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Anesthetic Abuse Patient Associated With Corneal Ulcer, Hyphema And Lipid Keratopathy

Case report

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Report of a Case:
A 47 year old male admitted to Cornea department co mplaining of tearing, light sensitivity, blepharospasm, foreign-body sensation and blurred vision. The compla ints were present for more than 4 weeks. Past ocular hi story was remarkable for frequent usage of (as often as every 15 minutes) topical anesthetic (2% lidocaine) ey e drops.

Introduction and background:
A commonly encountered and frequently unrecognize d clinical problem is epithelial keratopathy caused by topical ocular medications. Topical anesthetics have re peatedly been shown to be toxic if used for prolong pe riods and their cytotoxic results are dose-dependent. T he toxic effect includes frank epithelial loss, stromal e dema, infiltration and corneal opacities. Toxic reaction s of the ocular surface can take different forms. Very mild toxicity can be presented as follicular conjunctivi tis involving the upper and lower palpebral conjunctiv ae. In its mild to moderate form the toxic keratitis cons ists of punctate epithelial erosion often affecting the in ferior cornea, associated with injection of the tarsal an d bulbar conjunctiva and mild papillary reaction of sup erior tarsal conjunctiva. A diffuse punctate epitheliopa thy, occasionally in a whorl pattern, can be observed i n more severe cases. This pattern sometimes is called vortex keratopathy. The most severe cases may involv e a corneal epithelial defect of the inferior or central co rnea, stromal opacification and neovascularization. Thi s type of epithelial disease can be seen in damage of li mbal stem cells. We are presenting a case of anesthetic abuse associated with corneal ulcer, hyphema and lipid keratopathy.

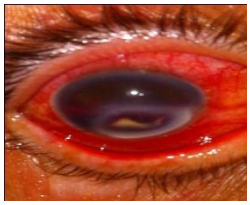
Objective data:
On slit lamp examination the patient had OU inferior p aracentral corneal ulcers with epithelial defects, strom al suppuration and lipid deposition. There was inferior pannus with huge vessels entering the anterior chambr. There was hyphema present in both eyes about 2 mm, anterior chamber cells (2+), and granuloma-like lookin g stuff in anterior chamber. There was scant mucopuru lent discharge present in both eyes. Initially the patient did not mention about anesthetic usage at all and was diagnosed with OU severe bacterial keratitis and starte d on Chloramphenicol and Tobramicin eye drops ever y hour and cycloplegic drops every 2 hours. The patien t was told to be checked for TB, Sarcoidosis and Syphi lis and corneal scrapings and cultures should be done, but he refused to get any test done. On his next visit he claimed about using lidocaine every 15 minutes so the diagnosis was changed to anesthetic abused keratopat hy. The patient was told to stop lidocaine immediately, artificial tears were added to treatment regimen and or al Doxiciclin 100mg twice a day, Bethametasone sub/t enon injection was performed, antibiotic drops were de creased to 4 times a day. Two weeks later patient was seen again with dramatic improvement. The hyphema and granuloma-looking like stuff was resolved on 50% and the epithelium was almost healed. The patient got second injection of Bethametasone and was advised to continue the same treatment. The patient was seen aga in after 2 weeks with great improvement, the hyphema

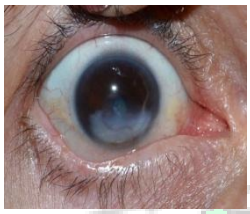
and granuloma looking stuff and anterior chamber cell s were resolved, the epithelium was totally healed and corneal anterior stromal scar was formed. The patient was advised to continue artificial tears 4 times a day a nd never use anesthetic eye drops.

Figures

Below are the photos of the eyes at presentation, and a fter 3 month.

OD





OS

Conclusion:

Anesthetic abuse keratopathy has been described since 1990 by Kinter JC et al, in two patients associated with infectious crystalline keratopathy (1). Chen HT and co-authors have described a patient with SLE that developed toxic keratopathy from abuse of topically administered anesthetic even at a very low concentration, oxybuprocaine 0.05% (2). Boljka M and colleagues have inestigated the cytotoxic effects of 0.5% amethocaine (tetracaine) on the human cornea by scanning electron microscopy. The ultrastructural examination of epithelial cells showed damage of the cell membrane, rare-faction and loss of microvilli, deposits of amethocaine on the corneal surface and accelerated desquamation of superficial epithelial cells (3). Rocha G and co-authors in 1995 have described 3 patients with abuse of 0.5% tetracaine and 0.5% proparacaine eye drops. Their patients had nonhealing epithelial defect, marked stromal edema, folds in Descemet's membrane and a typical stromal ring infiltrate. All three required a conjunctival flap, and two underwent penetrating keratoplasty (4). Our patient in contrats to all described cases in the literature had all findings typical to anesthetic abuse keratopathy plus hyphema, lipid keratopathy and anterior chamber granuloma looking-like picture which to our knowledge has not been described yet. Our patients responded to medical treatment and did not require any surgery.

References:

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