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Original Research Article

Ptosis in long standing VKC in young adults

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ABSTRACT

Background: Vernal keratoconjunctivitis (VKC) is an unusually severe sight-threatening allergic eye disease, occurring mainly in children. Children with VKC present with severe ocular symptoms, that is, severe eye itching and irritation, constant tearing, red eye, eye discharge, and photophobia. Though medically treated, some complications of the disease like ptosis may require surgical intervention, thus identifying the association of ptosis with VKC is of utmost importance. This study was done to see the relation between long-standing VKC and acquired ptosis in young adults.

Materials and Methods: This was a hospital based non-comparative, observational study, conducted in the department of Ophthalmology, SKIMS Medical College Hospital, and Srinagar from March 2020 to May 2022. 60 patients upto the age of 40 years with any form of VKC were included in the study. Ocular examination included visual acuity testing, slit lamp biomicroscopic examination to evaluate corneal and conjunctival involvement, proper history and evaluation of ptosis.

Results: Mean age of cases was 16.23 ± 6.97 . Out of 60 patients maximum were in the age group of 10-15 years (31.66%), followed by the age group of 15-20 years (21.66%). Out of total 60 cases 46(76.66%) were male and 14(23.33%) were female. Palpebral form of the disease was seen to be in most of the cases 53.33%, followed by mixed form of the disease in 28.33% and bulbar disease in 18.33% of the cases. Presence of acquired ptosis as a complication due to VKC was seen in 9(15%) patients. Out of these 9 patients 7 patients presented with unilateral ptosis and 2 patients presented with bilateral ptosis. Average duration of symptoms in these patients was 5.0 ± 1.8 years, indicating that ptosis is a complication of long standing VKC. All these patients had palpebral or mixed form of VKC, none had bulbar form of the disease.

Conclusion: Our study revealed that prolonged severe VKC may induce a lower position of the upper eyelid and eventually lead to ptosis, which is a non-reversible complication of VKC and requires surgical correction. Thus better primary eye care for the management of VKC in children may prevent this complication.

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1. Introduction

Vernal keratoconjunctivitis (VKC) is a bilateral, chronic, sight-threatening and severe inflammatory ocular disease mainly occurring in children. The commonage of onset is before 10 years (4–7 years of age).¹ It is characterized by chronic, bilateral, recurrent, interstitial, self-limiting

allergic inflammation of conjunctiva having a periodic seasonal incidence.^{2–4} The disease is more common among males, with the male to female ratio varying from 4:1 to 2:1. It is characterized by itching, redness, discomfort, stringy discharge, photophobia, burning and stinging, giant papillae on the upper tarsal conjunctiva, superficial keratopathy, and corneal shield ulcers, keratoconus leading on to permanent corneal damage.⁵ VKC has been included in the newest classification of ocular surface

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hypersensitivity disorders as both an IgE- and non-IgE mediated ocular allergic disease.⁶ Additionally, not well defined, non-specific hypersensitivity responses could be implicated in the pathophysiology of the disease. The etiology of VKC may involve a variety of factors, such as genetic predispositions, environmental allergens, and climate changes. Th2 mediated mechanism with an over-expression of cytokines, growth factors; eosinophils and eosinophilic proteins is the main immunopathogenesis involved in the disease etiology. Ptosis as a complication of VKC has not been studied much and the aim of this study was to establish a relation between acquired ptosis in young adults and chronic VKC.

The main cause of ptosis in VKC is levator disinsertion that is similar to involutional ptosis. Chronic inflammation of the upper eyelid with giantpapillary conjunctivitis and persistent rubbing of the eyelids may be responsible for the development of this pathology.

To see the relation between long-standing vernal keratoconjunctivitis (VKC) and acquired ptosis in young adults.

2. Materials and Methods

We conducted a hospital based non-comparative, observational study, in the Department of Ophthalmology, SKIMS Medical College Hospital, Srinagar from March 2020 to May 22. 60 patients upto the age of 40 years with any form of VKC were included in the study. Patients suffering from other ocular infections and ocular trauma and patients using contact lenses were excluded from the study. Predesigned study proforma was used to collect data and history was obtained with special attention to characteristic symptoms and duration of occurrence of symptoms.

2.1. Methods

1. Visual acuity was recorded using Snellens chart.
2. Slit biomicroscopic examination was performed to evaluate corneal and conjunctival involvement.
3. Proper history and evaluation of ptosis was done if present and other possible causes of ptosis were excluded.

3. Results

Mean age of cases was 16.23 ± 6.97 . Out of 60 patients maximum were in the age group of 10-15 years (31.66%), followed by the age group of 15-20 years (21.66%). Out of total 60 cases 46 were male and 14 were female as shown in Table 2. Palpebral form of the disease was seen to be in most of the cases 53.33%, followed by mixed form of the disease in 28.33% and bulbar disease in 18.33% of the cases as shown in Table 1.

Table 1: Age distribution and clinical type of VKC

Age in years	Palpebral	Bulbar	Mixed	Total
<10	6	3	3	12(20%)
10-15	9	4	6	19(31.66%)
15-20	7	3	3	13(21.66%)
20-25	5	0	2	7(11.66%)
25-30	3	1	1	5(8.33%)
30-35	2	0	1	3(5%)
35-40	0	0	1	1(1.66%)
Total	32(53.33%)	11(18.33%)	17(28.33%)	60
Mean \pm SD	16.56 \pm 7.08	13.91 \pm 5.26	17.11 \pm 7.7	16.23 \pm 6.97

Table 2: Gender distribution of patients

Male	46	76.66%
Female	14	23.33%
Total	60	100%

Presence of acquired ptosis as a complication due to VKC was seen in 9(15%) patients. Out of these 9 patients 7 patients presented with unilateral ptosis and 2 patients presented with bilateral ptosis. Average duration of symptoms in these patients was 5.0 ± 1.8 years (Table 3), indicating that ptosis is a complication of long-standing VKC. All these patients had palpebral or mixed form of VKC, none had bulbar form of the disease.

Table 3: Acquired ptosis in VKC patients

Ptosis	No. of cases	Average duration of symptoms
Unilateral	7	4.85 \pm 2.03yrs
Bilateral	2	5.5 \pm 0.70yrs
Total	9(15%)	5.0 \pm 1.8yrs

4. Discussion

Vernal keratoconjunctivitis can jeopardize the quality of life, and school performance of affected children and hence their future potential.^{7,8} In our study mean age of cases was 16.23 ± 6.97 . Out of 60 patients maximum were in the age group of 10-15 years (31.66%), followed by the age group of 15-20 years (21.66%).

Out of total 60 cases 46(76.66%) were male and 14(23.33) were female. Similar observations were made by most authors. Palpebral form of the disease was seen to be in most of the cases 53.33%, followed by mixed form of the disease in 28.33% and bulbar disease in 18.33% of the cases.

Acquired ptosis as a complication due to VKC was seen in 9(15%) patients. Out of these 9 patients 7 patients presented with unilateral ptosis and 2 patients presented with bilateral ptosis. Average duration of symptoms in these patients was 5.0 ± 1.8 years. Bonini et al., in their study

reported mechanical ptosis in 5.1% of cases.^{7,8} A study conducted by Dr. Surekha Banga et al⁹ found mechanical ptosis as a complication of VKC in 11% of the cases.

In our study all the patients had palpebral or mixed form of VKC, none had bulbar form of the disease.

5. Conclusion

Our study revealed that prolonged severe VKC may induce a lower position of the upper eyelid and eventually lead to ptosis. This could be due to the heavy giant papillae, chronic eye rubbing, or an inflammatory insult to the levator palpebrae superioris muscle and its subsequent disinsertion. Ptosis is a non-reversible complication of VKC and requires surgical correction. Thus better primary eye care for the management of VKC in children may prevent this complication.

6. Conflict of Interest

The authors declare that they have no conflict of interest.

7. Source of Funding

None.

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