

Treatment and Management of Presumed Herpes Simplex Keratouveitis with Endotheliitis

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Abstract:

A 55-year-old male presents with decreased hazy vision in the left eye secondary to edema of the entire temporal cornea and develops mild anterior uveitis. Signs and symptoms improve with oral antivirals and topical steroids.

I. Case History

- 55 year old Haitian male
- CC: Constant stable blurry, dim vision OS after hitting his left brow on a sliding glass door 3 weeks ago
- Ocular history: previous inferior temporal corneal stromal scar OS of unknown etiology
- Medical history: Type 2 DM diagnosed in 1995
- Medications: Glipizide, Metformin, Onglyza
- Allergies: NKA

II. Pertinent findings

- Visit 1
 - BCVA at distance cc 20/20 OD, 20/25- OS, 20/20 OU
 - PERRLA, EOMs full, CF FTFC, CT WNL
 - Anterior Segment:
 - Cornea: OD unremarkable
OS temporal epithelial microcysts, grade 2 temporal stromal edema, temporal diffuse white posterior stromal opacities, grade 2 endothelial folds, trace endothelial pigment, (-) corneal staining
 - Iris: Unremarkable OD, OS
 - AC: Deep and quiet OD, OS
 - IOPs: 9 mmHg OD, 10 mm Hg OS
 - Posterior Segment: Mild hypertensive retinopathy OU
- Visit 2 (2 days post prednisolone acetate and Valtrex initiation)
 - BCVA at distance cc 20/20 OD, 20/25- OS, 20/20-2 OU
 - Cornea: OD unremarkable
OS findings from Visit 1 with additional diffuse pigmented KPs, epithelial irregularity without defect
 - Iris: Unremarkable OD, OS
 - AC: Deep and Quiet OD, 1+ flare, trace cells OS
 - IOPs: 10 mmHg OD, 14 mm Hg OS
 - Posterior Segment: not assessed
 - Ant OCT: Stromal thickening, scarring and KPs visible
- Visit 3 (6 days later, Valtrex, Durezol, homatropine, Combigan)
 - BCVA at distance cc 20/20-1 OD, 20/20 OS, 20/20 OU
 - Pupils: OD unremarkable, OS trace less reactive, (-) RAPD

Cornea: OD unremarkable

OS (-) stromal edema, (-) endothelial folds, temporal posterior stromal opacities, less pigmented KPs

Iris: Unremarkable OD, OS

AC: Deep and Quiet OD, 1 cell OS

IOPs: 11 mmHg OD, 11 mm Hg OS

- Ant OCT: Decreased stromal thickening and KPs, stable stromal

III. Differential diagnosis

- Primary diagnosis: Herpes simplex virus endothelial keratitis
- Others: VZV, CMV, IK, Posner Schlossman syndrome, ICE, idiopathic

IV. Diagnosis and discussion

- Corneal endotheliitis is characterized by corneal edema, KPs and mild anterior uveitis where the primary location of inflammation is the endothelium.¹
- HSV corneal endotheliitis responds well to topical and systemic acyclovir treatment. CMV endotheliitis requires topical or systemic ganciclovir and can arise in immunocompetent patients with coin-shaped KPs on the endothelium.^{1,2}
- Viral isolation from the endothelium is needed for definitive diagnosis, however it is ethically problematic.^{1,2}

V. Treatment, management

- Visit 1 Tx: Valtrex 1 g BID, prednisolone acetate 1% QID OS
 - No improvement, trace cells, diffuse KPs, increase in IOP OS after 2 days
- Visit 2 Tx: Valtrex 1 g QD, Durezol 0.05% QID OS, Combigan BID OS, homatropine 1 gt OS in office
 - Visual and corneal improvement after 5 days, cont'd tx, changed to Valtrex prophylactic dose 500 mg QD
- Topical corticosteroid with an oral antiviral is the favored treatment for HSV endothelial keratitis. Oral antivirals allow corneal penetration.³
- Valacyclovir 500 mg QD is as effective as acyclovir 400 mg BID at preventing ocular HSV recurrences in patients with a history of ocular HSV.³

VI. Conclusion

- HSV endothelial keratitis is rare³ and can lead to irreversible endothelial damage. Improvement with our treatment supports an association with HSV.¹

Bibliography

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