

TREATMENT OF ALLERGIC CONJUNCTIVITIS WITH OLOPATADINE

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SUMMARY – Allergy symptoms that affect the eyes are common in adults and children worldwide. Ocular allergies cause itching, chemosis, tearing, redness, and swelling of the eyelids in sensitized individuals. This is a preliminary report on a study aimed at assessing the olopatadine therapy efficacy in resolving the signs and symptoms of allergic conjunctivitis. Twenty patients (11 female and 9 male) were included in the study. They were treated with olopatadine 1 mg/mL solution. Clinical effects were recorded at 5 minutes of the first application and at 15 days of continuous application. Discomfort, itching, eye redness, tearing and foreign body sensation were graded on a scale from 0 to 3. Statistical analysis showed that all symptoms and signs responded favorably to olopatadine therapy. The results also showed olopatadine to be more efficacious in patients with acute than in those with chronic allergic diseases. No side effects were recorded. As these are only preliminary results, more information will be available upon completion of the large-scale study.

Key words: *Allergic conjunctivitis; Seasonal conjunctivitis; Perennial conjunctivitis; Atopic conjunctivitis; Vernal conjunctivitis; Olopatadine; Croatia*

Introduction

Allergy is a common hypersensitivity disorder that affects 15% to 20% of the population in the western world, and its prevalence is increasing worldwide¹. Allergy symptoms that affect eyes are common in adults and children. There is a paucity of international data evaluating the prevalence of ocular allergies within adult populations. In the United States, ocular allergies are known to affect more than 20% of the general population, and in the United Kingdom, a prevalence of 18.2% has been reported¹. Traditionally, allergy investigations have focused on nasal symptoms; however, recent studies have highlighted the prevalence and significance of ocular symptoms. Evidence suggests that ocular symptoms are particularly prevalent in patients with seasonal allergic rhinitis².

Allergic eye disease represents a spectrum of disorders, comprising seasonal allergic conjunctivitis, peren-

nial allergic conjunctivitis, atopic keratoconjunctivitis, and vernal keratoconjunctivitis. Ocular allergies cause itching, chemosis, tearing, redness, and swelling of the eyelids in sensitized individuals³⁻⁵. Although sequels affecting patient's vision are rare, the symptoms are distressing and have a significant socioeconomic impact⁶. Topical anti-allergic agents such as antihistamines and mast-cell stabilizers are the main therapeutic options for allergic conjunctivitis⁷.

This paper is a preliminary report on a study that evaluated the efficacy of olopatadine, which has antihistamine and mast-cell stabilizing effects, followed the dynamics of allergy signs and symptoms, and assessed the possible side effects.

Patients and Methods

This preliminary study included 20 patients (11 female and 9 male) referred by an allergologist to the Ophthalmology Outpatient Department between September 15, 2006 and April 15, 2007. It was an open label, prospective study using a protocol of good clinical practice that included collection of general patient data

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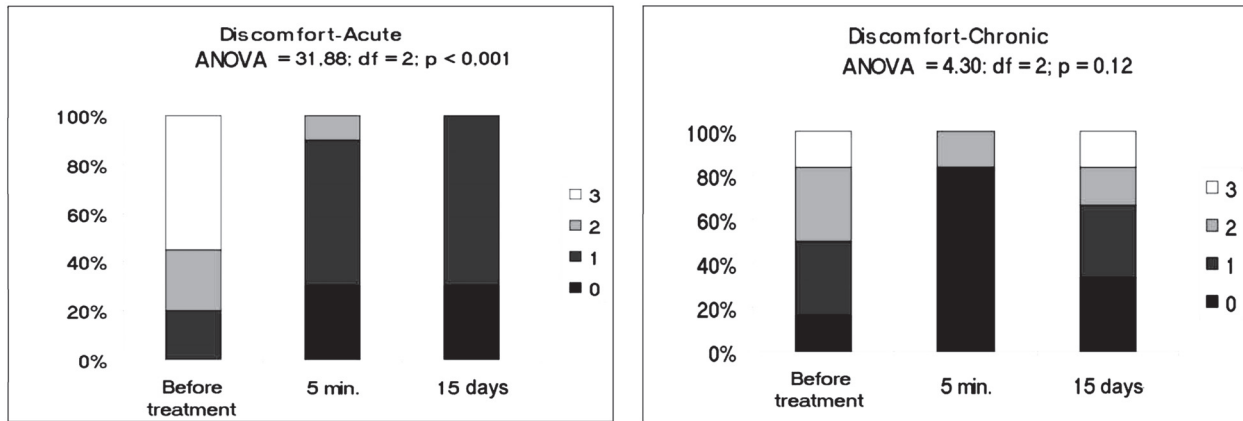


Fig. 1. Differences in olopatadine therapy effect on discomfort between acute and chronic allergic eye disorders. Thirty-four eyes with acute and six with chronic ocular allergy. Grading was done using a 0-3 scale (0 without, 1 mild, 2 moderate, 3 severe).

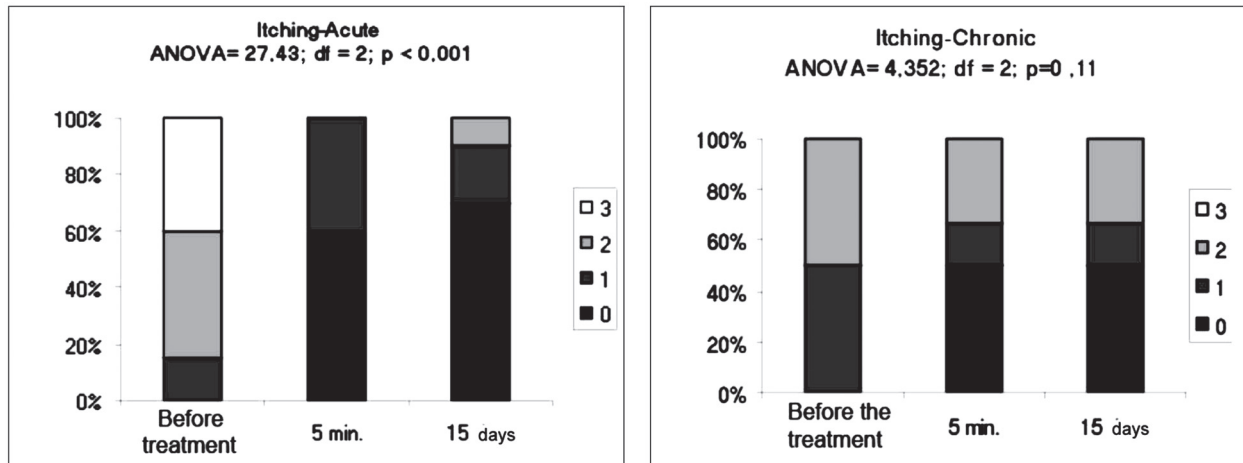


Fig. 2. Differences in olopatadine therapy effect on itching between acute and chronic allergic eye disorders. Thirty-four eyes with acute and six with chronic ocular allergy. Grading was done using a 0-3 scale (0 without, 1 mild, 2 moderate, 3 severe).

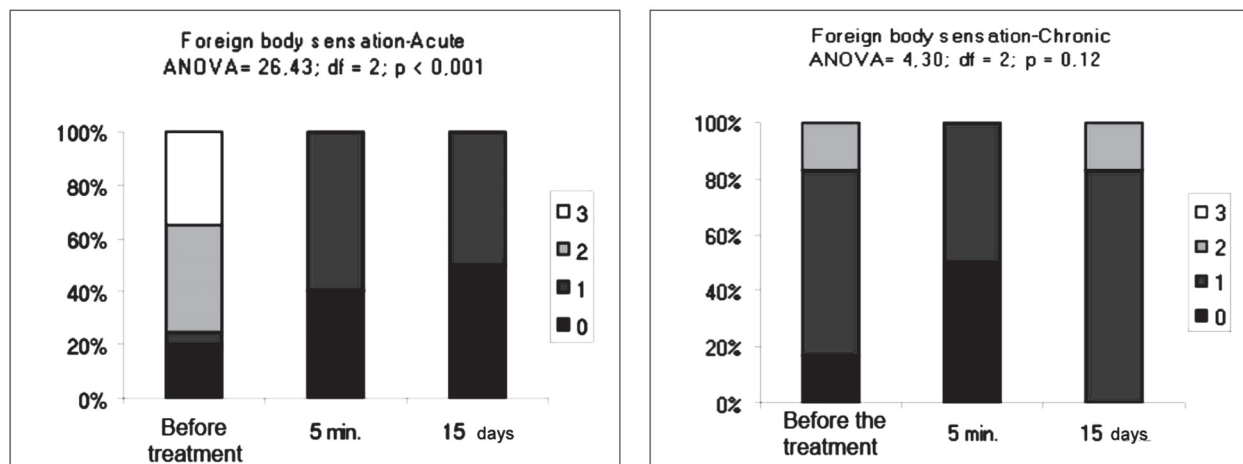


Fig. 3. Differences in olopatadine therapy effect on foreign body sensation between acute and chronic allergic eye disorders. Thirty-four eyes with acute and six with chronic ocular allergy. Grading was done using a 0-3 scale (0 without, 1 mild, 2 moderate, 3 severe).

(name, sex, age, etc.), history data, data on previous local and systemic therapy, eye status, and information of patient satisfaction with the treatment.

Symptoms (itching, foreign body sensation, discomfort) and signs (tearing, red eye) were graded on a 0-3 scale as 0 if the eye was free from the respective symptom; 1 if the symptom was mild; 2 if it was moderate; and 3 if it was severe.

Upon initial assessment of the symptoms and signs, and diagnosing of the ophthalmic allergic disorder, olopatadine 1 mg/mL was immediately instilled. Allergic symptoms and signs were graded before and 5 minutes after the instillation of the drug. The same drug was prescribed for subsequent home use twice daily.

Patients with acute allergic conjunctivitis were treated exclusively with olopatadine eye drops, without any anti-allergic therapy during previous 3 months. Patients with chronic allergic conjunctivitis were treated with olopatadine eye drops after discontinuation of previous topical or systemic anti-allergic therapy.

The follow up examination was done 15 days after initial examination, and allergic symptoms and signs were graded again. The clinical findings and individual patient's satisfaction were evaluated according to the results obtained.

Data were collected by use of the structured sheets and later processed by use of spreadsheet software (Microsoft Office Excel 2003, Microsoft Corporation). Sta-

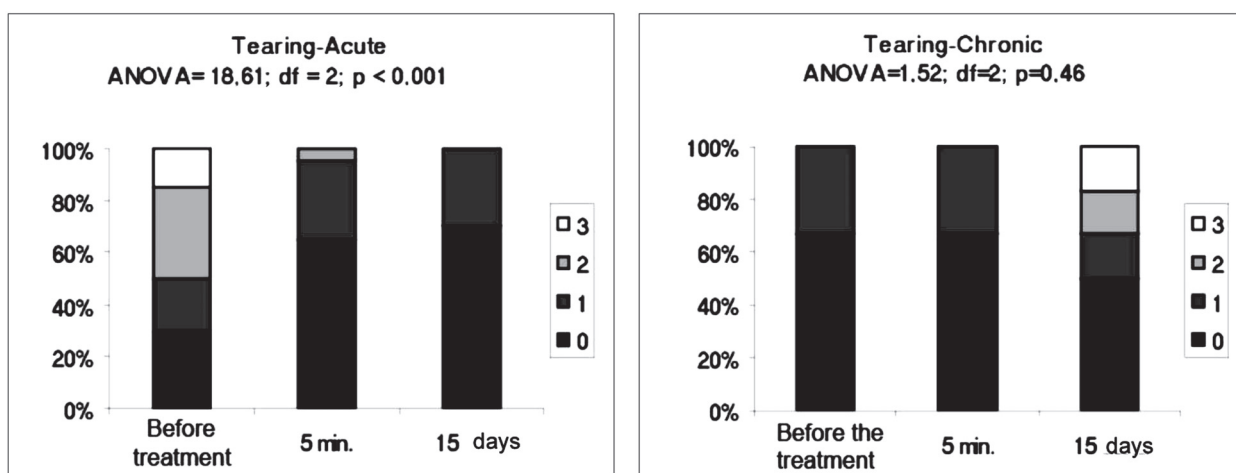


Fig. 4. Differences in olopatadine therapy effect on tearing between acute and chronic allergic eye disorders. Thirty-four eyes with acute and six with chronic ocular allergy. Grading was done using a 0-3 scale (0 without, 1 mild, 2 moderate, 3 severe).

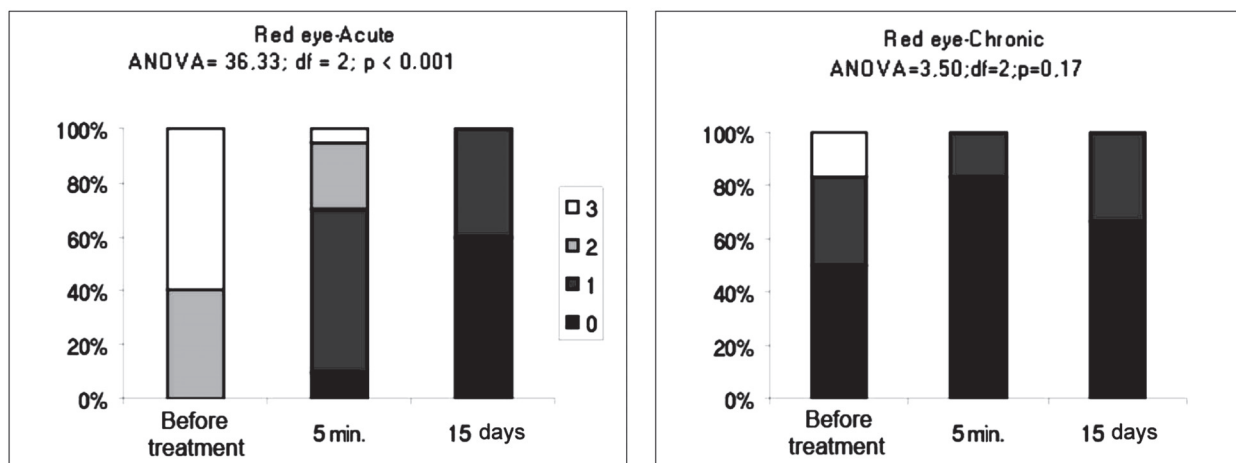


Fig. 5. Differences in olopatadine therapy effect on red eye between acute and chronic allergic eye disorders. Thirty-four eyes with acute and six with chronic ocular allergy. Grading was done using a 0-3 scale (0 without, 1 mild, 2 moderate, 3 severe).

tistical data analysis including repeat measurement ANOVA statistical analysis was done using Statistica 6.0 software (StatSoft Inc., Tulsa, OK, USA).

Results

The study included 11 (55.0%) female and nine (45.0%) male patients. All patients initially included in the study presented for follow up examination 15 days later. Patient age ranged from 11 to 73 (median 53) years. Eight of 20 patients with allergic conjunctivitis had previously had atopic diseases such as atopic dermatitis or urticaria that were induced by various allergens such as house dust or pollen.

Table 1 shows patient distribution according to specific allergic disorders. All study patients showed statistically significant regression of all allergy signs and symptoms (repeat measurement ANOVA; discomfort $p < 0.001$; itching $p < 0.001$; foreign body sensations $p < 0.001$; tearing $p < 0.002$; and eye redness $p < 0.001$). Afterwards, patients were divided into two groups: group 1, 17 patients (34 eyes) with acute allergic disorder (seasonal allergic conjunctivitis and perennial allergic conjunctivitis); and group 2, three patients (6 eyes) with one of chronic allergic eye disorders (atopic keratoconjunctivitis and vernal keratoconjunctivitis).

Figures 1-5 show differences between these two groups according to various signs and symptoms and dynamics of drug effect.

Discussion

Preliminary results of this study, obtained in a sample of 20 patients (40 eyes) generally showed that various eye allergy signs and symptoms (itching, foreign body sensation, discomfort, tearing and red eyes) significantly regressed after treatment with olopatadine. Therapeutic effect was visible as soon as 5 minutes of the first instillation of olopatadine eye drops, while maximal effect was recorded 15 days of therapy introduction.

When study patients were divided into two groups, i.e. group 1 with acute allergic eye disorders that included seasonal allergic conjunctivitis and perennial allergic conjunctivitis, and group 2 with chronic allergic eye disorders that included atopic keratoconjunctivitis and vernal keratoconjunctivitis, olopatadine was found to be more efficacious in resolving acute allergic eye disorders. This could be attributed to the fact that follow up

examination was scheduled on day 15 of the anti-allergic therapy initiation; as group 2 patients had chronic disease, they may have required prolonged therapy to allow for the drug effect to manifest. This issue should be readdressed at completion of the entire study, including more patients to be followed-up for a longer period of time.

We did not record any local or systemic adverse reactions to olopatadine eye drops and most patients found this therapy comfortable and satisfactory.

Table 1. Patient distribution according to specific allergic disorders

Allergic eye disorder	No. of patients	% of patients
Seasonal allergic conjunctivitis	10	50.0
Perennial allergic conjunctivitis	7	35.0
Atopic keratoconjunctivitis	2	10.0
Vernal keratoconjunctivitis	1	5.0
Total	20	100.00

References

1. AUSTIN JB, KAUR B, ANDERSON HR, *et al.* Hay fever, eczema, and wheeze: a nationwide UK study (ISAAC, International Study of Asthma and Allergies in Childhood). *Arch Dis Child* 1999;81:225-30.
2. SCADDING GK, RICHARDS DH, PRICE MJ. Patient and physician perspectives on the impact and management of perennial and seasonal allergic rhinitis. *Clin Otolaryngol Allied Sci* 2000;25:551-7.
3. VERLATO G, CORSICO A, VILLANI S, *et al.* Is the prevalence of adult asthma and allergic rhinitis still increasing? Results of an Italian study. *J Allergy Clin Immunol* 2003;111:1232-8.
4. ABERG N. Asthma and allergic rhinitis in Swedish conscripts. *Clin Exp Allergy* 1989;19:59-63.
5. MAZIAK W, BEHRENS T, BRASKY TM, *et al.* Are asthma and allergies in children and adolescents increasing? Results from ISAAC phase I and phase III surveys in Munster, Germany. *Allergy* 2003;58:572-9.
6. ALLANSMITH MR, ROSS RN. Ocular allergy. *Clin Allergy* 1988;18:1-13.
7. AVUNDUK AM, TEKELIOGLU Y, TURK A, AKYOL N. Comparison of the effects of ketotifen fumarate 0.025% and olopatadine HCl 0.1% ophthalmic solutions in seasonal allergic conjunctivitis: a 30-day, randomized, double-masked, artificial tear substitute-controlled trial. *Clin Ther* 2005;27:1392-402.

Sažetak

LIJEČENJE ALERGIJSKOG KONJUNKTIVITISA OLOPATADINOM

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Simptomi alergije koji zahvaćaju oko su česti kako u djece tako i u odraslih u cijelom svijetu. Alergijska reakcija u oku kod sensibiliziranih osoba izaziva svrbež, kemozu spojnice, suzenje, crvenilo oka i otok vjeđa. Ovaj rad donosi preliminarne rezultate studije cilj koje je bio odrediti učinkovitost olopatadina u terapiji alergijskog konjunktivitisa. Studija je obuhvatila 20 osoba (11 žena i 9 muškaraca). Bolesnici su liječeni kapima za oči koje su sadržavale 1 mg/mL olopatadina. Promjene u znacima i simptomima su se bilježile 5 minuta nakon prvog ukapavanja i 15 dana nakon početka terapije. Nelagoda, svrbež, crvenilo oka, suzenje i osjećaj stranog tijela su se ocjenjivali ocjenom od 0 do 3. Statistička analiza prikupljenih podataka je pokazala da su se simptomi i znaci uspješno povukli nakon liječenja olopatadinom, ali je bio znatno učinkovitiji u bolesnika s akutnim nego u onih s kroničnim alergijskim poremećajima. Nije zabilježen niti jedan neželjeni učinak lijeka. Kako se radi o preliminarnim rezultatima, bolji uvid u djelotvornost olopatadina ćemo dobiti nakon provođenja čitave studije na puno većem broju ispitanika.

Ključne riječi: Alergijski konjunktivitis; Sezonski konjunktivitis; Perenijski konjunktivitis; Atopični konjunktivitis; Vernalni konjunktivitis; Olopatadin; Hrvatska

