclovir therapy due to social reasons, she was commenced on a 3-week induction course of oral valganciclovir 900 mg twice daily. One week later her visual acuity had improved to 6/6 in the affected eye. The anterior uveitis had resolved and there was less vitreous haze. The focal areas of retinitis/retinal necrosis had reduced in size.

Two weeks later her visual acuity was 6/5 in the left eye. There was no active vitreous inflammation. The focal lesions had completely resolved leaving atrophic retina with associated pigmentary changes. She continued oral valganciclovir at the maintenance dose of 900 mg once daily for 2 more weeks and then switched to oral aciclovir 400 mg three times a day, which was continued for 3 months. Her full blood count and renal function remained normal during treatment.

Comment

The ARN syndrome is a necrotising retinopathy with potentially devastating visual consequences. Prompt diagnosis and treatment are necessary to limit retinal damage and preserve vision.[1] Intravenous aciclovir is usually given for 14 days, and in immunocompetent patients oral aciclovir for a further 3 months. Argon laser photocoagulation is often performed in two rows anterior to the edge of the necrosis.

Valganciclovir is a valyl ester prodrug of ganciclovir that is well absorbed after oral administration and rapidly metabolised to ganciclovir in intestinal tissues and the liver. In a randomised controlled clinical study, valganciclovir was shown to have an efficacy comparable to that of i.v. ganciclovir for induction and maintenance treatment of newly diagnosed AIDS-related CMV retinitis.[2] It has the potential to cause adverse effects similar to those known to be associated with ganciclovir, including neutropaenia, anaemia, and diarrhoea.[3] Also, it may be carcinogenic and/or mutagenic, and could cause fertility and pregnancy complications.

To our knowledge this is the first report of the use of oral valganciclovir to treat ARN. Although expensive it still offsets the cost of prolonged intravenous treatment that necessitates hospital admission and the associated costs. Long-term i.v. administration of medication also reduces quality of life and can result in considerable catheter-related morbidity.

Although not yet licensed for varicella zoster infection, oral valganciclovir provides an alternative treatment option in herpesviral retinitis. Nevertheless, testing for toxicity should be part of routine management, and advice on adequate contraceptive measures will need to be given to females of reproductive potential.

References

1 Holland GN. Standard diagnostic criteria for the acute retinal necrosis syndrome. *Am J Ophthalmol* 1994; **117**: 663–667.
2 Martin DF, Sierra-Madero J, Walmsley S, Wolitz RA, Macey K, Georgiou P. A controlled trial of valganciclovir as induction therapy for cytomegalovirus retinitis. *N Engl J Med* 2002; **346**: 1119–1126.
3 Lalezari J, Lindley J, Walmsley S, Kuppermann B, Fisher M, Friedberg D. A safety study of oral valganciclovir maintenance treatment of cytomegalovirus retinitis. *J Acquir Immune Defic Syndr* 2002; **30**: 392–400.

V Savant, T Saeed, A Denniston and PI Murray

Academic Unit of Ophthalmology
Division of Immunity and Infection
Birmingham and Midland Eye Centre

Sandwell and West Birmingham Hospitals NHS Trust, City Hospital, Dudley Road
Birmingham B18 7QU, UK

Correspondence: Professor PI Murray
Tel: +44 121 507 6851
Fax: +44 121 507 6853
E-mail: P.I.Murray@bham.ac.uk

Sir,

Vertical sensory nystagmus associated with intraocular haemorrhages in the shaken baby syndrome

Eye (2004) **18,** 545–546. doi:10.1038/sj.eye.6700704

The shaken baby syndrome is a serious and clearly definable form of child abuse caused by the violent shaking of young children with or without impact injuries.[1] These children typically have intracranial and intraocular haemorrhages.[2] Survivors may demonstrate a variety of neurological, intellectual, and ocular motility sequelae.[2] We present a case of vertical nystagmus following a shaking injury in an infant.

Case report

An 8-week-old male infant was referred to The Hospital for Sick Children for management of uncontrolled seizures following diffuse brain injury resulting from a shaking injury. The diagnosis of shaken baby syndrome was made at the referring hospital on the basis of the clinical findings: subdural intracranial haemorrhage and retinal haemorrhages occurring in a characteristic pattern[2] in the absence of any other identifiable medical cause. A second ophthalmologic consult was requested as the child had been noticed to have abnormal eye movements.

On examination, there was a blink reflex to bright light, but the child was unable to fix and follow, and there was no optokinetic response. The pupillary light reactions were sluggish bilaterally; there was no relative afferent pupillary defect. There was a constant, large-amplitude vertical pendular nystagmus of moderate frequency. The anterior segment examination was normal. Dilated fundus examination revealed vitreous and posterior pole haemorrhages in the right eye, involving the macula. In the left eye, there was a dense vitreous haemorrhage with no view of the retina. B-scan ultrasound demonstrated no retinal detachment in either eye. Magnetic resonance imaging (MRI) of the brain revealed bilateral subdural haemorrhages and diffuse infarction of cerebral cortex, with extensive loss of cortex consistent with a profound ischaemic event, but relative preservation of the brainstem.

At follow-up examinations 4 and 7 months later, the vertical nystagmus had resolved, though the eyes showed conjugate, random movements. Visual function was unchanged. Fundus examination showed resolution of all intraocular haemorrhages, bilateral optic atrophy, macular scarring, and vitreous veil formation in the left eye. There was a preretinal gliotic membrane bilaterally (Figure 1). Neuroimaging demonstrated severe atrophic changes throughout the cerebral cortex.

Comment

To our knowledge, there are no reports in the literature of nystagmus following shaking injuries in children. The shaken baby syndrome is a serious and clearly definable form of child abuse caused by the violent shaking of young children with or without impact injuries.[1] Our case was typical of shaking injuries in most respects. These children typically have subdural or subarachnoid intracranial haemorrhage visible on neuroimaging.[2] Intraocular haemorrhages are common following injuries occurring in at least 80% of cases, usually bilaterally.[2] The injuries are fatal in nearly one-third of the children.[2] Approximately 20% of survivors have reduced vision that is usually cortical in origin and highly correlated with severe neurologic outcome. Poor vision may sometimes, however, result from anterior pathway injuries such as optic atrophy or vitreous haemorrhage.[2]

Sensory nystagmus results from bilateral anterior visual pathway disease, in this case intraocular haemorrhages, whereas cortical visual loss typically does not cause sensory nystagmus. Sensory nystagmus is

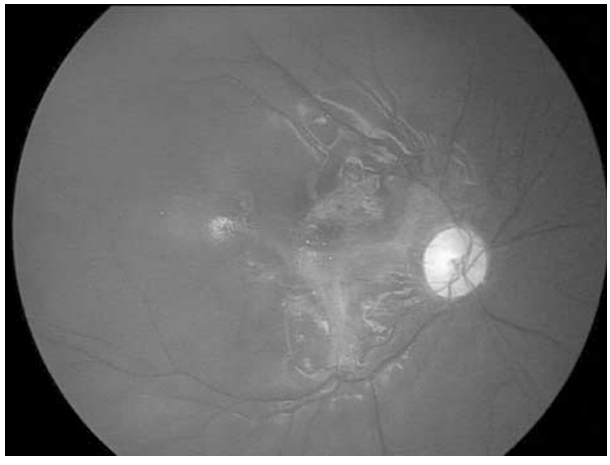

Figure 1 Right fundus photograph 4 months following shaking injury. The intraocular haemorrhages have cleared, revealing optic disc pallor, atrophic, and pigmentary change at the macula and preretinal gliosis with retinal wrinkling.