Peripheral Ulcerative Keratitis-
An Atypical Presentation of Calotropis Induced Keratitis

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Abstract

We report a case of an unusual presentation of calotropis induced keratitis where a patient presented with peripheral ulcerative keratitis following accidental splash of calotropis sap into his eye. The review of literature revealed cases of toxic keratoconjunctivitis, corneal abrasion, iridocyclitis and endothelial toxicity. But no case of ulcerative keratitis has been reported so far.

CASE PRESENTATION

A 47 year old male patient developed diminished vision and photophobia following accidental fall of calotropis sap into his left eye. Patient immediately washed his eyes with water. He was then seen by an ophthalmologist and advised topical steroids and lubricating drops. Patient’s symptom worsened and hence was referred to us 1 day following the injury. On examination he had BCVA of 6/12 OS. A peripheral ulcerative keratitis involving 270 degree of cornea with an undermining edge and overhanging lip was seen. The peripheral ulcer was extending almost 2-3 mm into the cornea extending from 2 ‘o’ clock to 11 ‘o’ clock of cornea (Figure 1,2). The infiltrates had a greyish white colour. The cornea did not show any stromal or epithelial edema, there was no evidence of endothelial toxicity. Conjunctival congestion was minimal with insignificant ciliary congestion. Anterior chamber showed 1+ flare and no cells. Pupil was reactive to light, lens was clear. Intraocular pressure was 16 mm of Hg. Posterior segment was normal. The right eye had a Schirmer’s 1 of > 15 mm at 5 min. Right eye on examination was normal. The patient’s ESR was 17 mm, CRP, RA factor were negative. HIV testing was negative. Patient did not have any systemic inflammatory disorder and was not on any systemic medications. A physician opinion was taken to rule out any immune disorder which was negative.

We stopped all medications and treated him with topical unpreserved hydroxypropylmethyl cellulose 2% patching. The patient showed dramatic improvement with reduction in density of infiltration but the undermined edge of the ulcer was getting lifted up by the lower lid and hence the margin showed delayed healing inferiorly while the superior parts of the ulcer showed rapid healing with disappearance of the infiltrates and re-epithelialisation within 3 days. We placed a bandage contact lens after 3 days and continued with preservative free lubricants and cycloplegics. The patient responded with complete healing and re-epithelialisation within two weeks with only lubricants and cycloplegics. Vision was 6/9 after two weeks with macular grade scarring in the peripheral cornea (Figure 3). The bandage contact lens was removed after two weeks.

DISCUSSION

Calotropis procera is a flowering plant growing in the tropical belt and known by various names as Sodom apple, mudar, osher and aka in different parts of the world. In India it is commonly used for religious purposes. The milky sap is a mix of various chemicals including calotropis glycosides such as calotropin, calotoxin, calactin, uscharidin, voruscharin which are caustic in nature and are considered poisonous. The irritant and pro-
of ulcerative keratitis and hypothesised that calotropis is relatively non toxic to epithelium. A stromal ulcerative keratitis presentation has not been reported earlier and the topical steroids which have been the recommended in all the reported cases so far, worsened the condition in our patient with further progression of the ulceration and the patient responded only after discontinuing the steroids.

The reason for the ulcerative response is not clearly explained. The latex of calotropis has shown to be acidic and induces prostaglandin synthesis through the induction of cyclooxegenase -2 [1]. Prostaglandins synthesis probably explains the ulcerative response. The calotropis toxins causing an exaggerated response in an immunologically susceptible individual cannot be ruled out. However we performed investigations and suitable references to rule out a systemic disorder.

We report this unusual presentation of calotropis keratitis to make the ophthalmologists aware of such a kind of presentation and corticosteroids should be used only with great care in calotropis injury and is advisable only in cases of endothelial toxicity. In cases of epithelial and ulcerative keratitis, a thorough eye wash to remove any calotropis toxins from the eye and topical hydroxypropylmethylcellulose patching with careful follow-up is all that is needed.

REFERENCES