

ROLE OF DEPOT STEROID IN REFRACTORY VERNAL KERATOCONJUNCTIVITIS

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ABSTRACT :

Background : Vernal Keratoconjunctivitis (VKC) cases are often resistant to conventional treatments. We aimed to assess the effect of depot steroid (supratarsal injection of triamcinolone acetonide) in these patients.

Patients and Methods : 43 Patients (86 eyes) with severe VKC and resistant to conventional method of treatment were selected and underwent injection of 0.5 ml triamcinolone acetonide in supratarsal area (in conjunctival side of upper lid) and were followed up for 24 months.

Results : Relief of symptoms (burning, itching, lacrimation and photophobia) was dramatically seen in all patients in first few days. Size of giant papillae, thickening of limbus, vascularisation of cornea, decreased in first month. Recurrence of disease (panus) was seen in 4 (14%) patients after one month. Complications noticed during the follow up were negligible. All patients tolerated the treatment well.

Conclusion : Rapid and dramatic symptomatic and clinical response and lack of complications suggests that supratarsal triamcinolone acetonide (depot steroid) could be a therapeutic approach for refractory VKC.

Introduction

Vernal Keratoconjunctivitis (VKC) is a bilateral, recurrent, interstitial inflammation of the conjunctiva that occurs in warm weather in young patients pre-disposed to atopy. 80% of patients are below 14 years of age. Boys are usually more affected at a 2:1 ratio. About 1-2.5% of ophthalmology visits in outpatient clinic have VKC.

The chief symptoms of this disease include severe

itching, photophobia, redness, tearing and tenacious discharge. The clinical signs in conjunctiva include cobblestone papillae in the upper tarsal conjunctiva, limbal conjunctival thickening with gelatinous nodules and Tranta's dots. Corneal involvement can occur in the form of shield ulcer and pannus. Eyes with refractory and frequently recurrent VKC often demonstrate corneal shield ulcer, vascularisation, plaque formation, corneal opacity or signs of corticosteroid abuse.

Recently, a number of new therapeutic agents have been attempted in refractory VKC. These include topical NSAIDs, topical mast cell stabilisers (Nedocromil, lodoxamide), topical immune-modulators (cyclosporine), topical antihistamines (levocabastine) and ganglioside derivatives (Miprogoside). However, most of the newer treatment modalities have been found to be relatively ineffective. So, because of ineffective conventional therapeutic methods, absence of adequate studies on the effectiveness of intermediate acting steroids (eg. Triamcinolone) in the treatment of VKC and complications of long term steroids. We made a study to evaluate and assess the effect of supra-tarsal injection of Triamcinolone acetonide depot in these resistant cases.

MATERIALS AND METHODS

Study period : 2006-2008 in M.K.C.G. Medical College Hospital, Eye OPD, 86 eyes of 43 patients with severe refractory VKC have been included in our study. 0.5 ml (20 mg) of Triamcinolone acetonide (KENACORT) was given supra-tarsally with a 26 G needle after topical application of xylocaine (4%) in one eye and topical steroid in the other eye in all the 43 cases. Wash off period was kept 2 weeks.

Before injection of drug, infect cases (corneal ulcer, and blepharoconjunctivitis) were properly treated. Informed consent was taken after complete description of the procedure and its purpose to the patient and their parents. One drop of Xylocaine (4%) instilled in the eye of the patient, in supine position. One minute later, the upper lid was gently everted and with a cotton-tipped applicator soaked with xylocaine, more sedation was induced in palpebral conjunctiva especially in upper border of superior tarsus. Then 0.5 ml of triamcinolone acetonide (20 mg drug) was injected in potential space between conjunctiva and muller's muscle, 0.5-1 mm superior to upper edge of tarsus with 26 gauge needle. Lid returned to normal position and all topical medications discontinued in the injected eye. Patients were followed up in the 1st, 2nd and 4th week after treatment and then 3rd, 6th and 12th months. The improvement in signs and symptoms were noted and results records with 95% confidence interval.

Exclusion Criteria

1. Unilateral cases
2. No consent
3. Poor compliance
4. Active infection
5. Concurrent treatment for other allergic disorders.

RESULTS

86 eyes of 3 patients were included in our study during the period of 2006-08. There were treated with an intermediate acting corticosteroids, triamcinolone acetonide (depot) in one eye and the other eye receive topical steroids.

Male : 30 patients (60 eyes) - 69.77%

Female : 13 patients (26 eyes) - 30.23%

Age group in Years	No. of Patients	% of Patients
0-10	10	23.25
11-20	25	59.13
21-30	08	18.60

Table showing the frequency of symptoms before and 2 weeks after treatment

Symptoms	Total No. of Eyes	% of eyes	Relief of Symptoms in %	
			With depot steroid injection	With topical steroids
Itching	86	100	98	72
Lacrimation	72	83.72	96	68
Mucous discharge	64	74.41	89	37
Photophobia	48	55.81	81	46
Mild paid	60	69.76	98	76

Table showing frequency of signs before and after 4 weeks treatment

Signs	Total No. of Eyes	% of eyes	Relief of Symptoms in %	
			depot steroid injection	topical steroids
Hyperaemia of conjunctiva	86	100	100	84
Giant papillage	86	100	99	34
Thickening at limbus	56	65.12	98	6
Superficial punctate keratitis	64	74.42	95	51
Shield ulcer	6	6.97	96	23

Most of the symptoms (after 2 weeks of treatment) and maximum number of signs (after 4 weeks of treatment) were improved dramatically. Eyes treated with topical steroids did not show much improvement. So they were again treated with depot steroid after 4 weeks of follow up. All the patients tolerated the procedure very well. In 24 months of follow up, few complications were seen in some patients which was negligible.

Complications	No. of Cases	Treatment
Increase in IOP	5	Topical Timolol (0.5%)
Pigmentation of lid	3	-
Sub-conj. Haemorrhage	3	-
Infections	4	Antibiotic eye drops
PSC	2	yAG-Laser

Recurrence of signs and symptoms (Hypermia of conjunctive, giant papillae, itching and iacrimation) were evident in 6 patients (12.5%) after 24 months of follow up.



Figure -1 Bilateral Refractory VKC, **Figure - 2** Palpebral VKC, **Figure-3** Supra tassal depot sterud (triamcinolonone) injection acetionide, **Figure -4** Serere Refractory VKC before supra-tarsal injection, **Figure-5** 4 after supra-tarsal injection of triamcinolone acetionide, **Figure -6** Limbal VKC, **Figure-7** Shield ulcer.

Discussion

Treatment of svere VKC is a difficult problem for the patient and the physician. Duet o debilitating symptoms and signs of VKC, patients need an effective treatment. Previously, severe cases of VKC were treated with cryotherapy or surgical excision of giant papillae that restulted in severe scaring and malfunction of lid. Current medical treatment such as artificial tears, topical antihistamines, must cell stabilizers or topical steroids is not fully effective. More recently, topical cyclosporines were used but after cessation of treatment, symptoms and signs recurred.

This study showed that triamcinolone acetionide depot injection (in supratarsal area) can relieve signs and symptoms in 100% of patients but prevent recurrence of VKC only in 87.5% of cases ($P < 0.05$).

Conclusion

The use of supratarsal injection of triamcinolone acetionide depot in refractory VKC cases has shown dramatic results. The procedure is usually well tolerated even in young children; it provides prompt symptomatic relief in all patients, and has low recurrence rate (12.5%). The high rate of clinical response with lack of complication and yet easy method leads us to suggest that this therapeutic modality is an effective and safe method for treatment of refractory KVC and improve quality of life.

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