CASE REPORT

HERPETIC MEIBOMIANITIS : AN UNUSUAL CASE REPORT

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Abstract. *Herpes simplex virus* (HSV) infection of the eye can vary from mild blepharitis to sight threatening choreoretinitis. Primary infection of the eye is usually sub-clinical but reactivation of a latent infection can lead to recurrent disease. Although, herpetic blepharitis is a well documented entity, this virus has so far not been incriminated in the causation of meibomianitis, an inflammatory condition of the meibomian gland. This paper reports a case of meibomianitis due to *Herpes simplex virus.*

INTRODUCTION

Herpes simplex viruses (HSV) may cause a spectrum of ocular diseases ranging from mild superficial lesions of the external eye to severe sight-threatening diseases of the inner eye. These include blepharitis, conjunctivitis, keratitis, iridocyclitis and choreoretinitis. Ocular herpes is predominantly attributed to HSV type 1 (HSV-1) with up to 90% of cases of primary infection being sub-clinical. Reactivation of latent infection from the trigeminal ganglion leads to recurrent ocular herpes infection. Blepharitis is commonly due to an infection with staphylococci. Rarely, enteric gram-negative bacteria, such as *Pseudomonas* spp, *Proteus* spp, or *Escherichia coli* can cause an ulcerative, necrotizing marginal blepharitis. Angular blepharitis is predominantly due to *Moraxella* spp and HSV have been incriminated in a few case reports. However, meibomianitis due to HSV has not been described. This is a case report of acute meibomianitis due to HSV-1.

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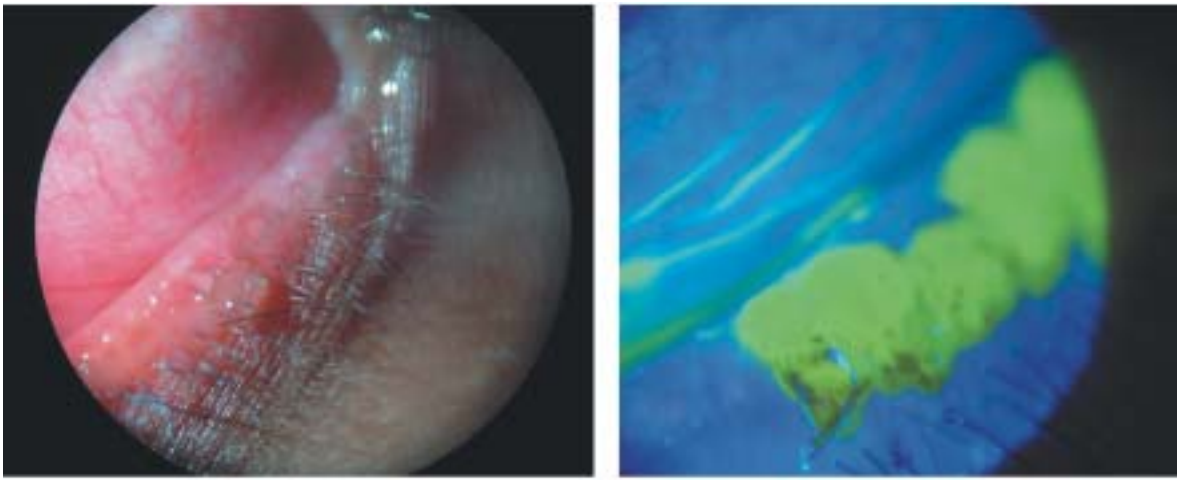
A 29-year-old male presented with irritation, tearing and redness of the left eye of four days duration. On examination, visual acuity of both eyes was 6/6. Corneal sensation in both eyes was normal. Slit lamp biomicroscopy revealed mild conjunctival congestion of the left eye. No superficial punctate keratitis or epithelial defects were seen on fluoroscein staining. An ulcerative lesion measuring 5 mm x 1 mm in diameter was noted on the left lower eyelid margin which was associated with swelling of the margin. The large ulcerative lesion consisted of multiple small punched out lesions at the openings of the ducts of the meibomian glands (Fig 1) and capping of the apertures of the meibomian glands was apparent. Thickening of the tarsal plate was also observed. On applying pressure to the eyelid margin close to the lesion, a serous discharge oozed out. The fundus examination was normal. There was no associated preauricular lymphadenopathy. The patient had similar symptoms in the same eye 1 1/2 years previously.

Swabs from the eyelid margin were taken for bacterial culture and virological workup. For the latter, a swab specimen was placed in 0.5 ml tissue culture medium with antibiotics and



A B

Fig 1–Slit lamp photograph of the lower eyelid revealing A) Coalescing multiple punched out lesions at the opening of ducts of meibomian glands B) fluoroscein staining of the lesions.

0.5% fetal calf serum; 0.3 ml of the sample was inoculated in Vero cell culture tubes and rest 0.2 ml was used for viral DNA extraction by Qiagen DNA extraction kit (Qia Amp, Germany) and further demonstration of HSV DNA by polymerase chain reaction using 20 bp primers 5′- ATC AAC TTC GAC TGG CCC TT-3′ and 5′- CCG TAC ATG TCG ATG TTC AC-3′ which code for the DNA polymerase gene (Madhavan *et al*, 1999). The amplified product was visualized in a UV transilluminator using 2% ethidium bromide staining. Smears were made from the other swab on specially prepared immunofluoroscent slides and were stained by indirect immunofluoroscence using 1:5 diluted mouse monoclonal type specific HSV-1 and -2 IgG antibody (NCl, Novocastra, Germany) separately and 1:8 diluted sheep antimouse FITC conjugated antibody (NCl, Novocastra,Germany) (Kalra *et al,* 2005). The smear stained with modified May-Graunwald Giemsa revealed multinucleated giant cells with ground glass appearance. The smears made from the inoculated Vero cells on the 5th post-inoculation day with cytopathic effects (CPE) as well as from direct sample revealed intranuclear brilliant apple green fluorescence (2-3+) against HSV-1 only. PCR analysis revealed an amplified product of 179 bp DNA polymerase gene visualized as a distinct band comparable with a known positive control. Thus, the viral isolate was characterized as HSV-1. No bacteria were isolated on culture. The patient was treated with topical acyclovir (3%) 5 times a day for one week. Clinical recovery was observed with follow-up samples negative for virus isolation and viral antigen.

DISCUSSION

A large ulcerative lesion as a result of coalescing multiple punched out lesions around the openings of meibomian glands and serous discharge on pressing the eyelid margin close to the lesion led us to the diagnosis of herpetic meibomianitis. To the best of our knowledge there has been no report of meibomianitis due to *Herpes simplex virus*. Herpetic blepharitis is a well recognized entity and two clinical types have been identified, one consisting of vesicular type lesions and a second characterized by erosive-ulcer-

ative lesions. Bruna (1954) reported 3 cases of herpetic blepharits. Jakobiec *et al* (1979) and Besada (1994) reported recurrent herpetic angular blepharitis in adults. Tsao *et al* (2003) reported bilateral recurrent HSV-1 blepharitis in an 11-year-old boy for more than 10 years. Suchankova and Zezulak (2004) diagnosed HSV-1 blepharitis in a 9-month-old child using a real-time PCR based HSV-1/2 detection kit. The eyelid infection was responsive to acyclovir and resolved after intravenous Herpesin was given for 5 days. In light of the above findings, a high degree of vigilance is needed on the part of a physician caring for a case with a localized ulcerative lesion of the eyelid margin of unclear etiology. Detailed virological studies accompanied by slit lamp examination and fluorescein staining should be performed to make an early diagnosis and give effective treatment with acyclovir. Ineffective therapy may lead to frequent reactivations.

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