

Vernal Kerato Conjunctivitis Comparative Study of Different Trends in its Management

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ABSTRACT

Aim: To evaluate efficacy safety tolerability of supratarsal injection of triamcinolone and comparison with topical steroids and olopatadine in vernal keratoconjunctivitis.

Methods: Thirty patients of vernal kerato conjunctivitis were included in study which was divided into two groups of each consist of 15 patients; one was studied by using topical steroids with olopatadine topical eye drops. while other group was observed by administration of supratarsal injection of triamcinolone patients evaluation was done 2nd, 7th and 14th days and followed by three months for different signs and symptoms like photophobia burning sensations, itching, hyperemia conjunctival papillary sizes and corneal shield ulcers.

Results: The patients of vkc having cobblestone papillae and corneal shield ulcers treated with supratarsal injection of triamcinolone resolved 50% in size after first results attained with the supratarsal injection of triamcinolone both signs and symptoms were dramatic and prompted patients experienced relief within 2 to 5 days. Furthermore in 14 or 15 patients(93.33%)complete resolution of cobblestone papillae after supratarsal injection of triamcinolone injection in 5-14 days. similarly limbal edema and shield ulcers resolved completely and there was no increase in intra ocular pressure in any of the patients upto 3 months follow up injection. patients on topical steroids with olopatadine clinical improvement occurred in 11 out of 15 patients (73.33%)three out of fifteen patients (20%) on topical steroids developed mild increase in iop

Conclusion: triamcinolonekenacort is a long acting steroid which was administered supratarsally caused resolution of cobblestone papillae and shield corneal ulcers along with relief of other signs and symptoms without development of raised iop or another side effects.

Keywords: Vernal Kerato conjunctivitis, limbal oedema, triamcinolone

INTRODUCTION

Vernal keratoconjunctivitis is the chronic allergic inflammation of cornea and conjunctiva which is IgE and cell mediated phenomenon that affects mainly boys at the age of 5 years which improves at puberty and some up to 25 years of age living in hot climates can lead to severe ocular complications¹. Vernal keratoconjunctivitis is an allergic interstitial inflammation of conjunctiva characterized by periodic appearance of symptoms and self limitations². Some patients have family history of atopy like Eczema and Asthma^{3,4}. Maximum clinical features are present in summers and spring season and few suffer whole of the year. The development of symptoms in males is earlier than females but with the passage of time this ratio of male to females decreases^{5,6}. VKC may be associated with keratoconus, keratoglobus and pellucid marginal degeneration. VKC patients usually presents with itching, lacrimation, photophobia and mucus discharge. The condition is classified as palpebral, limbal and mixed⁷. Tarsal conjunctiva develop papillae and enlarge to cobblestone appearance trantas dot at limbus while the cornea develops punctate epithelial erosions, shield ulcers, plaque formation and psuedogerontoxon⁸. Shield corneal ulcers are very severe complications which may result a loss of vision⁹. VKC is uncommon in western Europe and north America¹⁰.

Mainstay of the management is topical steroids antihistamines mast cell stabilizers and cyclosporine while difficult resistant cases are treated by supratarsal steroid injections.

MATERIALS AND METHODS

Patients included in this study were selected from the outpatient department of Department of Ophthalmology, Islam Teaching Hospital, Sialkot. The period of study was from August 2017 to June 2018. A total of 117 patients were diagnose as vernal catarrh. Every patient was subjected to detailed history and examination. All symptoms like itching, burning sensations, photophobia, discharge and blurring of vision noted. History of trauma, general health or any other allergic condition asked to find out any predisposing factor to occurrence of chronic conjunctivitis.

General physical examination was done in every patient. After recording visual acuity, torch examination of lids conjunctiva and cornea was carried out. Slit lamp examination was done to see follicles or papillary conjunctival reaction, trantas dots and involvement of cornea and cataract. Fluoresceine staining of cornea performed to rule out punctate corneal keratitis or shield ulcers. Fundus examination and intra ocular pressure was checked by Goldman applanation tonometer. After documentation

specimens of conjunctival discharge were taken to see eosinophilia. VKC is graded as mild, moderate and severe.

Thirty patients of severe vernal catarrh were isolated who were refractory to maximum medical treatment. They were divided into two groups each of 15 patients. The first group of fifteen patients was put on combination of topical steroids and mast cell stabilizers. Topical steroids was instilled six hourly and Olopatadine twelve hourly. Second group of 15 patients was administered supratarsal injections of triamcinolone acetonide (kenacort)

First group of 15 patients was put on combination of topical steroids and olopatadine (fluorometaloneqid and olopatadine bid) for four weeks. Steroids were stopped after three weeks and olopatadine continued for three months.

Second group of fifteen patients was administered supratarsal injection of triamcinolone acetonide after topical anesthesia with Alcaine eye drops. 0.5ml of triamcinolone (kenacort) injection was given after eversion of upper eyelid between conjunctiva and Muller muscle above the upper border of tarsal plate

In cases of shield ulcer prophylactic antibiotic tobramycin eye drops were added to its treatment. Resolution of cobblestone papillae was defined as 50 % decrease in size or number of papillae. Resolution of limbal involvement was noted as complete disappearance of edema, trantas dots and limbal papillae.

Resolution of shield ulcers was defined as complete healing of epithelial defects. Potential complications of treatment were noted by development of ptosis, skin depigmentation, infection, motility disturbances, conjunctival scarring and increase of intraocular pressure.

RESULTS

Table 1

| | n=30 | Patients treated with topical steroids and Olopatadine (n=15) | Patients treated with supratarsal injection of triamcilon acetonide (n=15) |
|---------------------------------|-----------|---|--|
| Age range (yrs) | 4-23 | 4-21 | 4-23 |
| Male | 20(66.66) | 10(66.66) | 10(66.66) |
| female | 10(33.33) | 5 (33.33) | 5(33.33) |
| Limbitis | 22(73.33) | 10(66.66) | 12(80) |
| Cobblestone papillae | 28(93.33) | 13(86.66) | 15(100) |
| Shield ulcers | 2(6.66) | 1(6.66) | 1(6.66) |
| Other associated conditions | 5(16.66) | 2(13.33) | 3(20) |
| Asthma | 2(6.66) | 1(6.66) | 1(6.66) |
| Eczema | 0(0) | 0(0) | 0(0) |
| Hay fever | 0(0) | 0(0) | 0(0) |
| Rhinitis | 3(10) | 1(6.66) | 2(13.33) |
| Duration of condition | 30 | 3 - 7 | 3 - 7 |
| Steroid induced increase in iop | 3(10) | 3(20) | 0(0) |

Table 2: Changes in symptoms and signs of vernal catarrh after treatment with a combination of topical steroids and olopatadine

| Variable | response | After one week | After three weeks | After three months |
|--------------------|----------------|----------------|-------------------|--------------------|
| Efficacy | Good | 5 | 11 | 8 |
| | poor | 10 | 4 | 7 |
| High IOP | Yes | 0 | 3 | 1 |
| | No | 0 | 12 | 14 |
| Patients Opinion | Satisfactory | 5 | 11 | 8 |
| | Unsatisfactory | 10 | 4 | 7 |
| Clinical Condition | Improved | 5 | 11 | 8 |
| | Not improved | 10 | 4 | 7 |

Comparison of efficacy in days of a combination of topical steroids and supratarsal injection triamcinolone.

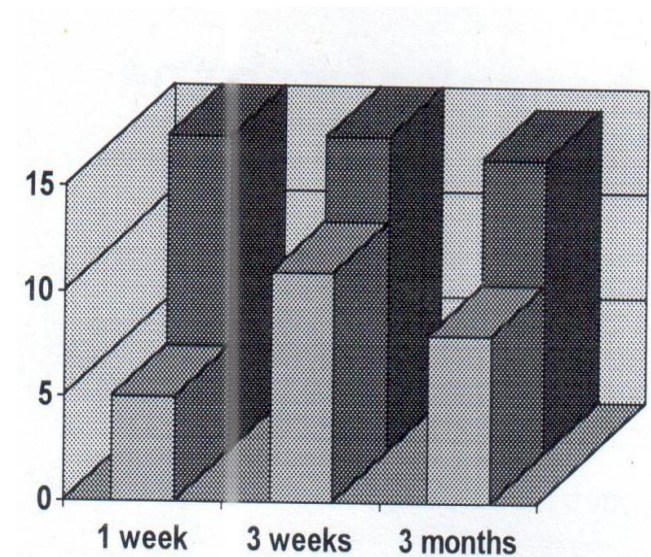
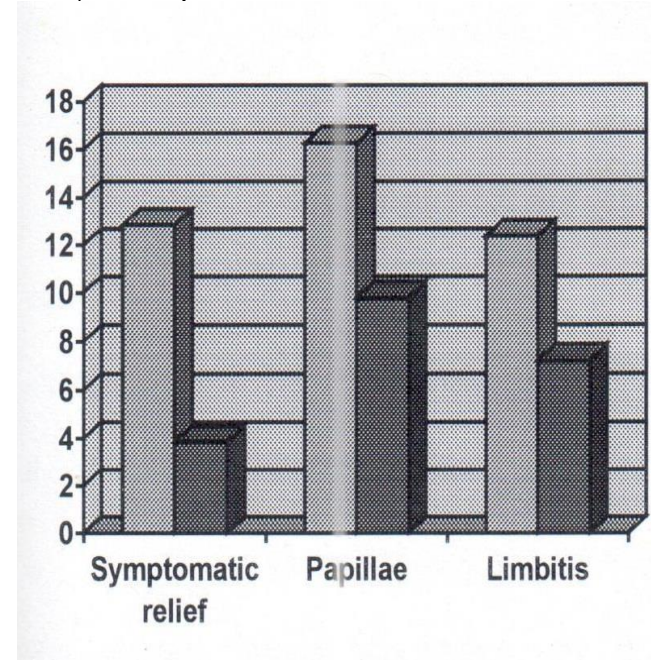


Table 3: Changes in symptoms and signs of vernal catarrh after treatment with supratarsal injection of triamcinolone acetonide.

| Variable | response | After one week | After three weeks | After three months |
|--------------------|----------------|----------------|-------------------|--------------------|
| Efficacy | Good | 4 | 15 | 15 |
| | poor | 1 | 0 | 0 |
| High IOP | Yes | 0 | 0 | 0 |
| | No | 5 | 15 | 15 |
| Patients Opinion | Satisfactory | 15 | 15 | 14 |
| | Unsatisfactory | 0 | 0 | 1 |
| Clinical Condition | Improved | 15 | 15 | 14 |
| | Not improved | 0 | 0 | 1 |

Table 4: Response to combination of topical steroid and olopatadine with supratarsal steroid (triamcinolone acetonide) injection

| | Time to resolution (days) | Time to resolution (days) |
|----------------------|--|--|
| | Treatment with topical steroid and olopatadine | Treatment with supratarsal injection triamcinolone acetonide |
| | MEAN (Range) | MEAN (Range) |
| | 12.86 (5-21) | 3.86 (2-5) |
| Cobblestone papillae | 16.26(10-21) | 9.8(5-14) |
| Limbitis | 12.4(10-14) | 7.2(4-10) |
| Shield ulcers | 14 | 10 |

DISCUSSION

The treatment of severe vernal keratoconjunctivitis is a difficult problem. Various therapeutic modalities are in use like topical antihistamines vasoconstrictors non-steroidal anti-inflammatory agents, mast cell stabilizers and topical steroids in advanced cases with cobblestone papillae limbal involvement (trantas dots) and shield ulcers the conventional treatments are minimally affective¹¹ so new therapeutic agents have been tried however tarsal cobblestone papillae and shield ulcers are not responsive and high doses for prolonged periods of treatment are associated with high risk of side effects¹². Recently topical application of olopatadine eye drops provide some relief in mild and moderate relief in affected patients. While efficacy is disappointing for severe cases. In the past severe refractory cases have been treated by surgical excision of cobble stone papillae and cryotherapy of upper tarsus but these treatments resulted in extensive scarring. Topical cyclosporine also tried which responded symptomatic partial relief and less effect on cobble stone papillae and shield ulcers¹³. Results attained with the supratarsal injection of triamcinolone both signs and symptoms were dramatic and prompted¹⁴ patients experienced relief within 2

to 5 days. Furthermore in 14 or 15 patients (93.33%) complete resolution of cobblestone papillae after supratarsal injection of triamcinolone injection in 5-14 days. Similarly limbal edema and shield ulcers resolved completely and there was no increase in intra ocular pressure in any of the patient's upto 3 months follow up.

A comparison of patients satisfaction and clinical improvement treated with a combination of topical steroid with olopatadine and supratarsal injection of triamcinolone. On the other hand patients on topical steroids with olopatadine clinical improvement occurred in 11 out of 15 patients (73.33%) three put of fifteen patients (20%) on topical steroids developed mild increase in intra ocular pressure.

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