and 35 PD BI at 6 m, with full motility. Ocular examination was unremarkable except for a left homonymous hemianopic field defect (Figure 1). Magnetic resonance imaging (MRI) scan of the brain confirmed an infarction in the right occipital lobe.

A binocular driving visual field test resulted in a reasonably full field, presumably because the exotropia compensated for the hemianopia (Figure 2). Therefore, the patient declined surgery.

Comment

This case illustrates an important exception to the rule that two defects of the visual system usually lead to a more pronounced visual deficit than one.

Under binocular conditions, the functional significance of a homonymous hemianopia can be reduced by an exotropia of the ipsilateral eye (ie deviation in the direction of the field defect), resulting in panoramic vision. A prism correction of the exotropia, or botulinum toxin to realign the eye, followed by a repeat binocular visual field test helps predict the impact of a surgical correction of exotropia.

This combination is uncommon. Three reports of patients with exotropia who developed ipsilateral homonymous hemianopia concluded that strabismus correction is contraindicated in these patients in order to preserve their panoramic vision.[1–3]

This case report highlights the fact that hemianopias should be excluded before strabismus surgery. Reduction in visual field as a result of 'cosmetic' surgical alignment where there is an undetected hemianopia may have serious implications, including loss of driving license.

References

1 Herzau V, Bleher I, Joos-Kratsch F. Infantile exotropia with homonymous hemianopia: a rare contraindication for strabismus surgery. *Graefes Arch Clin Exp Ophthalmol* 1988; **226**: 148–149.
2 Gote H, Gregersen E, Rindziunski E. Exotropia and panoramic vision compensating for an occult homonymous hemianopia: a case report. *Binocular Vis Eye Muscle Surg* 1993; **8**: 129–132.
3 Gamio S, Melek N. When the patient says no. management of exotropia with hemianopic visual field defects. *Binocular Vis Strab Q* 2003; **18**(3): 167–170.

GM Saleh, S Sivaprasad and CJ Hammond

West Kent Eye Centre, Princess Royal University Hospital, Orpington, Kent, UK
Correspondence: GM Saleh,
West Kent Eye Centre,
Princess Royal University Hospital,
Orpington, Kent, BR6 8ND, UK
Tel: +044 1689 869785.
E-mail: drgmsaleh@yahoo.co.uk

None of the authors have any proprietary interest in the above study

Eye (2006) **20,** 1402–1404. doi:10.1038/sj.eye.6702258; published online 17 March 2006

Sir,

Bilateral vitreous hemorrhage associated with dengue fever

We appreciate the interest shown in our article[1] by the Readers of your esteemed journal. According to the history given by the patient and her parents, she developed the ocular manifestations 2 days after the systemic manifestations of dengue fever i.e., high grade fever with chills, muscle pain, headache, and episodes of bleeding through mouth and during defaecation. This information is already mentioned in the 2nd paragraph of our article. After receiving the call by the Pediatric Physician, ophthalmic examination was done by the local Ophthalmologist on same day, and she was found to have vitreous hemorrhage in both eyes at the time of examination and advised review after couple of weeks. The laboratory diagnosis during admission revealed marked thrombocytopenia (Pletlet count $<25000/cc$).

After improvement of the general condition, the patient followed-up with the local Ophthalmologist.

When the vitreous hemorrhage didn't cleared after 4 months of conservative management, she was referred to our centre where we found to have organized vitreous hemorrhage OD and resolving vitreous hemorrhage OS.

Right eye pars-plana vitrectomy was performed that improvement the visual acuity up to 6/12 after 12 weeks postoperatively. No surgery was planned in left eye due to resolving vitreous hemorrhage and good (6/12) vision.

The reason of not mentioning the vast details was limitations to the number of words as per the norms of the journal. Once again we thank to the corresponders for showing their interests and valuable comments on the article.

Reference

1 Nainiwal S, Garg SP, Prakash G, Nainiwal N. bilateral vitreous hemorrhage associated with dengue fever. *Eye* 2005; **19**(9): 1012–1013.

S Nainiwal, P Garg, G Prakash and N Nainiwal

All India Institute of Medical Sciences,
Dr R P Centre for Ophthalmic Sciences,
Ansari Nagar, New Delhi, India

Correspondence: Dr S Nainiwal,
All India Institute of Medical Sciences,
Dr R P Centre for Ophthalmic Sciences,
Ansari Nagar, New Delhi-29,
New Delhi, Delhi 110029, India
Tel: +91 141 2521540;
Fax: +91 11 26588919.
E-mail: nainvision@yahoo.com

Eye (2006) **20,** 1404–1405. doi:10.1038/sj.eye.6702274; published online 24 March 2006

Sir,

Bilateral vitreous haemorrhage associated with dengue fever

We read with interest the above article by Nainiwal *et al*[1] as it was the first report to date of vitreous haemorrhage resulting from dengue fever. A few points in the article however, require clarification and may be of relevance to the pathogenesis.

The authors have not clearly outlined the timeline of the systemic manifestations of the disease and the associated ocular symptoms and signs. The patient presented with 'diminution of vision in right eye since 4 months', 'she had high-grade fever … 2 days before developing eye problems' and that 'she was referred to us after her general condition had improved'. We wish to clarify whether she underwent an ophthalmic assessment only 4 months after onset of dengue. Dengue haemorrhagic fever typically presents at time of defervescence some days after the onset of dengue. As such it would be useful to know when exactly from onset of the fever the patient developed ocular symptoms. Documented serum platelet levels on the day of onset of her ocular symptoms would have added further analytical value to the case report.

Recent case series have reported the mean interval between onset of visual symptoms and systemic manifestations of dengue fever to be in the range of 6.8[2] and 7.3[3] days. Two other case reports[4,5] have reported a mean interval of 3 days. Onset of ocular symptoms around 7 days after systemic symptoms lends well to the possible immunologic basis of dengue ocular disease.[2]

As it appears that the patient was not examined during the early onset of her visual symptoms, vitreous haemorrhage could have resulted at a later stage from a pre-existing dengue-related retinal haemorrhage—a known documented finding in dengue-related eye disease.[2]

Dengue fever is currently endemic in Singapore and we are conducting a prospective study of ocular manifestations in patients infected with dengue virus. To date, we have had one dengue patient with bilateral vitreous haemorrhages.

However, in our case the vitreous haemorrhages were very small and not the dominant finding. Also interestingly our patient's ocular symptoms arose at the nadir of her platelet count (29 000/cc) on day 8 of the disease. There could thus be two underlying mechanisms explaining the ocular signs in dengue eye disease. One could be immunologic with possible immune complex deposition in retinal vessels. The other could be an increased bleeding tendency resulting from decreased platelet counts.

References

1 Nainiwal S, Garg SP, Prakash G, Nainiwal N. Bilateral vitreous haemorrhage associated with dengue fever. *Eye* 2005; **19**: 1012–1013.
2 Lim WK, Mathur R, Koh A, Yeoh R, Chee SP. Ocular manifestations of dengue fever. *Ophthalmology* 2004; **111**: 2057–2064.
3 Wen KH, Sheu MM, Chung CB, Wang HZ, Chen CW. The ocular fundus findings in dengue fever (in Chinese). *Gaoxiong Yi Xue Za Zhi* 1989; **5**: 24030.
4 Haritoglou C, Dotse SD, Rudolph G, Stephan CM, Thurau SR, Klauss V. A tourist with dengue fever and visual loss. *Lancet* 2002; **360**: 1070.
5 Cruz-Villegas V, Berrocal AM, Davis JL. Bilateral choroidal effusions associated with dengue fever. *Retina* 2003; **23**: 576–578.

J Venkatramani and W-K Lim

Ocular Inflammation and Immunology,
Singapore National Eye Centre, Singapore,
Singapore

Correspondence: W-K Lim,
Ocular Inflammation and Immunology,
Singapore National Eye Centre, 11,
Third Hospital Avenue,
Singapore 168751,
Singapore
Tel: +65 6227 7255;