A case series of orbitopathy in herpes zoster ophthalmicus

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Orbitopathy is a rare complication of herpes zoster ophthalmicus (HZO). Isolated cases have been reported but there is no clear consensus on management. Reported treatment includes oral or intravenous (IV) aciclovir, in combination with corticosteroids in some cases, in doses ranging from 40mg prednisolone to 1g of IV methylprednisolone daily. We report two cases and discuss the likely aetiology and management.

Case 1

A 66-year-old female patient was diagnosed with aquaporin-4 positive neuromyelitis optica (NMO) following an episode of progressive left leg weakness and numbness and a history of left optic neuritis 10 years previously with resultant left visual acuity of hand movements (HM). She was treated with1g IV methylprednisolone for 5 days followed by a prednisolone taper. One month later, she developed left sided eye pain with conjunctival injection and a vesicular rash. A diagnosis of HZO was made, likely as a consequence of immunosuppression with steroid treatment. She was commenced on oral aciclovir 800mg 5x/daily and continued 40mg prednisolone taper. Over two weeks, she developed a left III and VI nerve palsy. On examination, visual acuity was 6/6 in the right eye and HM in the affected eye. Intraocular pressure was 24mmHg on the right and 26mmHg on the left. The left pupil was dilated and non-reactive. The left eye was proptosed by 3mm with a partial ptosis. Left ocular motility was reduced in keeping with a III and VI palsy. The zoster lesions had healed and the lids were not inflamed or erythematous. There was no evidence of active uveitis and there was left disc pallor.

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An MRI was performed which showed left orbital inflammation with fat stranding and oedema at the apex (Figure 1A). The patient was treated with IV aciclovir and 75mg prednisolone. Unfortunately. The visual acuity deteriorated to perception of light and there was only minor improvements in the ptosis and ocular motility. Neurology commenced treatment with mycophenolate mofetil for NMO and the prednisolone was tapered and stopped.

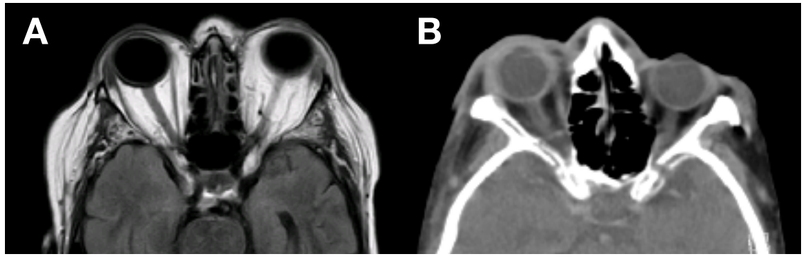


Figure 1A. Axial MRI of Case 1 showing left proptosis and orbital inflammation. 1B Axial MRI of Case 2; right proptosis with diffuse inflammatory changes in the pre and postseptal spaces

Case 2

An 83-year-old lady presented with right conjunctival injection, lid swelling, diplopia and a vesicular rash. On examination, right visual acuity was 6/36 and left 6/18. Intraocular pressure was raised in the right eye at 31mmHg and 8mmHg in the left. There was 3mm right sided proptosis with erythemtaous, swollen lids with a vesicular rash. Hutchinson's sign was positive. There was right haemorrhagic chemosis and corneal pseudodendrites and anterior chamber inflammation. Ocular motility was in keeping with a concurrent right III and VI nerve palsy. She was treated with IV aciclovir 800mg 5x daily, IV co-amoxiclav, topical dexamethasone 0.1%, ganciclovir 0.15%, dorzolamide 2% with timolol 0.5% and latanoprost 0.005%. CT showed oedema and contrast enhancement in the periorbital soft tissues with no collection (Figure 1B). MRI excluded a cavernous sinus thrombosis.

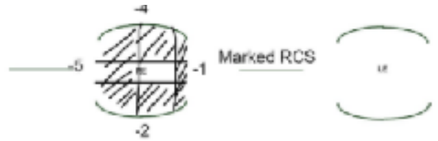


Figure 2. Ocular motility of Case 2 at 3 months showing severe ophthalmoplegia with limitation of elevation -4, abduction -5, adduction -1 and depression -2.

Over 5 days, visual acuity in the right eye deteriorated to counting fingers. Treatment with 60mg prednisolone daily for 10 days was commenced. At 3 months, visual acuity improved to 6/24 but ocular motility remained limited with a partial ptosis (Figure 2) At 4 months, ocular motility improved to a limitation of abduction -1 with improvement of the ptosis.

Cranial neuropathy complicating HZO may occur due to perineuritis, vasculopathy or inflammatory oedema causing an orbital apex syndrome. Differential diagnoses including cavernous sinus thrombosis must be excluded. The optimal dosage and duration of treatment with aciclovir and corticosteroids depends upon the aetiology of the cranial neuropathy and the general medical history of the patient. Outcomes of orbital apex inflammation are variable and may remain poor or have protracted recovery of ocular motility and visual acuity.