Mike Pearson, MD
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Waldman N et al. Topical tetracaine used for 24 hours is safe and rated highly effective by patients for the treatment of pain caused by corneal abrasions: a double-blind, randomized clinical trial. Acad Emerg Med. 2014 Apr;21(4):374-82.

BLUF: A short course of topical tetracaine in uncomplicated corneal abrasions appears to have no adverse effects on healing and was judged by patients to be more effective for symptoms than placebo.

Objectives:/Background: This trial was designed to corroborate other smaller studies which have shown that tetracaine used for topical analgesia causes no adverse effects or delayed healing for patients suffering from a corneal abrasion. Despite dogma and case reports describing the dangers of topical analgesics for corneal abrasions, recent small studies done by ophthalmologists have shown topical analgesics to be safe for use after PRK and the authors sought to study tetracaine's use in the ED setting in the context of relatively 'contaminated' wounds.

Methods: This was a double blind randomized trial comparing tetracaine to saline for symptom control for 24 hours after ED diagnosis of a corneal abrasion. 116 patients were included, and were monitored by repeat ED exam at 48 hours and 1 week and 1 month follow up phone interviews. Primary outcome was delayed healing or complications attributable to the medication. Secondary outcomes were pain scores over the acute period and patients' perceived effectiveness of the medicine.

Results/conclusions: Authors were able to follow up with all enrolled patients at least once, and were unable to document any complications secondary to tetracaine use. Using persistent fluorocein uptake at 48 hours they could not show any delayed healing of abrasions. Patients reported similar pain within the immediate 48 hours following ED evaluation between placebo and treatment arms but the tetracaine group rated the drug's effectiveness higher than patients in the saline group.

Discussion: This study enrolled only uncomplicated corneal abrasions and excluded contact wearers, anything requiring urgent follow up and any grossly contaminated abrasions. As one would expect, patients felt that tetracaine was more effective than placebo, though their acute pain scores were equivalent in both arms. The follow up slit lamp exams were done in the ED, not by a board certified ophthalmologist, who may have more experience and may have noted subtle signs of delayed healing. Treatment for 24 hours may be inadequate to control symptoms for the duration of healing corneal abrasions.

Conclusion: In uncomplicated corneal abrasions, a short course of topical analgesic appears to have no adverse effects on healing and may be of benefit for symptomatic control. Caution should still be used in prescribing tetracaine to these patients, but it might be something you can discuss with your consulting ophthalmologist next time one of these comes in.