

Various presentations of herpes simplex retinochoroiditis - A case series

M. T. K. Perera¹, T. S. Keragala¹, M. Gamage²

The Journal of the College of Ophthalmologists of Sri Lanka 2014; 20: 47-52

Background

Herpes simplex virus, one of the herpesviridae having an enveloped double stranded DNA is classified as an alpha herpes virus due to its neurotrophic nature. It contains two sub types namely HSV 1 and HSV 2 while HSV 1 accounts for the most of ocular infections.

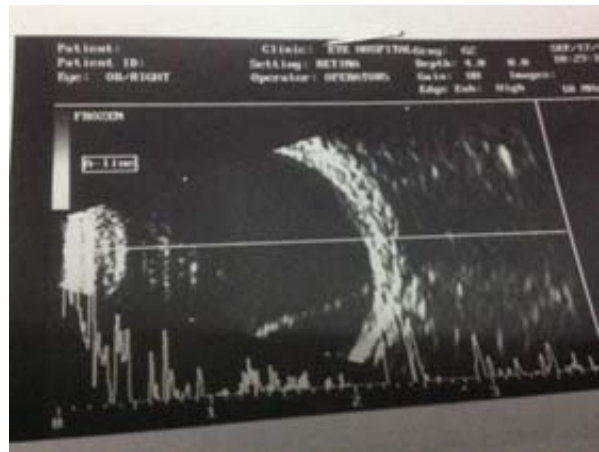
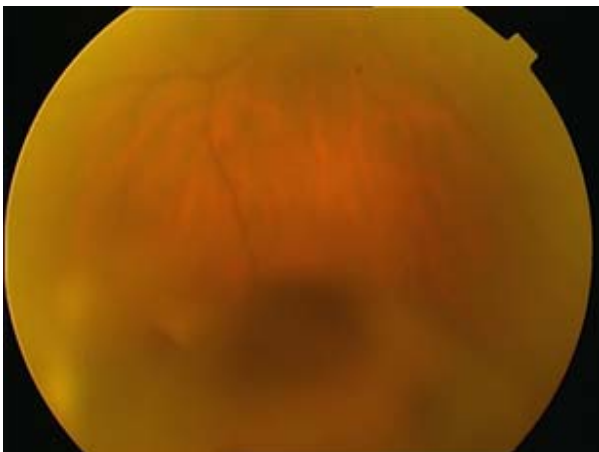
Ocular infection due to HSV is not uncommon usually manifesting as keratitis or keratouveitis. In contrast the incidence of HSV retinochoroiditis is rare. Among them acute retinal necrosis and progressive outer retinal necrosis are well documented with characteristic clinical features but non necrotizing herpetic retinochoroiditis is seldom encountered even though there are reported cases in both immunocompetent and immunocompromised individuals.

Hence various clinical presentations of HSV retinochoroiditis warrant considerations, in order to evoke clinical suspicion among other common causes of retinochoroiditis of top priority.

Case series: This case series include six cases which was presented to National Eye Hospital, Colombo from 2012 to 2014 at MG unit eye clinic having serologic IgM positivity for HSV. All of them were routinely investigated with FBC, FBS, ESR, Mantoux, Chest X ray, UFR, Blood picture, VDRL. Other investigations were performed accordingly in relation to the case. Intravenous acyclovir 10mg /kg 8H in adults and according to the body surface area in children for 10-14 days, followed by oral acyclovir 800mg five times daily for 2-3 months was initiated upon diagnosis in all.

Case 1: A 54 years old male presented with reduced vision on his left eye with mild discomfort over two weeks. There was no significant past medical, surgical or ocular history.

Visual acuity was 6/36 on his right eye having nuclear sclerosis and posterior sub capsular cataract with normal anterior and posterior segments. On the other hand his left eye had only light perception vision and normal anterior segment other than for few occasional cells and nuclear sclerosis cataract. Nonetheless posterior segment revealed vitreous cells 3+, hazy view, exudative retinal detachment mostly involving inferior retina. Peripheral retina was examined and no tears were found.



Investigations showed (FBC: WBC 8900, N 57, L41, and E2. FBS: 96 mg/dl. ESR: 08 mm. Mantoux: 4mm. Chest X ray: normal. UFR: normal. Blood picture: normal. VDRL: non reactive). Both IgM and IgG for HSV was positive, Toxoplasma IgM, IgG was negative and Toxocara IgG negative. ACE level normal.

¹Registrar in Ophthalmology, ²Consultant Ophthalmologist, National Eye Hospital, Colombo, Sri Lanka.

Treatments included intravenous acyclovir followed by oral, oral and prednisolone 30mg daily tailed off over one month.

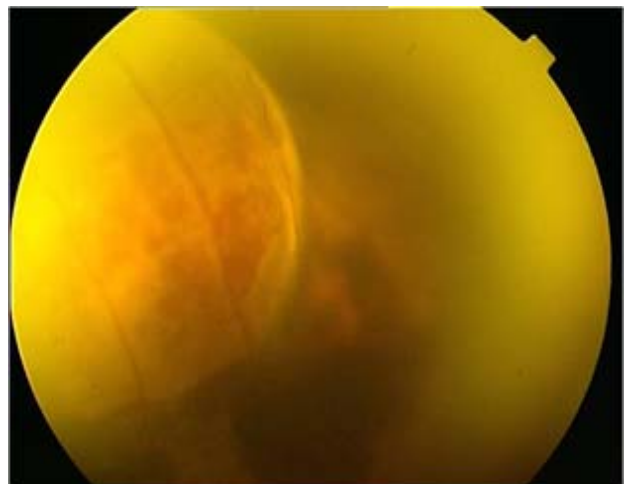
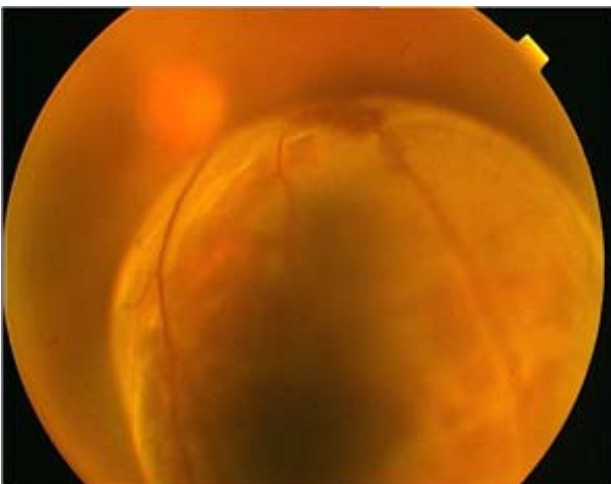
Current status: vitreous cells 1+, serous exudates minimal. BCVA 6/36-

Case 2: A 59 years old male with bilateral poor vision developed during a period of two months having an uneventful past ocular history. He was a well controlled diabetic and a hypertensive patient who was on regular treatment.

His right eye visual acuity was 2/60 with normal anterior segment with only a mild nuclear sclerosis cataract while posterior segment revealed vitreous cells 1+, exudative retinal detachment involving inferior retina, hyperemic peripapillary disk edema, macular exudates, diffuse patchy intra retinal hemorrhagic areas and vascular sheathing.



Findings of the left eye was hand movement vision with normal anterior segment with only a mild nuclear sclerosis cataract having vitreous cells 1+, large exudative retinal detachment involving inferior retina, exudative hemorrhagic lesion at the temporal extremity of the inferior arcade. Peripheral retina examined for tears.



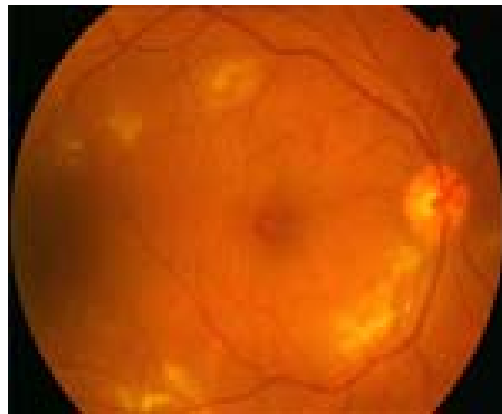
Investigations revealed (FBC: WBC 10200, N 52, L45, E3. FBS: 116 mg/dl. ESR: 11 mm. Mantoux: 12 mm. Chest X ray: normal. UFR: normal. Blood picture: normal. VDRL non reactive.) both HSV 1,2 IgM positive, IgG was negative, Toxoplasma IgM, IgG negative and Toxocara IgG was negative. ACE level and serum calcium levels were normal.

Treatment included: Intravenous acyclovir followed by oral acyclovir. Oral prednisolone 30mg daily was initiated on the fifth day of antiviral treatment and tailed off over one month.

Current status: Right eye vitreous cells serous exudates cleared, disk edema +, BCVA 6/36 and left eye vitreous cells cleared, serous exudates still present, BCVA 6/36-

Case 3: A 17 years old female was presented with right eye floaters with mild discomfort and blurred vision over few days having no significant past medical surgical or ocular history.

Her left eye vision was normal having 6/6 acuity and normal examination findings although the right eye visual acuity was 6/9+ with normal anterior segment but having vitreous cells 2+, with exudative intra retinal lesions in the macular area away from foveola.



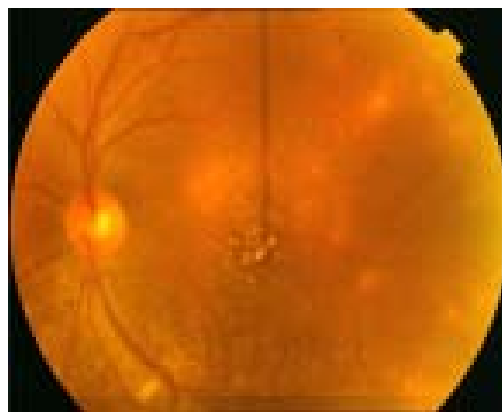
Investigations showed (FBC: WBC 7600, N 60, L38, E2. FBS: 86mg/dl. ESR: 4mm Mantoux: 2mm. Chest X ray: normal. UFR: normal. Blood picture: normal. VDRL: non reactive). Both the HSV IgM, IgG was positive. Toxoplasma IgM, IgG negative. Toxocara IgG negative. ACE level was normal.

Treatment included intravenous followed by oral acyclovir.

Current status: Vitreous cells cleared, few exudates exists, BCVA 6/6.

Case 4: A 46 years old male presented with blurred vision and floaters over one month on his left eye. There was no significant past medical, surgical or ocular history.

Right eye visual acuity was 6/12 with normal examination findings except for mild nuclear sclerosis cataract. Left eye had poor acuity of 6/60 with anterior segment mild nuclear sclerosis cataract and cells 2+. Posterior segment showed vitreous cells 2+, multiple small sub retinal and intra retinal lesions over macular area very close to the fovea.



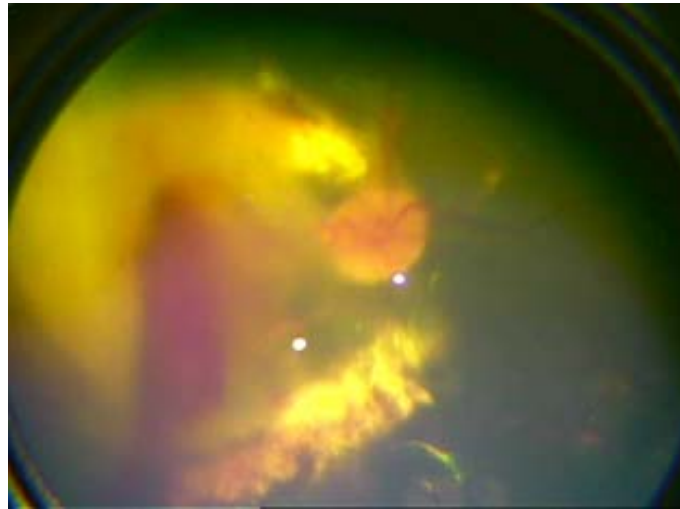
Investigations revealed (FBC: WBC 5200, N 50, L47, E3. FBS: 89mg/dl. ESR: 8mm. Mantoux: 3mm. Chest X ray: normal. UFR: normal. Blood picture: normal. VDRL: non reactive). Both HSV IgM, IgG was positive. Toxoplasma IgM, IgG negative. Toxocara IgG negative. ACE level normal.

Treatment included G. 1% prednisolone acetate 6 hourly. Oral prednisolone 30 mg daily tailed off over one month and intravenous followed by oral acyclovir.

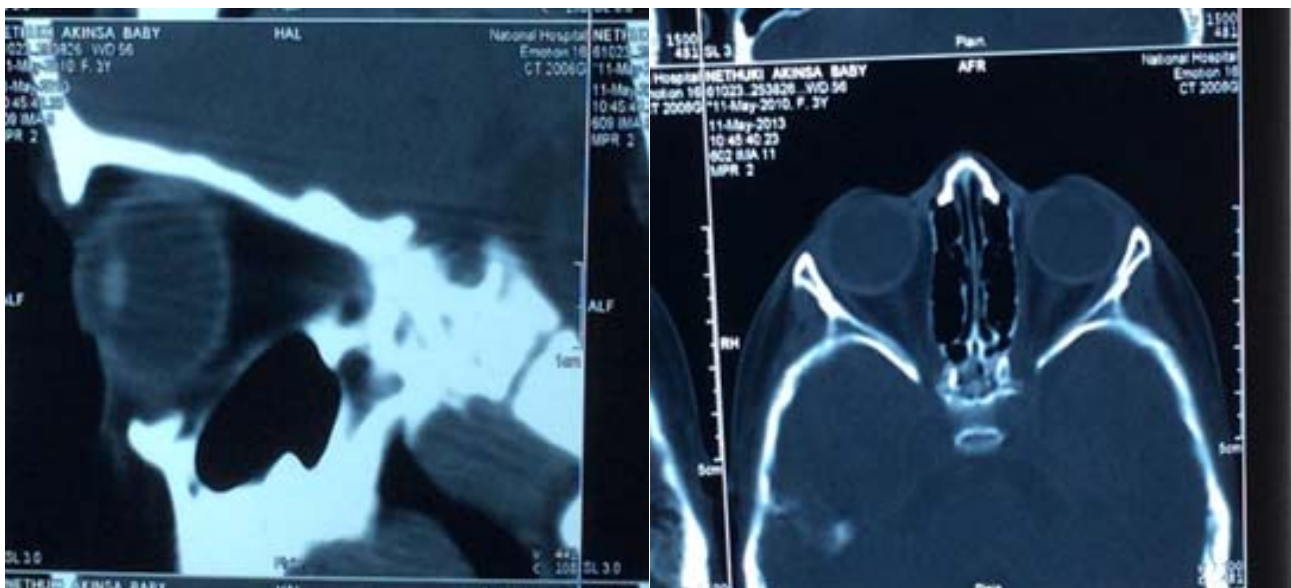
Current status: vitreous cells cleared, few lesions present, BCVA 6/12 -

Case 5: A 2½ years old baby girl was presented with right red eye. Her birth history, past medical, surgical and ocular history was normal.

Examination revealed normal left eye with right eye sub conjunctival hemorrhage and cells 3+ in the anterior segment. Posterior segment was found to have vitreous cells 3+, perivascular sheathing multiple sub retinal and intra retinal exudates, a large hemorrhagic inflammatory mass in inferotemporal retina on indirect examination done under anesthesia.



Investigations revealed (FBC: WBC 12 100, N 46, L44, E2, ESR: 12mm. Chest X ray: normal. UFR: normal. Blood picture: normal. VDRL: non reactive). CT contrast enhanced was normal.



Both the Ig M IgG for HSV was positive. Toxoplasma IgM, IgG negative, Toxocara IgG negative. ACE level was normal.

Treatment included G. 1% prednisolon acetate hourly, intravenous acyclovir followed by oral. Oral prednisolon 5mg bd tailed off over 2 months.

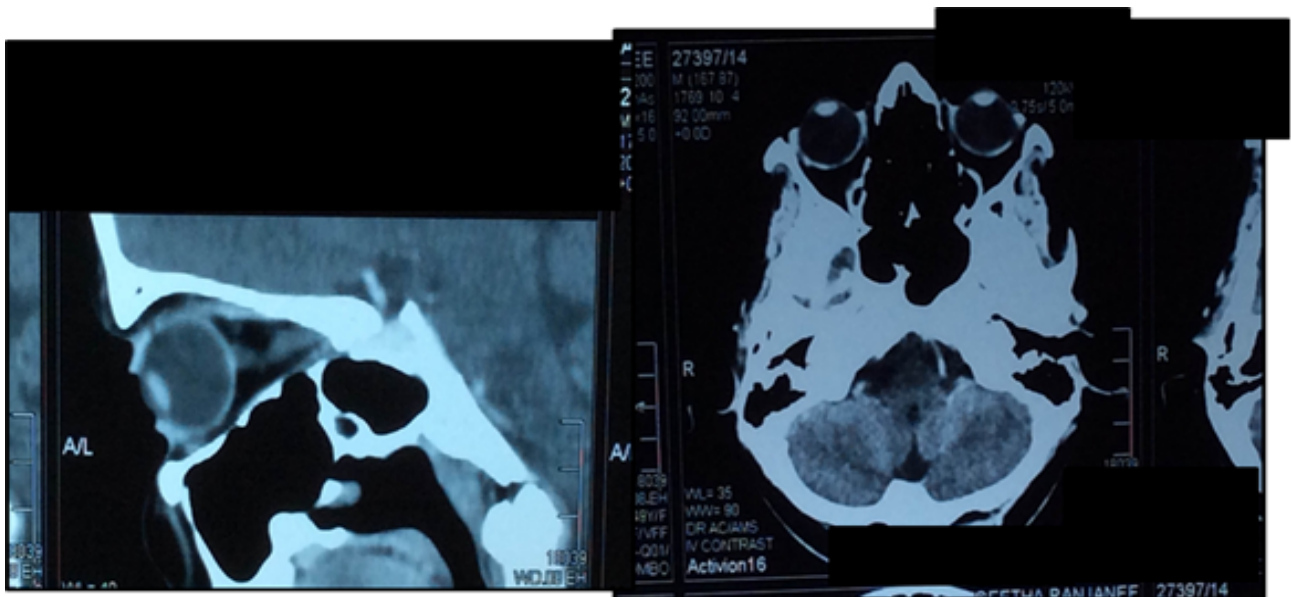
Current status: vitreous cells 1 +, lesion reduced in size.

Case 6: A 38 years old female with blurred, poor vision in her right eye over two weeks with insignificant past medical surgical and ocular history.

On examination the left was normal having 6/6 acuity although the right eye anterior segment was normal she was having only 6/36 visual acuity with vitreous cells 2+, severe peri papillary disk edema and hemorrhage, vacuities including phlebitis, peril vascular sheathing, macular exudative fan which progressed into a star.



A contrast enhanced CT was done and was normal.



Investigations showed (FBC: WBC 6900, N 56, L41, and E3. FBS: 83mg/dl. ESR: 03mm. Mantoux: 08. Chest X ray: normal. UFR: normal. Blood picture: normal. VDRL: non reactive). Both the IgM IgG for HSV was positive. Toxoplasma IgM, IgG negative. Toxocara IgG negative. ACE level was normal. HIV 1,2 antibodies negative.

Treatment included intravenous methyl prednisolone 1g daily 3 days, oral prednisolone 40mg daily tailed off over 6 months. Intravenous followed by oral acyclovir.

Current status: Vitreous cells cleared, disk edema and macular exudates are less, BCVA 6/9.

Discussion

HSV retinochoroiditis is treatable with anti viral agents. Even though the visual outcome may vary depending on the severity of lesions at initial presentation and the location of the lesions, at least some improvement is expected upon prompt treatment. Serologic igM positivity suggest primary active infection. IgG positivity in isolation holds no much significance except in instances where it shows a very high titer. Nonetheless its rising titer in 4 fold within two weeks apart suggest secondary active, reactive latent or latter part of the primary infection. Even though they provide supporting evidence of systemic infection neither provide confirmatory evidence of ocular involvement of HSV. Furthermore very high false positivity of HSV antibodies adds up to its poor yield.

Aqueous or vitreous PCR, Goldmann Witner coefficient, viral culture, direct and indirect immunofluorecence provide convincing confirmatory evidence but all require invasive sampling. Futher cost and feasibility of timely investigation with such investigations are not encouraging in our setup. However for proper evidence based practice its immensely important to go on with such diagnostic measures practical scenario more often compels toward a clinical diagnosis.

The various clinical presentations that we could observe in this case series included, unilateral or bilateral exudative RD, retinal and sub retinal exudates of variable sizes ad shapes both in the center and in periphery, sub retinal inflammatory lesions, peri paipillary disc edema, vitritis panuveitis, vasculitis both involving arteries and veins, perivascular sheathing, hemorrhagic areas, macular fans and stars.

References

American Academy of Ophthalmology, BCSC, intraocular inflammation and uveitis 2014: 197-204.

Aizman A, Johnson MW, Elnor SG. Treatment of acute retinal necrosis syndrome with oral antiviral medications. *Ophthalmology* 2007; **114**(2): 307-12.

Bodaghi B, Rozenberg F, Cassoux N, Fardeau C, Le Hoang P. Nonnecrotizing herpetic retinopathies masquerading as severe posterior uveitis. *Ophthalmology* 2003; **110**(9): 1737-43.

Goldstein DA, Pyatetsky D. Necrotizing herpetic retinopathies. *Focal Points: Clinical Module for Ophthalmologists*. San Francisco, CA: American Academy of Ophthalmology; 2008.