

## CMV Retinitis in an HIV Infected Child with Undetectable Viral Load

A 13 years old HIV infected boy on antiretroviral therapy (ART) consisting of zidovudine (AZT), lamivudine (3TC) and nevirapine (NVP) for the past 7 years, presented with sudden onset vision impairment in February 2010. He had presented to us at the age of 6 years due to left sided choreoathetosis due to Antiphospholipid syndrome (APS)(1), following which he was on regular ART and had adequate immunological recovery. On admission, his weight was 24 kg and height was 125 cm. Ophthalmological examination revealed bilateral disc edema, perivasculitis, cotton wool spots with retinitis and retinal hemorrhages suggestive of CMV-retinitis (visual acuity of finger counting was from 2 meter in both eyes). MRI brain showed previous changes of APS syndrome. CMV viral load was not done before starting treatment but HIV viral load was undetectable and CD4 count was 920/cmm and CMV IgM was positive. He was treated with intravenous ganciclovir (10mg/kg/day in 2 divided doses) for 7 days and later shifted to oral valganciclovir (250 mg/m<sup>2</sup>/day in 2 divided doses) for 21 days. One week after starting ganciclovir, he showed improvement in his vision with resolving retinal hemorrhages and decreasing retinitis, and CMV viral load was undetectable. Follow up fundus examination after 4 weeks showed resolved retinitis, with macular scarring (left >right) with normal vision.

The prevalence of cytomegalovirus (CMV) retinitis in HIV infected children is estimated at 5%(2), and commonly affects those with low CD4 count beyond infancy and in those in whom HIV virus is actively replicating. Before the introduction of HAART, patients with cytomegalovirus retinitis

commonly had CD4 counts less than 50 cells/ $\mu$ l with minimal ocular inflammation(3). Our patient developed CMV retinitis inspite of a higher CD4 count and undetectable HIV load. Age-adjusted CD4 counts are usually a reliable predictor of ocular complications of HIV infection in older infants(4). However, that was not the case in this child. CMV retinitis as part of immune reconstitution inflammatory syndrome (IRIS) has also been reported(5). However our patient was on ART for the past 7 years and had undetectable HIV viral load, ruling out IRIS. We plan to monitor CMV viral load every 6 month. We conclude that all patients with HIV disease should undergo routine ophthalmologic examinations as CD4 counts and HIV viral load may not be predictive of CMV retinitis.

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### REFERENCES

1. Shah I, Chudgar P. Antiphospholipid syndrome in a human immunodeficiency virus 1-infected child. *Pediatr Infect Dis J* 2006; 25: 185-186.
2. Dennehy PJ, Warman R, Flynn JT, Scott GB, Mastrucci MT. Ocular manifestations and paediatric patients with acquired immuno-deficiency syndrome. *Arch Ophthalmol* 1989; 107: 978-982
3. Robinson MR, Reed G, Csaky KG, Polis MA, Whitcup SM. Immune recovery uveitis in patients with cytomegalovirus retinitis taking highly active antiretroviral therapy. *Am J Ophthalmol* 2000; 130: 49-56.
4. Cunningham ET Jr, Margolis TP. Ocular manifestations of HIV infection. *N Engl J Med* 1998; 339: 236-244.
5. Banker AS. HIV and eye diseases-our experience and review of literature. Available at URL: <http://eophtha.com/ejo15.html>. Accessed on April 9, 2010.