

least six months.³ A 2010 review of randomized and nonrandomized trials addressed risk factors affecting the prognosis after discontinuing medication.⁴ The author concluded that sudden death and development of a treatment-refractory, resistant form of epilepsy are rare and should not be emphasized in the shared decision-making process.

SOURCE: Strozzi I, Nolan SJ, Sperling MR, Wingerchuk DM, Sirven J. Early versus late antiepileptic drug withdrawal for people with epilepsy in remission. *Cochrane Database Syst Rev*. 2015;(2):CD001902.

The practice recommendations in this activity are available at <http://summaries.cochrane.org/CD001902>.

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Topical Antihistamines and Mast Cell Stabilizers for Treating Allergic Conjunctivitis

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Clinical Question

Are topical antihistamines and mast cell stabilizers, used alone or in combination, effective and safe in treating patients with seasonal and perennial allergic conjunctivitis?

Evidence-Based Answer

Topical antihistamines and mast cell stabilizers, either alone or in combination, are safe and effective for reducing the symptoms of seasonal and perennial allergic conjunctivitis. (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.) There is insufficient evidence to compare the effectiveness of specific topical medications. No serious adverse effects are associated with these medications.

Practice Pointers

Patients with seasonal allergic conjunctivitis and perennial allergic conjunctivitis often report itching, tearing, swollen eyelids, and redness mediated by the release of histamine from mast cells, resulting in conjunctival

inflammation.^{1,2} Itching is the most common symptom, occurring in more than 75% of patients. The authors of this Cochrane review evaluated the effectiveness of topical mast cell stabilizers and antihistamines for this common condition.

This review included 30 randomized controlled trials with 4,344 participants four to 85 years of age who had seasonal or perennial allergic conjunctivitis. Studies of patients with vernal keratoconjunctivitis, atopic keratoconjunctivitis, or giant papillary conjunctivitis were excluded, as were studies that analyzed oral or nasal antihistamines. Within the 30 trials, 17 different drug or treatment comparisons were conducted in North and South America, Asia, Europe, Africa, and Australia; the duration of the studies ranged from one to eight weeks. The primary outcomes were participant reports of photophobia and ocular itching, irritation, and watering. Secondary outcomes included adverse effects; the duration of acute symptoms; the incidence of acute episodes per year; and signs of hyperemia, chemosis, or tarsal papillae on examination. The risk of bias was judged to be low.

Overall, the results favor topical antihistamines and mast cell stabilizers, alone or in combination, vs. placebo for short-term relief of the symptoms of allergic conjunctivitis (Table 1). Eight studies comparing the mast cell stabilizers nedocromil (Alocril) or cromolyn

Table 1. Topical Treatments for Allergic Conjunctivitis

Drug class	Dosing schedule	Cost*
Antihistamines		
Bepotastine (Bepreve)	Twice per day	NA (\$180)
Emedastine (Emadine)	Four times per day	NA (\$120)
Epinastine (Elestat)	Twice per day	\$38 (\$220)
Mast cell stabilizers		
Lodoxamide (Alomide)	Four times per day	NA (\$150)
Nedocromil (Alocril)	Twice per day	NA (\$190)
Pemirolast (Alamast)	Four times per day	NA (\$115)
Combination formulations		
Azelastine†	Up to four times per day	\$40
Ketotifen (Zaditor)†	Twice per day	NA (\$15)
Olopatadine (Patanol)	Twice per day	\$50 (\$250)

NA = not available.

*—Estimated retail cost for one month of therapy based on information obtained at <http://www.goodrx.com> (accessed April 13, 2016). Generic price listed first; brand price listed in parentheses.

†—Available over the counter without a prescription.

sodium vs. placebo favored the mast cell stabilizers. Trials comparing the antihistamines azelastine (nine studies) and levocabastine (not available in the United States; five studies) vs. placebo all favored the antihistamines. Because of heterogeneity between studies, meta-analysis was possible only for four studies with 204 patients that compared the effect of olopatadine (Patanol) with ketotifen (Zaditor) on itching and tearing at 14 days. In this analysis, olopatadine was superior to ketotifen overall in reducing itching (mean difference = -0.32 ; 95% confidence interval, -0.59 to -0.06) but equivalent in reducing tearing. The evidence was insufficient to make any other drug comparisons. There were no serious adverse effects related to treatment with topical medications.

Clinical guidelines from the American Academy of Ophthalmology³ and the College of Optometrists⁴ (England) for the management of allergic conjunctivitis support the use of topical antihistamines and topical mast cell stabilizers, either alone or as combined formulations.

SOURCE: Castillo M, Scott NW, Mustafa MZ, Mustafa MS, Azuara-Blanco A. Topical antihistamines and mast cell stabilisers for treating seasonal and perennial allergic conjunctivitis. *Cochrane Database Syst Rev*. 2015;(6):CD009566.

The practice recommendations in this activity are available at <http://summaries.cochrane.org/CD009566>.

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