A Case of Pediatric HSV Keratitis: Challenges to Management and Vision Correction

Alexandra Piper, Renee Reeder, OD, FAAO, FBCLA, FSLS, FIACLE
Illinois College of Optometry, Chicago, Illinois

BACKGROUND

There are a variety of ocular manifestations of herpes simplex virus (HSV) including epithelial and stromal keratitis, conjunctivitis, lid, and geographic ulcers. In children, symptomatic management is increasingly a challenge due to instrument-related triggers. Pediatric patients with geographic ulcers are left with scarring, decreased vision, irregular astigmatism, and infections. Treating patients with geographic ulcers in children is a difficult task. We present here the rehabilitation of a five-year-old girl with a geographic HSV ulcer.

CASE

A 5-year-old female presented to clinic with a worsening red, painful right eye. She had been taking oral prednisolone liquid of unknown dosage for one week, which was prescribed by a pediatric urgent care clinician. In addition, she was taking ophthalmic gentamicin drops twice a day and lidocaine ointment at bedtime. Pediatrics immediately referred her to the cornea center for a corneal lens (Figure 1). Staining showed large fundus shaped geographic corneal ulcer consistent with HSV. All prescribing medications were discontinued and the pediatrician was consulted. The new treatment regimen included oral acyclovir 200 mg/3mg suspension 7.5 ml three times a day and one chewable vitamin C tablet daily to help with corneal healing. Her new ophthalmic medications were atropine 0.01% gths and preservative free artificial tear (PF AT) 0.01%. She was scheduled for a one day for a follow up.

At the one day follow up, the patient had only received the oral acyclovir but there were already some reductions in size of the lesion. By day six, the patient's right cornea was greater than 80% intact however stromal haze was evident. Therefore, her treatment regimen was adjusted to include an ophthalmic steroid: oral acyclovir tid, PF ATs q1h, and 4b). Vision was improved to 20/200 and the left improved to 20/20. We recommended six week followups but again she did not return for several months. This occurred several times and patient was subsequently referred to a corneal OMD for consultation who continued that chronic treatment with the oral acyclovir and topical steroids would likely be needed at least until adolescence.

DISCUSSION

Children can experience significant scarring with HSV and recurrences can be difficult to manage. Therefore, an accurate diagnosis is critical due to increased resistance to topical antiviral agents. Patients who experience recurrences of HSV keratitis, especially children, are left with scarred corneas. HSV can present with severe cases of HSC which can be recurrent and recalcitrant. These cases require aggressive, chronic antiviral therapy. In the case of a young child with significant irregular astigmatism, steps should be taken to maximize visual potential and minimize the risk of amblyopia. Specialty contact lenses, especially corneal GPs, may be necessary to enhance and preserve vision.

At dispensing, both lenses cleared the scarred areas and showed lid attachment (Figures 4a and 4b). Vision was improved to 2040 in the left eye with no significant OR. The right eye was only 20/50 improved to 20/30 with -3.00 -7.3/9.1. There was significant tearing and heavy blinking with the new lenses. Application and removal training required two additional visits and she learned to achieve success. The patient returned for follow up after wearing the lenses for two weeks and vision in the left eye improved to 20/30 however the right eye remained 20/50. We added an additional +0.75 OR to bring vision back to 20/50. So a new right lens was ordered incorporating the additional power and with a 1 step steep periphery to improve the peripheral edge lift and lens awareness. The patient did well at dispersion but the lid for two months.

When the patient returned she had no new corneal scarring, was not taking her medications and was not using her lenses consistently. Her vision had improved and she had developed additional haze. The family was re-educated about the importance of maintenance therapy and the need for lens wear to optimize her vision and prevent the risk of amblyopia. Medications were restarted and she was asked to trial beginning wearing the lenses again. After about a month vision had returned to 20/20 and 20/30. We recommended six week followups but again she did not return for several months. This occurred several times and patient was subsequently referred to a corneal OMD for consultation who continued the chronic treatment with the oral acyclovir and topical steroid was likely be needed at least until adolescence.

CONCLUSION

Children can experience significant scarring with HSV and recurrences can be difficult to manage. Therefore, an accurate diagnosis is critical due to increased resistance to topical antiviral agents. Patients who experience recurrences of HSV keratitis, especially children, are left with scarred corneas. HSV can present with severe cases of HSC which can be recurrent and recalcitrant. These cases require aggressive, chronic antiviral therapy. In the case of a young child with significant irregular astigmatism, steps should be taken to maximize visual potential and minimize the risk of amblyopia. Specialty contact lenses, especially corneal GPs, may be necessary to enhance and preserve vision.

BIBLIOGRAPHY


CONTACT INFORMATION

Renee E. Reeder, OD, FAAO, FBCLA, FSLS, Diplomate AAOCCLRT
RReeder@ico.edu  •  www.ico.edu