

Commentary: Herpes simplex virus stromal keratitis preferred practice patterns among ophthalmologists vis-à-vis the Herpetic Eye Diseases Study

Dear Editor,

In this issue of the *Indian Journal of Ophthalmology (IJO)*, an interesting article^[1] discusses the practice patterns of Indian ophthalmologists in managing herpetic stromal keratitis compared with the findings of Herpetic Eye Disease Study (HEDS). HEDS^[2-4] was a landmark that gave ophthalmologists the guidelines in the management of herpes simplex virus (HSV) keratitis. It was a multicentric study primarily from the United States. However, topical acyclovir not being available in the United States, the role of topical trifluridine and oral acyclovir were studied along with the role of topical and systemic corticosteroids in the treatment of herpes simplex stromal keratitis and iridocyclitis.

The HEDS group conducted two studies, namely, HEDS 1 and HEDS 2. HEDS-1 included two trials evaluating stromal keratitis (HEDS-SKS and HEDS-SKN) and one trial evaluating iridocyclitis (HEDS-IRT).

- HEDS-SKS (herpetic stromal keratitis on steroid)^[2]: This part of the study found that oral acyclovir 400 mg (two 200 mg capsules) five times a day for 10 weeks did not improve the best-corrected visual acuity at 6 months when compared with placebo, time to resolution or treatment failure, the proportion of patients with treatment failure, or the proportion of patient with resolution of keratitis when combined with topical trifluridine and steroids used for 10 weeks. Topical trifluridine 1% was used four times daily for 21 days and then two times daily till the 70th day. Topical prednisolone phosphate 1% was used in a weekly tapering regimen. The dose was reduced from 1 drop 8 → 6 → 4 → 2 → 1 time/s daily for each week. After this schedule was finished,

prednisolone phosphate 0.125% was used in weekly tapering dosage (4 times → 2 times) each week. After this, prednisolone phosphate 0.125% was instilled once daily for 3 weeks.

- HEDS SKN (stromal keratitis not on steroid)^[3]: Topical prednisolone phosphate improved visual outcome, shortened the duration of stromal keratitis, and reduced progression or persistence of stromal keratitis when compared with placebo. All patients received topical trifluridine in the dosage described before. Delaying therapy delayed the resolution of stromal corneal inflammation but did not adversely affect the outcome at 6 months.
- HEDS APT (acyclovir prevention trial)^[5]: Oral acyclovir 400 mg twice daily for 1 year was used in patients who had had an episode of HSV ocular disease (stromal keratitis, epithelial keratitis, iridocyclitis, blepharitis, and conjunctivitis) in one or both eyes in the previous year with a period of inactivity without treatment 30 days before inclusion in the study. This part of HEDS-2 noted that prophylactic acyclovir reduced the recurrence rate of ocular and orofacial HSV disease.

In this study in the *IJO*,^[1] response from 77 Indian ophthalmologists, >80% of whom were cornea specialists gave their preferred practice patterns in the management of HSV stromal keratitis, and this was compared with the treatment in the HEDS 1 study. The important deviations from HEDS included the use of oral acyclovir for acute HSV stromal keratitis by 45% of the consultants,^[1] and reduced duration of topical steroids (4–6 weeks) by around 60% of consultants. Most of the consultants used prednisolone acetate 1% suspension.^[1] Prednisolone phosphate is water soluble and is available as a solution, whereas prednisolone acetate is available as a suspension that needs shaking before use. Thus, the small particles of prednisolone acetate may persist on the inferior conjunctival fornix for a long duration, possibly increasing the contact time and duration of action. The affordability, availability, and efficacy of this drug make it the preferred choice for stromal keratitis.

Topical antiviral agents may have multiple corneal side effects, including epithelial toxicity, toxic keratoconjunctivitis,

allergic conjunctivitis, and punctal stenosis (trifluridine). Also, the stromal penetration of the available topical antiviral agents may not be optimal. A treatment guideline^[6] endorsed by the Ocular Microbiology and Immunology group recommends that “the recommended treatment for HSV stromal keratitis without ulceration should include a topical corticosteroid for at least ten weeks in conjunction with a prophylactic oral antiviral.” Oral antivirals are preferred over topical antivirals because of better safety and good corneal penetration. The suggested regimen includes topical prednisolone 1% drop started six to eight times daily and tapered over at least 10 weeks with the prophylactic dose of an oral antiviral agent (acyclovir 400 mg twice daily, valacyclovir 500 mg once daily, or famciclovir 250 mg twice daily).

Treatment of the herpetic ocular disease is an enigma, and further research is needed for the best therapy.

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