Recurrent Case of Herpetic Stromal Keratitis:

How to Management

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BACKGROUND

Herpetic stromal keratitis (HSK) is a disease of the cornea initiated by infection with herpes simplex virus type 1 (HSV-1) with T cell-mediated pathology.[1] The virus can be spread through direct contact with body fluids such as saliva, mucus, or fluid from active lesions on the skin or mucosa.[2] The disease is characterized by corneal stromal involvement, increased corneal opacities and visual impairment. Damage to corneal tissue is mainly caused by the accumulation of neutrophils and CD4 T cells in the inflamed cornea, leading to the development of severe HSK.[3] HSK infections in developed countries are estimated to be 10-30 per 100,000 population per year, with higher rates in developing countries. In low-income countries, HSK accounts for a significant number of blindness cases compared to other infectious eye diseases.[4]

CASE PRESENTATION

A Man, 34 years old, came to clinic with history of right eye herpes zoster ophthalmicus and keratouveitis 3 weeks ago. Patient was completed a 1 week course of valacyclovir and gradual wean of steroid topical from four times a day to three times a day. On the first examination in the clinic, the visual acuity was 6/6 with IOP 7 and no complaint (figure 1). After 1 month, patient came again to clinic with complained blurry vision in the right eye, visual acuity was

0,8, there was a edema in central cornea and has been treated with acyclovir 5 x 800 mg in another clinic, but the patients reduce the medicine doses become 400 mg by himself (figure 2). We advised the patient to take the acyclovir again at a dose 800 mg five times a day and topical steroid to treat the stromal edema.

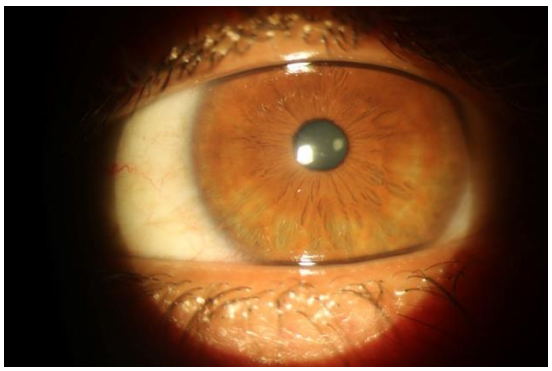

Figure 1. When patients first came with clear cornea.

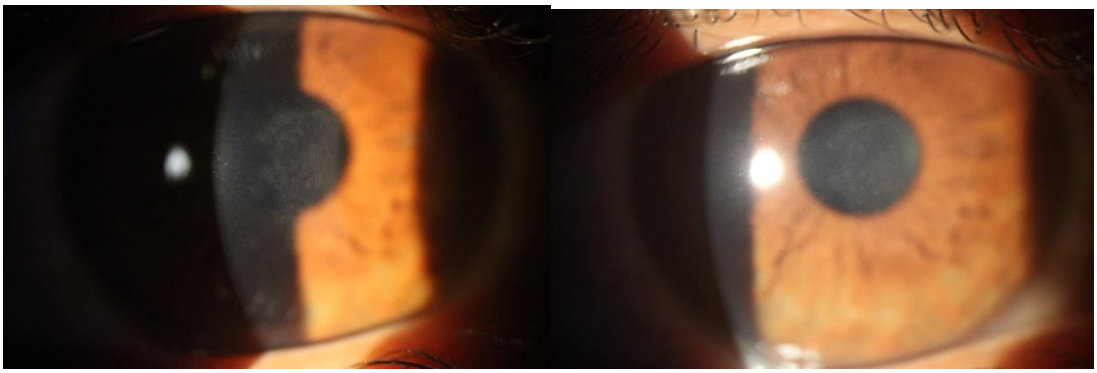

Figure 2. There was a edema in central cornea after 1 month.

DISCUSSION

Herpes Simplex virus infection can present in various forms, including infectious epithelial keratitis, which includes corneal vesicles, dendritic ulcers, geographic ulcers and marginal ulcers. In addition, there is neurotrophic keratopathy which can include punctate epithelial erosions and neurotrophic ulcers. Stromal keratitis is also a common manifestation, with forms such as necrotic stromal keratitis and immune stromal keratitis. Finally, endotheliitis can occur in disciform, diffuse and linear forms. The severity of herpetic stromal keratitis symptoms can vary widely, including pain, burning sensation, irritation, sensitivity to light (photophobia), blurred vision, and redness of the eye.[6]

In typical cases of HSV epithelial keratitis (dendritic), clinical diagnosis through slit-lamp biomicroscopy examination is reliable, so laboratory tests are usually not required. Laboratory testing is also ineffective in HSV stromal keratitis as the virus cannot usually be cultured. However, in unusual cases of HSV keratitis, laboratory testing may be indicated. The most commonly used diagnostic test in such cases Isolation of HSV-1 by cell culture is considered the gold standard in the laboratory diagnosis of HSV epithelial keratitis due to its very high specificity. However, this technique has limitations in clinical practice due to its low sensitivity and long time to obtain results, which can be up to ten days after incubation. Samples should be taken within the first few days of symptom onset for maximum effectiveness.[2] In addition, Polymerase Chain Reaction (PCR) tests to detect viral DNA have been shown to have equivalent specificity and higher sensitivity than cell culture. In one study, PCR showed 100% sensitivity and 67.9% specificity in detecting HSV DNA in patients with HSV epithelial keratitis.[2]

Antiviral agents have been shown to be effective in reducing the duration and severity of shingles rash pain, especially if given within the first 72 hours after the appearance of the rash. Recommended doses include acyclovir 800 mg four times daily for 7-10 days, valacyclovir 1 g three times daily for 7 days, and famciclovir 500 mg three times daily for 7 days. In the prodromal and acute phases, acute pain can be minimized. For mild to moderate pain, topical or oral analgesics and over-the-counter anti-inflammatories such as aspirin, acetaminophen and ibuprofen generally provide adequate relief. However, in severe pain, the use of narcotics may be necessary. Research shows that the combination of corticosteroids with acyclovir accelerates skin healing and significantly reduces acute pain. The use of corticosteroids without antivirals or in patients at risk of toxicity is not recommended[5].

CONCLUSION

After the acute episodes resolves, patients should be monitoring because recurrence may occur weeks to year later, particularly as steroids are tapered. Recurrence in cases of herpetic keratitis cannot be predicted, but some risk factors include fatigue, stress, trauma, and ultraviolet radiation. Patient maybe need long-term suppressive oral antiviral therapy to reduces the recurrence. Initial treatment is 1- gram valacyclovir three times daily or acyclovir 800 mg fives times daily. Maintenance dose of 500 mg daily valacyclovir or twice daily acyclovir given to reducing recurrence.

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