

To Report a Case of Euphorbia Keratopathy

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Abstract

A spectrum of ocular inflammation associated with Euphorbia sap exposure has been observed. While neglected cases can result in blindness, sequelae such as corneal scarring, uveitis, and anterior staphyloma are recognized to occur as a consequence of accidental contact with the juice of Euphorbia species. Not many reports in literature have been documented but it has been concluded that there is a classic syndrome of "Euphorbia keratopathy". The author hereby tends to report a case of ocular injury with *Sapium insigne* commonly found in hilly terrain. Early identification of the symptoms and appropriate supportive treatment is the backbone of the management of ocular injuries induced by Euphorbia plant sap juice

Introduction

Family Euphorbiaceae includes over 1500 species of trees, herbaceous plants and succulents [1]. The milky latex of many Euphorbia plants is toxic, and results in profuse inflammation of the skin and the eye [2,3]. Though many cases may be self-limiting without consequences if managed appropriately, the spectrum of ocular injuries due to plant sap splash varies from minimal discomfort to contact dermatitis, mild to severe keratoconjunctivitis, epithelial sloughing, corneal scarring, uveitis with hypopyon, miosis and even blindness secondary to superimposed infection. Alkaloids, cyanogenic glycerides, cardioactive glycerides, plant acids, amino acids, essential oil poly-acetylene compounds, proteins furanocoumarins and peptides, saponins and terpenes have been identified as toxic constituents of plant sap [4].

Case Report

A 56-year-old agriculturist with controlled systemic hypertension and history of cataract surgery to the left eye, reported to eye OPD after he had an accidental contact with the Euphorbia plant juice, while working in the field. The plant juice squirted in his eye, while trying to cut twig of a plant. The patient reported of redness, excruciating pain, foreign body sensation and diminished vision since then. He rinsed his eye with running tap water, but the symptoms didn't subside (Figures 1 and 2).

On examination, there was intense superficial conjunctival congestion OS. Visual acuity was 6/6 OD and FC at 2 feet OS. On SLE there was an oval epithelial defect measuring 6 into 3 mm covering the central cornea. Stromal edema and Descemet's folds were also present. IOP Was 14 and 17 mm Hg. AC revealed no activity in left eye. The ocular pH was checked using hydrion pH paper and found to be alkaline (pH 9) in left eye. She received immediate irrigation with normal saline 0.9% and the pH normalized (pH 7.0) after 2 litres were instilled in left eye. Examination of the right eye was unremarkable.



Figure 1: Central corneal epithelial defect as a result of spillage of plant juice into eye.

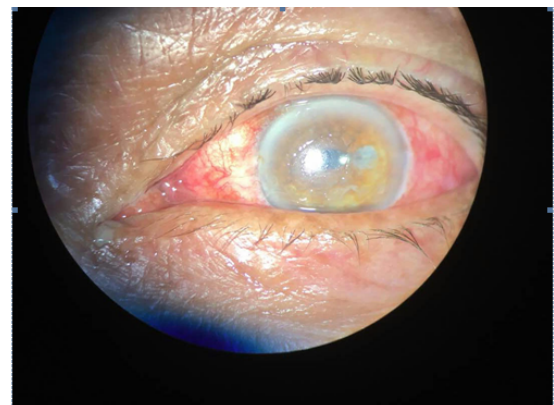


Figure 2: Stromal edema is well evident in pseudophakia left eye

The patient was started on topical antibiotic chloramphenicol 1 percent, tear substitute Carboxy Methyl Cellulose 1 percent, hypertonic saline solution 5 percent and eye was patched for one day. Analgesics (diclofenac and seratiopeptidase) were prescribed for pain.

Subsequent follow up on 3rd and 7th day revealed partial and complete healing of epithelial defect. The patient was asked to bring the twig of the plant. Botanical examination revealed this to be *Sapium insigne* (Figures 3 and 4).

Tiger's Milk Spruce or *Sapium insigne* is a small tree, 5-10 m high, with horizontal branches, exuding poisonous milky juice. It belongs to the family Euphorbiaceae. Members of this genus are invariably venomous (Figure 5).

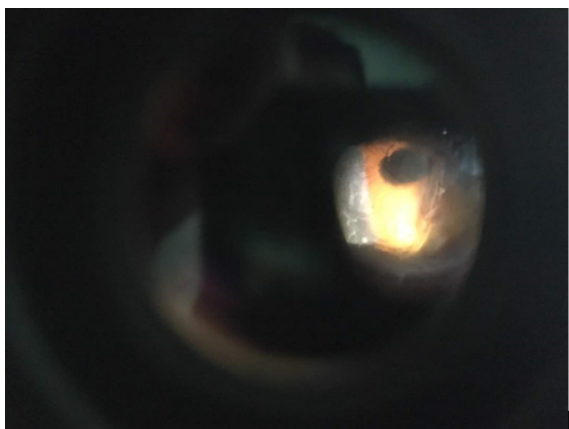


Figure 3: Descemet's folds in central cornea

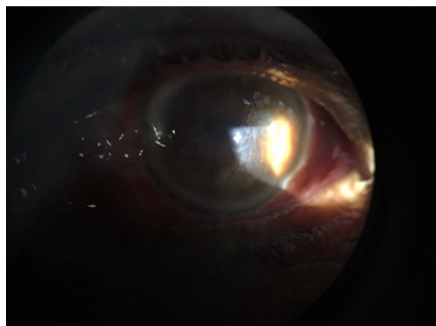


Figure 4: Descemet's folds as a result of exposure with plant sap.

Agonizing pain instantly upon exposure followed by blurred vision is the hallmark of ocular injuries by the sap of Euphorbia plants.

Redness, photophobia and lacrimation can also result. Profuse irrigation with tap water at the scene is advised at the earliest in order to dilute the concentration of the sap inside the eyes and to cut short the duration of exposure. A sample of the offending plant should be taken for identification.

Topical antibiotic and steroid can limit the risk of corneal oedema and bacterial infection. Topical cycloplegics for pain relief should also be prescribed.



Figure 5: Twig of *Sapium insigne* also known as tiger milk spruce (Euphorbiaceae-Castor family)

Conclusion

Ophthalmologist should be aware of the vision threatening complications from Euphorbia plant saps and detailed assessments using slit-lamp examination for corneal defects should be carried on similar to other cases of plant toxicity, the patient should be asked to bring a specimen of the offending plant for identification. Flowering or fruiting parts can assist the botanist in identification of plant. When handling the Euphorbia plant, the use of gloves is recommended. Successive loss of man-days can be easily halted by a simple intervention in the form of protective glasses.

References

1. Webster GL (1986) Plant dermatitis. Irritant plants in the spurge family (Euphorbiaceae) Clin Dermatol 4: 36-45.
2. Grant WM, Schuman JS (1993) Toxicology of the Eye. Springfield, IL: Charles C Thomas; 4: 680-682.
3. Duke-Elder S (1972) System of Ophthalmology. London, UK: Henry Kimpton p1185.
4. Joshi D, Shingal P (2008) Ocular Injuries from Plant Sap in Army Soldiers. MJAFI 64: 293-294