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ORIGINAL RESEARCH

A comparative assessment of topical olopatadine (0.1%) and alcaftadine (0.25%) in cases of allergic conjunctivitis

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***ABSTRACT*:**
Background: Ocular allergy is a commonly encountered pathology in clinical practice, with an increase in number of patients noticed in the last decade. The present study compared topical olopatadine (0.1%) and alcaftadine (0.25%) in cases of allergic conjunctivitis. **Materials & Methods:** 94 patients diagnosed with allergic conjunctivitis of both genders were randomly classified into 2 groups of 47 each. Group I patients were prescribed topical 0.1% Olopatadine eyedrops BID and group II patients were prescribed topical 0.25% Alcafatadine eye drops BID. Itching, redness, discharge and foreign body sensation were recorded. **Results:** At 15 minutes, 1 day and 1 week 10 patients in group I and 22 in group II, 35 in group I and 38 in group II and 47 in group I and II recovered from redness. At 15 minutes, 1 day and 1 week, 1 patient in group I and 2 in group II, 36 in group I and 38 in group II and 47 in group I and II recovered from discharge. At 15 minutes, 1 day and 1 week, 2 patients in group I and 3 in group II, 40 in group I and 38 in group II and 47 in group I and II recovered foreign body sensation. The difference was non- significant (P> 0.05). **Conclusion:** Both drugs found to be equally effective in cases of allergic conjunctivitis.
Key words: Allergic conjunctivitis, Alcaftadine, Olopatadine.

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INTRODUCTION

Ocular allergy is a commonly encountered pathology in clinical practice, with an increase in number of patients noticed in the last decade. Number of causes have been considered for this increase such as genetics, air pollution, pets, etc.[1] According to the classification of ocular allergy proposed in 2006 by the International Ocular Inflammation Society (IOIS), based on immunopathological mechanisms, allergic conjunctivitis (AC) is a type of ocular allergy which in turn can be subdivided into seasonal allergic conjunctivitis (SAC) and perennial allergic conjunctivitis (PAC). This classification also includes other conditions such as atopic keratoconjunctivitis (AKC), vernal keratoconjunctivitis (VKC), giant papillary conjunctivitis (GPC) and contact dermatoconjunctivitis (CDC).[2]

Ocular allergies affect 6%–30% of the general population. Allergic conjunctivitis (AC) which may be acute or chronic, is associated with allergic rhinitis (AR) in 30%– 70% of affected individuals, where majority have few episodes of mild conjunctivitis annually. Up to 30% of AC sufferers may have frequent episodes with intense and persistent symptoms (especially seasonal AC).[3]

Avoidance of allergans and lubricants plays a key role in the management of allergic conjunctivitis. Addition of anti-histaminics such as levocarbastine reduce inflammation, whereas mast cell stabilizers prevent mast cell degranulation on exposure to allergans.[4] Topical corticosteroids are the most potent agents to control inflammatory symptoms, but their use is not devoid of side-effects. Recently, introduced topical agents have both anti-histaminic and mast cell stabilization action. Their use can control acute symptoms and prevent relapses as well. These agents (such as olopatadine, bepotastine, and alcaftadine) are FDA approved for use in allergic conjunctivitis.[5]

The present study compared topical olopatadine (0.1%) and alcaftadine (0.25%) in cases of allergic conjunctivitis.

MATERIALS & METHODS

The present study comprised of 94 patients diagnosed with allergic conjunctivitis of both genders. All were informed regarding the study and their written consent was obtained.

Demographic profile such as name, age, gender etc. was recorded. Patients were randomly classified into 2 groups of 47 each. Group I patients were prescribed topical 0.1% Olopatadine eye drops BID and group II patients were prescribed topical 0.25% Alcafatadine eyedrops BID. All patients were instructed to use gentle eyelid closure for at least 2 min after dosing, and to repeat instillation of a single drop, if there was uncertainty as to whether successful instillation of the

treatment had occurred. Grading was used in which 0 indicating no itch and 3 indicating constant desire to itch. Ocular redness and discharge were scored using 5-point scale (0–4), foreign body sensation and watering were graded using the 4-point scale (0–3). In signs, upper tarsal papillae were graded using 4-point scale (0–3) with 0 indicating no papillae and 3 indicating predominance of giant papillae. Similarly, limbal activity was graded using 4-point scale with 0 indicating no limbal activity and 3 indicating Horner Tranta dots. Results were clubbed for statistical assessment. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II
Drug	0.1% Olopatadine	0.25% Alcafatadine
M:F	30:17	20:27

Table I shows that there were 30 males and 17 females in group I and 20 males and 27 females in group II.

Table II Assessment of patients recovered from redness in both groups

Duration	Group I	Group II	P value
15 minutes	10	22	0.02
1 day	35	38	
1 week	47	47	

Table II, graph I shows that at 15 minutes, 1 day and 1 week 10 patients in group I and 22 in group II, 35 in group I and 38 in group II and 47 in group I and II recovered from redness. The difference was significant (P< 0.05).

Graph I Assessment of patients recovered from redness in both groups

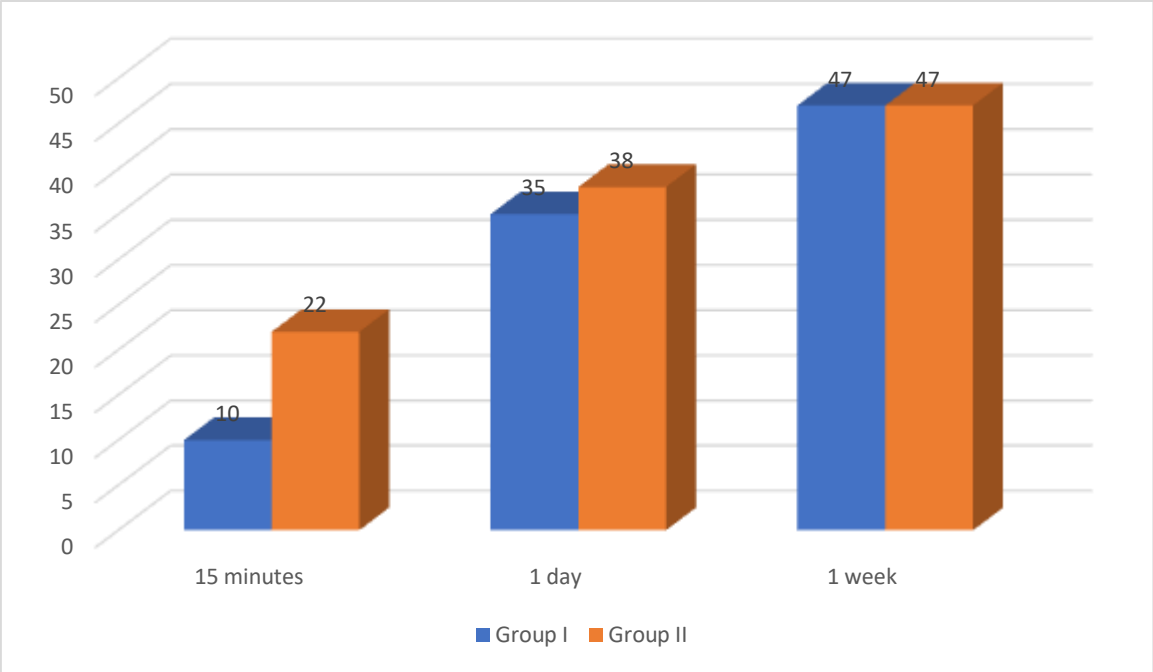


Table III Assessment of patients recovered from discharge in both groups

Duration	Group I	Group II	P value
15 minutes	1	2	0.15
1 day	36	38	
1 week	47	47	

Table III, graph II shows that at 15 minutes, 1 day and 1 week, 1 patient in group I and 2 in group II, 36 in group I and 38 in group II and 47 in group I and II recovered from discharge. The difference was non- significant (P> 0.05).

Graph II Assessment of patients recovered from discharge in both groups

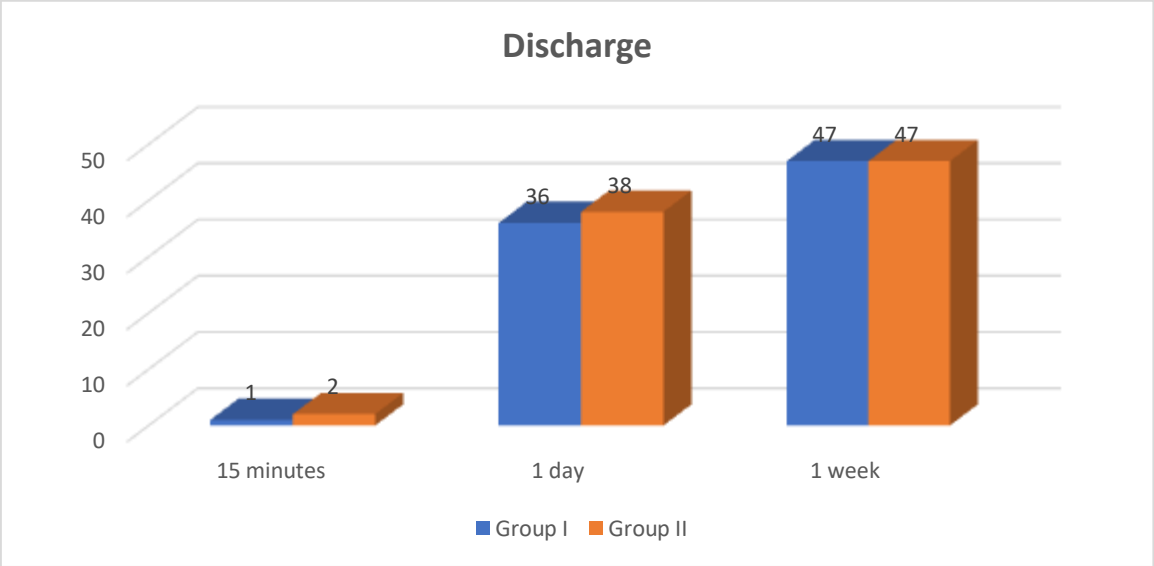
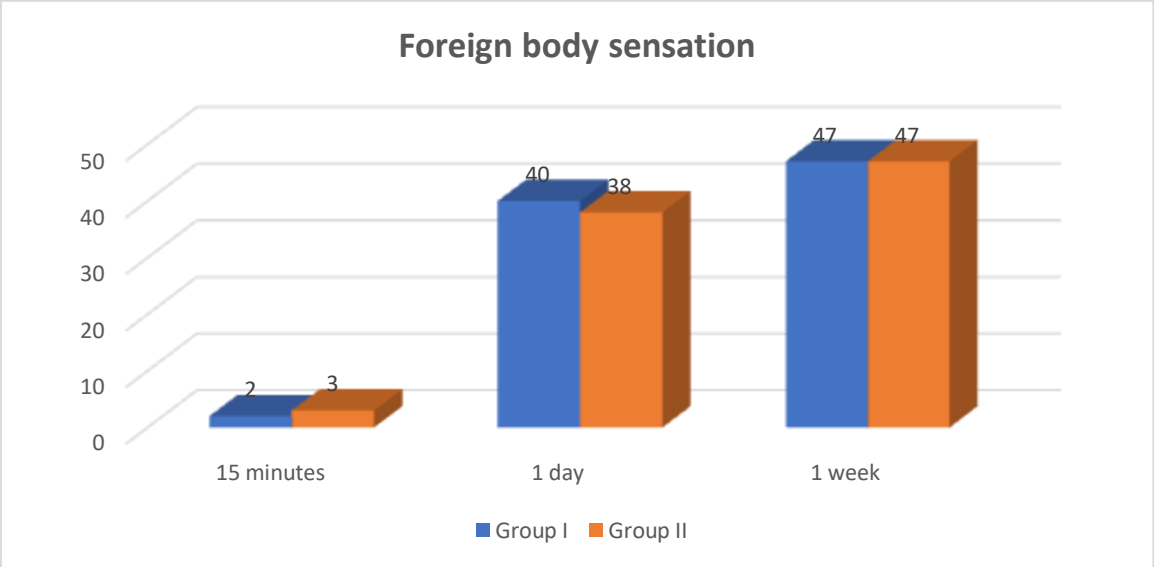


Table IV Assessment of patients recovered from foreign body sensation in both groups

Duration	Group I	Group II	P value
15 minutes	2	3	0.17
1 day	40	38	
1 week	47	47	

Table IV, graph III shows that at 15 minutes, 1 day and 1 week, 2 patients in group I and 3 in group II, 40 in group I and 38 in group II and 47 in group I and II recovered foreign body sensation. The difference was non-significant (P> 0.05).

Graph III Assessment of patients recovered from foreign body sensation in both groups



DISCUSSION

Conjunctiva is a thin, translucent membrane lining the anterior part of the sclera and inside of the eyelids. It has 2 parts, bulbar and palpebral. The bulbar portion begins at the edge of the cornea and covers the visible part of the sclera; the palpebral part lines the inside of the eyelids.[6] Inflammation or infection of the conjunctiva is known as conjunctivitis and is characterized by dilatation of the conjunctival vessels, resulting in hyperemia and edema of the conjunctiva, typically with associated discharge.[7] Most of the earlier studies comparing the efficacy of anti-allergic medications were according to conjunctival allergan challenge.[8] In this model, antigens are instilled in both eyes of subjects, and then, the efficacy of anti-allergic medications to reduce symptoms is evaluated. This model can mimic acute allergic response in a normal subject but not exactly similar to acute response in a

patient with chronic allergic conjunctivitis or an acute response in a patient prone to allergic conjunctivitis.[9] The present study compared topical olopatadine (0.1%) and alcaftadine (0.25%) in cases of allergic conjunctivitis.

In present study, there were 30 males and 17 females in group I and 20 males and 27 females in group II. Baiswar et al[10] assessed cases of allergic conjunctivitis on 108 patients of both genders. Symptoms such as tearing, photophobia, redness, watering, foreign body sensation etc. were analyzed. Out of 108 patients, males were 48 and females were 60. Seasonal AC was seen in 20 males and 27 females and Perennial AC was seen in 28 males and 33 females. The difference was non- significant (P> 0.05). Tearing was seen in 98, photophobia in 54, watering in 83 and redness in 106 patients.

We found that at 15 minutes, 1 day and 1 week 10 patients in group I and 22 in group II, 35 in group I and 38 in group II and 47 in group I and II recovered from redness. At 15 minutes, 1 day and 1 week, 1 patient in group I and 2 in group II, 36 in group I and 38 in group II and 47 in group I and II recovered from discharge. Ackerman et al[11] conducted comparative trials among 0.25% alcaftadine and 0.2% olopatadine in a study using conjunctival allergan challenge, alcaftadine was found superior to olopatadine at the earliest time point (3 min post-challenge). Only alcaftadine provided significant relief in chemosis at 16 and 24 hours post-instillation.

We found that at 15 minutes, 1 day and 1 week, 2 patients in group I and 3 in group II, 40 in group I and 38 in group II and 47 in group I and II recovered foreign body sensation. Greiner et al[12] enrolled 284 subjects. They found that subjects treated with alcaftadine had a lower overall mean itch score at 3, 5, and 7 min than the subjects treated with olopatadine. Ono et al[13] compared olopatadine (0.1%), bepotastine (1.5%), and alcaftadine (0.25%) for mild to moderate allergic conjunctivitis cases and the efficacy of three topical medications in 45 patients with 15 patients in each of the three groups. Patients with mild to moderate allergic conjunctivitis were sequentially assigned to respective groups, and relief of symptoms and signs were noted upto 1-month follow-up. All three topical medications faired almost equally in resolving symptoms of the patients with mild to moderate allergic conjunctivitis, and most of them reported complete relief after 1 week of use of medication. Few cases with limbal or palpebral papillae reported symptomatic relief after use of medication, but the resolution of these signs was not noted in all three groups.

The limitation of the study is small sample size.

CONCLUSION

Authors found that both drugs found to be equally effective in cases of allergic conjunctivitis.

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