Pseudodendritic keratitis in ocular rosacea causing a diagnostic dilemma

Dear Editor,

Epithelial lesions that simulate true dendritic ulcer morphologically have been referred to as pseudodendritic keratitis.[1] We report a similar lesion in association with ocular rosacea. We reviewed PubMed and Medline with the search words "pseudodendritic keratitis", "ocular rosacea" and then reviewed all English language literature citing cases of pseudodendritic keratitis for any history, signs or symptoms of associated disorders. This presentation is very rare, with only one similar case being reported before.[2]

A 40-year-old male patient presented with discomfort in his left eye, of 15 days duration. He had a 15-year history of rosacea, with intermittent use of oral tetracycline. No prior ocular disease was present. On examination, the best corrected visual acuity was 20/20 and 20/40 in the right and left eyes respectively. External face examination was significant for acne rosacea [Fig. 1a]. Slit-lamp biomicroscopy revealed lid margin telangiectasia and meibomian gland (MG) dysfunction with expression of cheesy-white secretions from the MG openings, in both the eyes. Remaining right eye examination was normal. Left eye showed mild conjunctival congestion with a branching dendritic corneal lesion staining with fluorescein dye. There was a minimal sub-epithelial involvement at the upper end of the dendrite. The edges of the lesion were irregular and opaque. Rose-bengal staining of the dendrite edges was absent and the underlying stroma was clear. Surrounding cornea had superficial punctate lesions. Superiorly there was a peripheral, sub-epithelial infiltrate with a leash of superficial vessels [Fig. 1b]. Corneal sensations were normal in both eyes. Remaining examination was within normal limits. Lesion was debrided, subjected to viral cell culture and polymerase chain reaction (PCR) for *Herpes simplex* and the patient started on systemic acyclovir 400 mg five times daily, topical acyclovir eye ointment five times daily and homatropine sulphate 2% eye drops thrice daily. However, no response was seen after 10 days. The size and the shape of the lesion remained unaltered and minimal underlying stromal cellular reaction was noted. The viral culture and PCR reports were negative. With a diagnosis of

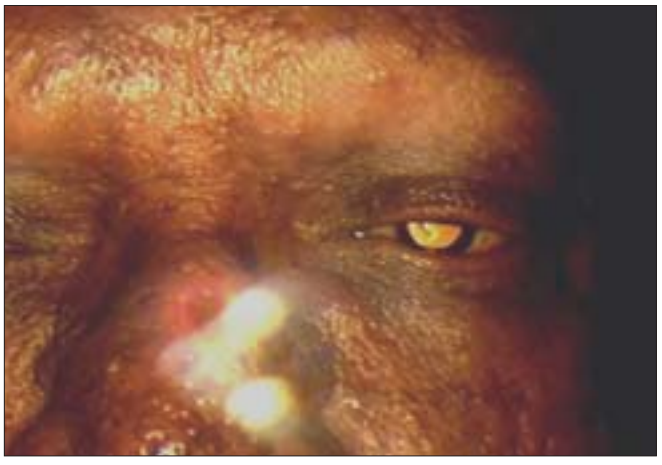

Figure 1a: External face photograph showing papules of cheeks, forehead and nose, along with rhinophyma

Figure 1b: Slit-lamp photograph of the cornea showing the presence of the dendritic lesion and the peripheral infiltrate

possible pseudodendritic keratitis with ocular rosacea, the patient was prescribed systemic doxycycline 100 mg orally twice daily, loteprednol etabonate 0.5% eye drops four times/day, carboxymethyl cellulose 0.5% eye drops four times/day and ointment erythromycin once at bedtime. Lid scrubs and warm compresses were prescribed twice daily. A prompt response was seen and both the lesions healed in a week. Six months following the initial presentation, vision improved to 20/20, with a persisting mild sub-epithelial haze. Patient was continued on the warm compresses, lid hygiene and tear substitutes in both the eyes.

McCulley *et al.*[3] have reported that in rosacea patients there is generalized sebaceous gland dysfunction that also involves the MGs. Alterations in lipid secretions and abnormal keratinization of the MG duct orifices have a profound effect on the quality of tear film and on the ocular surface.[4] This is an interesting case of pseudodendritic keratitis in a patient of ocular rosacea. We initially started him on systemic antiviral therapy as he had associated rosacea and we wanted to avoid any possibility of other eye involvement. From the previous studies it has been seen that bilateral herpetic keratitis has been described in patients with atopy, ocular rosacea and in patients with an altered immune system.[5] The patient showed no response to antiviral therapy. Also, the PCR and the viral culture were negative. This prompted us to reconsider our diagnosis. The patient responded to the therapy for ocular rosacea. This case is reported to re-emphasize the fact that such lesions may occur in association with ocular rosacea. Meibomian gland dysfunction with increased ocular surface inflammation and mechanical rubbing of the inflamed eyelids on the corneal surface are the probable contributing factors.

To conclude, ocular rosacea should be considered in the differential diagnosis of pseudodendritic keratitis. These lesions are innocuous and respond to the therapy for ocular rosacea.

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