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Case Report

Presumed Viral Retinitis

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Abstract

Viral retinitis is an important infectious disease of the retina occuring in both healthy as well as immunocompromised persons. Although viral retinitis usually can be diagnosed by the fundus picture but in case of diagnostic dilemma for suspected viral retinitis, aqueous and vitreous specimens have greater diagnostic value as compared to serologic studies. Here, we report a case of presumed viral retinitis with negative PCR but responded well with timely antiviral therapy with good visual outcome.

Keywords: Viral Retinitis; Valacyclovir; Polymerase Chain Reaction

Introduction

Infectious retinitis requires early detection by clinician and aggressive treatment in order to avoid its potentially blinding outcome due to rapid progression. However, depending on type of infecting virus, immune status of patient and sites of retinal involvement, visual outcomes can vary. In viral retinitis, infected retina is likely to shed viable virus in the vitreous cavity. Detection of the virus from vitreous fluid depends on sampling techniques, the stage of the disease and the severity of the infection. Isolation of the virus by tissue culture is often time-consuming and can even be negative. Hence, obtaining vitreous sample in the initial stage of the disease can be of great diagnostic value.

Case Report

A 30 year old male presented with dimness of vision in both eyes since 6 week. There was history of hospitalization 2 month back due to high grade fever. Dengue/typhoid/malaria were excluded. 10 days later he developed dimness of vision. On examination, he had best corrected visual acuity 6/18 in right eye and 3/60 in left eye. Intraocular pressure was within normal limit. On slit lamp examination, anterior segment was normal but RE had vitreous cells 1+ and LE vitreous cells 2+. Fundus showed both eyes multiple whitish lesion with irregular margin, multiple hemorrhages, exudates suggestive of active retinitis (Figure 1). ANA, cANCA, pANCA were negative. HIV was ruled out. LE AC tap was done for PCR of VZV/HSV 1 and 2/CMV/chikungunya/Dengue. Real time PCR were reported negative. Both eye strong clinical suspicion of Viral retinitis was made. He was started on Tablet valacyclovir 1 gram three times daily. After 48 hour of starting antivirals tablet prednisolone 60 mg/day was started with weekly tapering doses. At one month follow up, he had best corrected visual acuity of 6/12 in right eye and 6/60 in left eye. Slit lamp examination showed quiet anterior chamber with no vitreous cell in both eyes. Fundus

examination revealed resolving retinitis in both eyes (Figure 2). So, tablet valacyclovir with tapering doses of prednisolone were continued. At 4 month follow up, he had best corrected visual acuity of 6/9 in right eye and 6/36 in left eye. Slit lamp examination showed quiet anterior chamber with no vitreous cell in both eyes. Fundus examination revealed resolving retinitis in both eyes (Figure 3). At 1 year, there was no recurrence. Patient had stable visual acuity and fundus.

Figure 1: Showing both eyes active retinitis with multiple hemorrhages and exudates.

Figure 2: Showing both eyes resolving retinitis at 1 month follow up.

Figure 3: Showing both eyes resolving retinitis at 4 month follow up.

Discussion

Viral retinitis is an important vision threatening infectious disease of the retina. The diagnosis of viral retinitis is usually based on clinical findings and confirmed by good response to antiviral therapy as in our case. Valacyclovir has activity against VZV, HSV 1 and 2, EBV, CMV. Valacyclovir is prodrug which is rapidly and nearly completely converted into acyclovir after oral administration. It has an excellent bioavailability and quickly leads to substantial vitreous acyclovir concentration [1]. However, clinical findings are sometimes not clear enough to make a definite diagnosis, making the best and most specific therapeutic strategy uncertain. The wrong decision not only causes a delay of adapted treatment and a preventable loss of vision, but also exposes the patients to side effects of an unnecessary medication. Polymerase chain reaction (PCR) of intraocular fluids is a sensitive, specific and diagnostic test which has been performed successfully to detect viral DNA in ocular samples with viral retinitis but negative result can not exclude it [2-6]. Quantitative PCR may give additional information regarding viral load, disease activity and response to therapy. In our case, valacyclovir was given promptly and timely to the patient, hence responded well with the lesions being inactive and stable on follow up emphasizing the importance of early anti-viral therapy and also supporting good visual outcome in viral retinitis. Paracentesis to obtain aqueous humour is much easier, safer, and less invasive than taking vitreous specimens. Although the diagnosis of necrotising retinitis is based on clinical findings, in cases of unusual presentation early viral DNA detection by PCR may be helpful. Anterior chamber paracentesis is preferable to vitreous biopsy in many cases, since it is easier and more convenient to perform in an emergency. However, aqueous samples may contain less viral DNA than vitreous for PCR amplification. An initial negative result should lead to repeated paracentesis, especially in patients who are on antiviral therapy for a presumptive diagnosis of viral retinitis.

Conclusion

PCR is an auxiliary diagnostic procedure that should be evaluated together with clinical findings of patients. Use of PCR based

assays of vitreous specimen should be used in diagnostic dilemma of viral retinitis, as it has much higher sensitivity for demonstrating viral PCR as compared with anterior chamber tap. Most important, one should not wait for PCR results while initiating treatment. Careful administration of corticosteroid timing should be kept in mind. Severe exacerbation of disease following systemic corticosteroid is reminder for importance of judicious use of corticosteroid while dealing with an infectious viral retinitis.

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