

Brief communications

Adverse reaction to ocular cromolyn sodium

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Since the removal of Opticrom (Fisons Pharmaceuticals, Loughborough, England) (4% cromolyn sodium ophthalmic) from the U.S. market, it has become the practice of some physicians to use Nasalcrom (Fisons) (4% cromolyn sodium nasal solution) in the eyes of patients who might otherwise receive Opticrom. We report a case in which this produced significant untoward effects.

CASE REPORT

A 24-year-old white woman presented with symptoms suggestive of allergic rhinoconjunctivitis. She had an extensive past medical history that included acute lymphocytic leukemia in 1979. She eventually received a bone marrow transplant from her brother in 1981. She had multiple complications from immunosuppressive therapy, including bilateral cataracts, bilateral aseptic necrosis of the hips, and nephrolithiasis. She came to us complaining of dry and itchy eyes and nasal congestion, with strong spring and fall seasonal increases in her symptoms. Approximately 3 years ago she had positive prick tests at another institution to grass and weed pollens, dust mites, and to molds. She also complained of a baseline of chronic dry eyes attributed to lacrimal gland damage by radiation therapy. During the winter and summer she used artificial tears several times daily, but in the spring and the fall she required administration of tears every 5 minutes. During the spring and fall she also took terfenadine, pseudoephedrine, and guaifenesin. This drug regimen produced only minimal improvement in her symptoms. She was taking no immunosuppressive drugs or other medicines at the time of our evaluation. Family history revealed that her brother (the bone marrow donor) has symptoms suggestive of seasonal allergic rhinitis. The patient had no seasonal rhinitis or conjunctivitis before receiving her bone marrow transplant.

Pertinent findings on physical examination included conjunctivas that were mildly injected; intraocular lens implants were noted bilaterally. The nasal mucosa was moderately inflamed, and thin secretions were present. Our assessment was that the patient had radiation-induced damage to her lacrimal glands producing her baseline dry eyes. Her sea-

sonal exacerbations correlated well with her positive skin tests to pollens and were deemed likely to be allergic.

We prescribed cromolyn sodium for her eyes, but because Opticrom was unavailable, we elected to use Nasalcrom. Immediately after instillation of the first drops from a freshly opened bottle with a sterile eye dropper, the patient had excruciating burning of her eyes that persisted and prompted her to report to our emergency department. On evaluation less than 1 hour after the instillation of the Nasalcrom she complained of persistent severe pain. She was diagnosed as having a chemical irritation. Her eyes were patched and improved significantly in 24 hours. Her baseline eye dryness remained. Follow-up ophthalmology examination revealed superficial punctate keratitis likely caused by cromolyn use on already dry eyes.

This case was interesting for several reasons. The transfer of immediate hypersensitivity to bone marrow recipients has been described in a prospective study.¹ With an increasing number of bone marrow transplants being performed, a significant number of patients may begin to come to allergists for evaluation. Inhalant sensitivity may increase morbidity in these patients by worsening conjunctivitis and predisposing to sinusitis. If the conjunctivitis is refractory to non-sedating antihistamines, few good alternatives remain. Topical antihistamines may or may not be effective. First generation antihistamines may worsen xerostomia. Cromolyn sodium seemed to be an attractive alternative, but our experience suggests caution.

A literature search failed to reveal other similar cases, and the *Physicians Desk Reference* does not mention such severe reactions. It is unclear if using Nasalcrom instead of Opticrom contributed to this untoward reaction. Both solutions contain 4% cromolyn sodium. Both contain 0.01% benzalkonium chloride. Both also contain edetate disodium, although Nasalcrom contains 0.01% whereas Opticrom contains 0.1%. These preservatives are identical to those found in the artificial tear preparation that our patient had been using and that she continues to use. This makes preservative sensitivity an unlikely cause of our patient's symptoms. Placement of the solution used by our patient in a healthy volunteer's eyes (W.E.S.) failed to produce symptoms. Analysis by the manufacturer revealed that the cromolyn concentration and the pH of the solution used by our patient were within specifications for Nasalcrom. Although we and other allergists have used Nasalcrom in the eyes of other patients with dry eyes without adverse effect, we suggest caution in severe cases.

REFERENCE

1. Agosti JM, Sprenger JD, Lum LG, et al. Transfer of allergen-specific IgE-mediated hypersensitivity with allogeneic bone marrow transplantation. *N Engl J Med* 1988;319:1623-8.

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Supported by a starter grant from the Burroughs Wellcome Fund and by grant AI31273 from the National Institutes of Health.

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