Bilateral retinitis following Chikungunya fever

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A 35-year-old male with a history of chikungunya fever, presented with diminution of vision in the right eye of one-week duration. His best corrected visual acuity (BCVA) was counting fingers 2 meters and 20/20 (Snellens) in the right and left eyes respectively. A diagnosis of neuroretinitis was made in the right eye while left eye showed features of retinitis. ELISA (serum) and polymerase chain reaction (aqueous) were positive for herpes simplex virus. The lesions did not show any response to antiviral or steroid treatment and appeared to be self-limiting. At five months follow-up, lesions had resolved well with BCVA of 20/120 and 20/20 in the right and left eyes respectively.

Key words: Bilateral, chikungunya, retinitis

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Chikungunya fever is caused by an alphavirus transmitted to humans by the bite of infected mosquitoes belonging to the genus Aedes.1 Large scale outbreaks of the fever due to the chikungunya fever in south India have been reported recently. We report an interesting case of bilateral retinitis following serologically proven chikungunya fever.

Case Report

A 35-year-old male presented with diminution of vision in the right eye of one-week duration. He was symptomatically treated for serologically proven chikungunya fever three weeks back. On examination, his best corrected visual acuity (BCVA) was counting fingers 2 meters and 20/20 (Snellens) in the right and left eyes respectively. Relative afferent pupillary defect was noted in the right eye. Slit-lamp examination showed a quiet anterior segment and 1+ vitreous cells (Grading: Kimura and colleagues)2 in both eyes. Intraocular pressures were normal. Fundus examination of the right eye showed areas of retinitis and hemorrhages in the posterior pole and hyperemia and blurring of the disc margins (neuroretinitis). In the left eye, a patch of retinitis was seen nasal to the optic disc [Fig. 1A and B]. Fundus fluorescein angiography showed areas of capillary nonperfusion corresponding to the retinitis lesions [Fig. 2A and B] and optical coherence tomography (Stratus version 4, Zeiss, Germany) showed areas of retinal destruction [Fig. 3]. Laboratory investigations included an ESR of 38mm/h, normal hematological and rheological parameters, coagulation profile, blood sugar, liver and renal function, urine analysis and chest X-ray. VDRL test for syphilis and Mantoux test were negative. ELISA showed IgM and IgG positivity for herpes simplex and only IgG positivity for cytomegalovirus and Varicella Zoster viruses. ELISA for HIV and toxoplasma were negative. Aqueous tap was positive for herpes simplex virus. He was started on intravenous acyclovir 1500 mg/m2/day. As the lesions continued to progress [Fig. 4A and B] in both eyes, oral steroids in a dosage

of 1 mg/kg body weight were added after four days along with oral acyclovir and intravitreal ganciclovir 2000 micrograms in 0.05 ml in both eyes. Oral acyclovir was stopped after 10 days while the steroids were tapered over four weeks. At the end of four weeks, there was no further deterioration in vision or appearance of any new lesions. At the last follow-up (five months), the retinal lesions had healed well [Fig. 5] and his BCVA was 20/120 and 20/20 in the right and left eyes respectively.

Discussion
Ocular manifestations in chikungunya fever are rare and include retroorbital pain, conjunctivitis and choroiditis. We report an interesting case of bilateral retinitis in a patient with serologically proven chikungunya fever. As no reports of retinitis after chikungunya fever were available in the literature at the time of examination, tests were done to rule out an infective etiology. ELISA and the PCR results of the serum and the aqueous sample respectively were positive for herpes simplex virus. As a result, he was started on intravenous acyclovir. As symptoms continued to progress in spite of intravenous acyclovir, an ongoing immune-mediated reaction
following the fever was a possibility. Role of corticosteroids and immunosuppression in viral fever is controversial. As a result, he received oral steroids (1 mg/kg body wt) under cover of antivirals. There was no immediate improvement of the retinitis with the above treatment. However, there was no further worsening of the retinitis either. The lesions were self-limiting and took over six to eight weeks to resolve completely.

Retrospectively, the interval between the onset of visual symptoms and the systemic manifestations of chikungunya fever in our patient was three weeks. This delay favors the hypothesis that the ocular lesions could be an immune-mediated process rather than a direct viral infection. There may also be an aberrant immune response triggered by the virus resulting in development of autoantibodies against the retina. However, in our case, it is difficult to explain the PCR and ELISA positivity to herpes simplex virus and non-responsiveness to antiviral treatment. As this is an isolated case report, it is difficult to postulate the mechanism involved in the development of retinitis.

This report highlights the findings and course of bilateral retinitis in a patient with chikungunya fever.

References


Illuminated curved 25-gauge vitrectomy probe for removal of subsclerotomy vitreous in vitreoretinal surgery

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Incarceration of vitreous in sclerotomy sites during pars plana vitrectomy can lead to wound-related complications similar to vitreous incarceration in cataract surgery. We describe an illuminated curved 25-gauge vitrectomy probe for removing vitreous from sclerotomy sites. Polyester tubing is used to secure a fiber optic endoilluminator (0.5 mm) with the curved 25-gauge vitrector (0.5 mm). The resultant illuminated curved vitrector (20 G) has a diameter of 1.0 mm. It facilitates complete removal of vitreous around the internal sclerotomies under direct visualization in both phakic and pseudophakic eyes. The same was confirmed with ultrasound biomicroscopy of the sclerotomy sites. Curved vitrector reduces postoperative complications related to incarcerated vitreous in phakic and pseudophakic eyes and other sclerotomy-related wound complications.

Key words: Illuminated 25-gauge vitrectomy probe, pars plana vitrectomy, phakic, sclerotomy site

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Pars plana vitrectomy (PPV) can be complicated by development of peripheral retinal tears and subsequent retinal detachment. Following scleral penetration in PPV, vitreous incarceration is seen in all cases histopathologically. Often this is related to high flow rate of infusion fluid and associated increase in intraocular pressure.1

Various degrees of fibrous or fibrovascular ingrowth occurs at the sclerotomy site during wound healing. Degree and strength of fibrous ingrowth is a function of size of the sclerotomy, intraocular pressure at the time of sclerotomy closure, depth of incarceration of vitreous within the sclerotomy, age of the patient, hemorrhage in vitreous cavity, vascularization of the sclerotomy, race (blacks predisposed more than whites), and presence of posterior vitreous detachment.