

OCULAR HERPES SIMPLEX INFECTION

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Images Courtesy of Loh Guan Lye Specialists Centre



The Ocular Herpes Simplex Infection is one of the greatest masqueraders in Ophthalmology. Its clinical presentations on the cornea can mimic Herpes Zoster, Acanthamoeba infections, topical medications toxicity and healing cornea abrasion lines. In the paediatric age group, the disease is often treated as staphylococcal or phlyctenular blepharoconjunctivitis and presented late with peripheral cornea neovascularization and stromal inflammation or scars which resulted in impaired vision.

The herpes simplex virus (HSV) is one of the 8 members of the herpes virus family. Each year about 50,000 new and recurring cases of ocular HSV (predominantly type 1) infections are diagnosed in the US. It can cause diseases in any layer of the eye resulting in blepharitis (eyelid margin inflammation), follicular conjunctivitis, keratitis (inflammation of cornea), keratouveitis (cornea and uvea tissues inflammations) and acute retina necrosis. The recurrence rate of HSV eye diseases after an initial episode is approximately 27% at 1 year, 50% at 5 years and 63% at 20 years.

Primary ocular infection

In general, the paediatric and young adult group are affected. It may be a mild infection which goes unnoticed. The HSV gains access to the eye, travels to the Trigeminal ganglion where it replicates and becomes latent and remains for life. So HSV 1 antibody titres are frequently present in patients. Episodically, the virus may travel back to cornea and cause ocular diseases.

Possible triggers for recurrent ocular infections are UV lights, fever, ocular trauma, reduced body immunity status and refractive eye surgeries. HSV can attack all the 3 layers of cornea, i.e. epithelium, stroma and endothelium. This results in symptoms such as photophobia, decreased in vision and a red eye. Besides that, the HSV causes reduced cornea sensation, and repeated cornea insult and untreated cases may land up with cornea scarring and visual impairment.

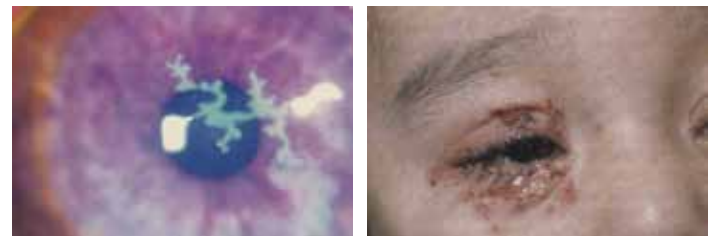
Diagnosis is mainly on clinical appearance. In suspicious cases, it can be confirmed by viral culture, Pap smear test to look for multinucleated giant cells and intranuclear eosinophilic inclusion body and PCR

Treatment

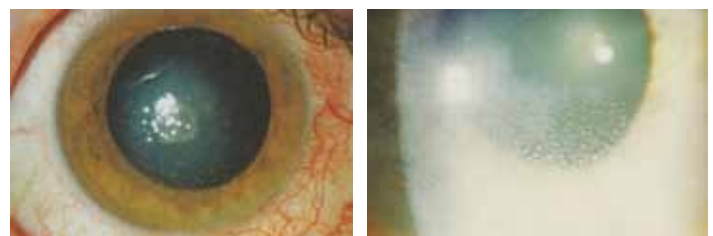
Topical antiviral is prescribed only for cornea epithelial keratitis with dendritic lesions as these are suggestive of active viral replication. Otherwise, the treatment is not indicated for other cornea layers involvement as they cause cornea toxicities on prolonged use.

Topical steroids are absolutely contraindicated in epithelial keratitis as they aggravate viral replications, but they are needed in stromal and endothelium involvement to control inflammation. [EZ](#)

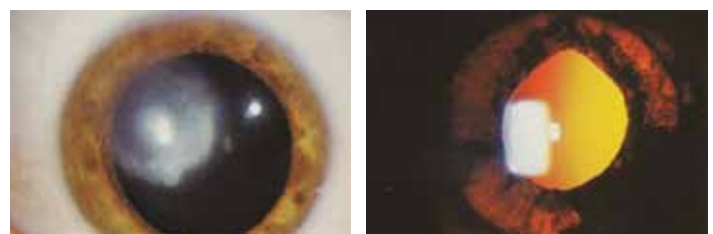
For recurrent cases, adult or children may need to be put on long term oral antiviral treatment



1. Unilateral periorbital skin vesicles and crusting suggestive of HSV blepharoconjunctivitis
2. Typical appearance of active herpes simplex epithelid dendrite which has the tree branching and terminal end bulbs appearance after staining with fluorescein dye



Herpes Simplex Disciform keratitis with evidence of keratic precipitates



Iris thinning secondary to herpes simplex iritis, dense corneal opacities/ scarring with neovascularization after repeated episodes of herpes simplex keratitis

