What is the best medical treatment for allergic conjunctivitis?

Evidence-Based Answer

Signs and symptoms of allergic conjunctivitis (AC) may be effectively managed with topical antihistamines (AH), topical mast cell stabilizers (MCS), topical nonsteroidal anti-inflammatory drugs (NSAIDs), and intranasal steroids (INS). (SOR: A, based on a systematic review.) Evidence is insufficient to clearly indicate 1 class of medication as superior in clinical settings. The TABLE lists various treatments for allergic conjunctivitis.

A systematic review of 9 RCTs (n=313) reported topical AH superior to placebo for reduction of signs and/or symptoms of AC. The degree of symptom improvement was not tabulated. Six studies examined levocabastine, 1 azelastine hydrochloride, 1 emedastine, and 1 antazoline phosphate. The review found no evidence supporting 1 AH agent being superior to another.

A meta-analysis of 6 RCTs (n=316) using a random-effects model comparing a topical MCS (cromoglycate) with placebo reported any perceived benefit to be 17 times more likely with treatment compared with placebo (95% CI, 4–78).

In the same report, the authors discussed an additional meta-analysis of 5 RCTs including 556 patients comparing nedocromil sodium with placebo. Using a fixed-effects model, they reported patients to be significantly more likely to report symptoms as moderately or totally controlled with nedocromil (OR 1.8; 95% CI, 1.3–2.6). The review found no head-to-head trials comparing active MCS agents.

A meta-analysis of 8 studies (n=712) showed reduction in both signs and symptoms of AC with use of topical NSAIDs. Compared with placebo, results reported as “combined standardized mean differences” showed decreased conjunctival injection of –0.51 (95% CI, –0.97 to –0.05), conjunctival itching of –0.54 (95% CI, –0.84 to –0.24), and tearing/lacrimation of –0.21 (95% CI, –0.41 to –0.01), but no statistically significant difference in conjunctival chemosis, mucus production, corneal disturbance, eyelid swelling, sensation of burning/pain, photophobia, or sensation of a foreign body.

A pooled, retrospective analysis from 7 double-blind RCTs (n=1,645) showed a statistically significant greater reduction in clinician-rated total ocular symptom score (TOSS graded from 0 to 400) at both 7 and 14 days by 25.1 and 31.6 points, respectively, with use of fluticasone propionate compared to

<table>
<thead>
<tr>
<th>Generic name (brand name)</th>
<th>Class</th>
<th>Dosing schedule</th>
<th>Cost per milliliter in $ (for brand name medication)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emedastine 0.05% (Emadine)</td>
<td>AH</td>
<td>4×/day</td>
<td>15.75</td>
</tr>
<tr>
<td>Pheniramine/naphazoline 0.3%/0.025% (Naphcon A)</td>
<td>AH w/ alpha agonist</td>
<td>1–4×/day</td>
<td>1.20</td>
</tr>
<tr>
<td>Pheniramine/naphazoline 0.32%/0.03% (Opcon-A)</td>
<td>AH w/ alpha agonist</td>
<td>1–4×/day</td>
<td>0.64</td>
</tr>
<tr>
<td>Pemirolast 0.1% (Alamast)</td>
<td>MCS</td>
<td>4×/day</td>
<td>11.18</td>
</tr>
<tr>
<td>Nedocromil 2% (Alocril)</td>
<td>MCS</td>
<td>2×/day</td>
<td>18.60</td>
</tr>
<tr>
<td>Lodoxamide 0.1% (Alomide)—for vernal conjunctivitis</td>
<td>MCS</td>
<td>4×/day</td>
<td>10.27</td>
</tr>
<tr>
<td>Cromolyn 4% (Crolom)</td>
<td>MCS</td>
<td>4×/day</td>
<td>3.20 (4.60)</td>
</tr>
<tr>
<td>Ketotifen 0.025% OTC (Alaway)</td>
<td>AH/MCS</td>
<td>2×/day</td>
<td>1.20</td>
</tr>
<tr>
<td>Ketotifen 0.025% OTC (Zaditor)</td>
<td>AH/MCS</td>
<td>2×/day</td>
<td>14.00</td>
</tr>
<tr>
<td>Azelastine 0.05% (Optivar)</td>
<td>AH/MCS</td>
<td>2×/day</td>
<td>18.18</td>
</tr>
<tr>
<td>Olopatadine 0.1% (Patanol)</td>
<td>AH/MCS</td>
<td>2×/day</td>
<td>21.36</td>
</tr>
<tr>
<td>Olopatadine 0.2% (Pataday)</td>
<td>AH/MCS</td>
<td>Daily</td>
<td>42.34</td>
</tr>
<tr>
<td>Epinastine 0.05% (Elestat)</td>
<td>AH/MCS</td>
<td>2×/day</td>
<td>23.32</td>
</tr>
</tbody>
</table>

*aCost information from Epocrates.com on May 17, 2010, unless otherwise stated.

*bCost information from Walmart.com on May 17, 2010.

AH=antihistamine; MCS=mast cell stabilizer; OTC=over the counter.
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placebo (P<.001 for both). Pooled pre- and post-treatment scores were not included.

A meta-analysis of 4 RCTs (n=325) compared perceived benefit of treatment with levocabastine (an AH) or a MCS in studies lasting 14 days to 4 months. Results reported as fixed effect estimates showed the AH was 1.3 times more likely to be perceived as “good” or “excellent” compared to the MCS (95% CI, 0.8–2.2, not statistically significant). Additional analysis of 2 short-term provocation studies (n=74) showed a statistically significant (P<.05) decrease in both redness and itching with AH treatment compared with MCS.

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What is the best treatment for chronic anal fissures?

Evidence-Based Answer
Nitroglycerine (NTG) ointment, botulinum toxin, and topical calcium channel blockers are all effective for managing anal fissures. (SOR: A, based on systematic reviews and meta-analyses.) Lateral internal sphincterotomy (LIS) is the preferred surgical procedure, with a higher healing rate and lower recurrence rate than medical therapy. (SOR: A, based on systematic reviews and meta-analyses.)

Anal fissures are a common condition resulting in anal pain and bleeding. Pharmacologic and surgical options are available for the treatment of chronic anal fissures.

A Cochrane review on nonsurgical treatment of chronic anal fissures in adults identified 48 different comparisons reported in 53 RCTs with 12,552 patients. Eleven pharmacologic agents were used: NTG ointment, isosorbide dinitrate, botulinum toxin, diltiazem, nifedipine, hydrocortisone, lignocaine, bran, minoxidil, indoramin, and placebo, as well as dilators and surgical sphincterotomy.

Surgical sphincterotomy was better than any medical therapy for anal fissures (OR 0.09; 95% CI, 0.04–0.20; NNT=2). Topical NTG ointment was better than placebo for healing anal fissure (OR 0.35; 95% CI, 0.17–0.72; NNT=4), but had a recurrence rate of 50%. Botulinum toxin injection and topical calcium channel blockers had equal efficacy to NTG ointment for healing anal fissures, with less risk of headache. Headache risk with botulinum toxin was 0%, with calcium channel blocker 21%, and with NTG 27% (which had an OR for headache compared with placebo of 4.4; 95% CI, 2.9–6.7; NNH=7).

A 2010 Cochrane review on surgery for anal fissures in adults identified 24 RCTs and meta-analyses encompassing 3,475 patients and 11 operative procedures. Anal stretching techniques were clearly inferior, with high complication rates compared with lateral sphincterotomy (OR for anal fissure 1.6; 95% CI, 0.85–2.9; NNH=33; and OR for fecal incontinence 4; 95% CI, 2–8; NNH=11).

A 2009 meta-analysis of 4 RCTs involving 279 patients compared botulinum toxin injection with LIS for the treatment of chronic anal fissures. The LIS group had better healing (RR=1.3; 95% CI, 1.2–1.5; NNT=5), but a higher rate of minor anal incontinence (11% vs 0%; RR=0.08; 95% CI, 0.01–0.59). The recurrence rate was higher in the botulinum toxin group (RR=5.8; 95% CI, 3–11; NNT=3).

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The opinions and assertions contained herein are the private views of the author and are not to be construed as official or as reflecting the views of the Medical Department of the US Army or the US Army Service at large.