

Research Article

Clinical profile of patients with vernal keratoconjunctivitis

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ABSTRACT

Background: Ocular allergy is a common disorder, which can be debilitating for patients and at times challenging physicians to diagnose and treat. Allergic disease affects 30-50% of the population. Vernal keratoconjunctivitis (VKC) has predilection for young age group and the diagnosis is generally based on signs and symptoms of the disease. This study was undertaken to stress upon the disease and those secondary to its long-term medication.

Methods: 74 patients with VKC detected at random, who attended the Department of Ophthalmology KIMS, Hubli from December 2012 to May 2014. The relevant details of history and clinical examination of the patients were recorded on a specifically designed Proforma. The type and severity of VKC was noted. Clinical observation and evaluation of clinical signs and symptoms were performed before and after drug therapy at first visit, weekly interval for 2 weeks and at the end of 3 months.

Results: 22 out of 74 (29.72%) were in the 6-10 years of age. The male: female ratio was 2.7:1.13. Majority of the patients presented in the month of May. Family history of allergy was present in 4 (5.04%) of patients. 59 (72.72%) patients showed seasonal symptoms and 15 (20.27%) patients showed perennial symptoms. Mixed type was found in 60.81%. Itching was present in 59 (79.72%). 72 (97.29%) had papillae on the upper tarsal conjunctiva.

Conclusions: VKC was common in males, during hot climate. Mixed type of VKC was more commonly present.

Keywords: Clinical profile, Vernal keratoconjunctivitis

INTRODUCTION

Ocular allergy is a common disorder which can be debilitating for patients and, at times, challenging for physicians to diagnose and treat. Allergic disease affects 30-50% of the population, while ocular symptoms are present in 40-60% of allergic individuals.¹

The allergic reactions of conjunctiva may assume five forms: 1) Seasonal allergic or 'Hay Fever' conjunctivitis, 2) Perennial allergic conjunctivitis, 3) Vernal conjunctivitis or Keratoconjunctivitis, 4) Atopic Keratoconjunctivitis and 5) Giant papillary Conjunctivitis.²

Sir steward Duke elder has defined vernal keratoconjunctivitis (VKC) as follows: - VKC is a recurrent, bilateral interstitial inflammation of the conjunctiva, of periodic seasonal incidence, self limited character and (as yet) unknown etiology. It is characterized by flat-topped papillae, usually on the tarsal conjunctiva resembling cobble stone in appearance, a gelatinous hypertrophy of limbal conjunctiva, either discrete or confluent and a distinctive type of keratitis. It is associated with itching, redness of eyes, lacrimation and a mucinous or lardaceous discharge usually containing eosinophils. The term Vernal is derived from the Greek meaning 'occurring in the spring'. It has predilection for warm rather than cold climates with

frequent family and personal history of atopic disease, a higher than 2:1 frequency in males over females, an early onset, with remission by the late teens and a hereditary predisposition with exogenous factors, such as climate, season, and allergen exposure, determining the likelihood and severity of this. The pathogenesis of VKC is probably multifactorial. The histopathologic and immunopathologic characteristics of the tissues had led some authorities to conclude that VKC is not a pure type 1 Gell and Coombs hypersensitivity reaction, but rather a combination of both 1 and type 4 reactions. The predominant symptom of VKC is profound itching. Other symptoms are excessive tearing, mucus production, photophobia, and burning or foreign body sensation. The classic sign of palpebral VKC is the giant papillae or cobblestone in the upper tarsal conjunctiva. These papillae markedly increase the mass of the upper lid, and hence ptosis is an additional typical sign. Inflammation of the bulbar conjunctiva is variable, but aropy, lardaceous thread almost invariably can be found in the inferior fornix.³

The diagnosis is generally based on signs and symptoms of the disease, but in difficult cases can be aided by conjunctival scraping, demonstrating the presence of infiltrating eosinophils. Although various form of therapy can be used for symptomatic relief, there is no curative therapy. Chronic VKC in children is usually one of the difficult problem in management. The long term prognosis is generally good; however 6% of patients develop corneal damage, cataract, or glaucoma.⁴

This study was undertaken to stress upon the importance of clinical manifestations, management and prevent the complications of the disease and those secondary to its long-term medication.

METHODS

74 patients with VKC selected at random, who attended the Department of Ophthalmology Karnataka Institute Of Medical Science, Hubli were the subjects of this study. The period of this study was from December 2012 to May 2014.

The relevant details of history and clinical examination of the patients were recorded on a specifically designed Proforma. The history was obtained with Special attention to

1. Occurrence of symptoms seasonal or perennial
2. Personal and or family history of allergy
3. Aggravating and relieving factors
4. Post treatment

The type and severity of VKC and its association with corneal involvement was noted.

The severity was graded as follows;-

1. Mild; few symptoms, seasonal, small papillae, no corneal involvement.
2. Moderate; troublesome symptoms, almost perennial, with moderate sized papillae and on corneal involvement.
3. Severe; severe symptoms, perennial with large fleshy papillae and corneal involvement.

Ocular examination included testing of Visual Acuity, Ophthalmoscopy, Retinoscopy, Biomicroscopy, and recording of IOP with Applanation Tonometry and in selected cases Keratometry.

Clinical observation and evaluation of clinical signs and symptoms were performed before and after drug therapy at visit, weekly interval for 2 weeks and at the end of 3 months. Each of the visits was designated as visit 0 (first visit 0).

Inclusion criteria

Patients with symptoms and signs suggestive of VKC.

Exclusion criteria

Allergic conjunctivitis due to Atopy. Contact lens induced conjunctivitis.

RESULTS

The youngest patient in this study was 3 years and the oldest was 38 years. The majority of patients i.e. 22 out of 74 (29.72%) were in the 6-10 years of age. 74.31% i.e. 55 patients were in the group of 6-20 years. 13 (17.56%) patients were over the age of 20 years.

Table 1: Type of vkc at the time of presentation.

Type	Number of Patients	Percentage
Palpebral	26	35.13%
Mixed	45	60.81%
Bulbar	03	04.05%

Table 2: Ocular symptoms of vkc patients.

Symptoms	Number of Patients	Percentage
Itching	59	79.72%
Watering	35	47.29%
Discharge	30	40.54%
Redness	49	66.21%
Photophobia	02	2.70%
Ocular pain	05	6.75%
Fb sensation	03	4.05%
Burning sensation	08	10.81%
Pricking sensation	04	5.40%
Lid swelling	01	1.35%

Itching was the commonest symptom seen in 59 (79.72%) patients followed by redness (66.21%), watering (47.29%) and discharge (40.54%). Lid swelling due to giant papillae was found in one patient.

Majority of patients i.e. 72 (97.29%) had papillae on the upper tarsal conjunctiva. Conjunctival congestion was found in 51 patients (68.91%), gelatinous limbal thickening in 26 (35.13%) of patients and limbal papillae in 17 (22.97%).

Table 3: Ocular signs in vkc patients.

No	Signs	Number of Patients	Percentage
1	Papillae on upper palpebral conjunctiva (PP)	72	97.29%
2	Perilimbal gelatinous	26	35.15%
3	Conjunctival congestion (CC)	51	68.91%
4.	Limbal papillae (LP)	17	22.97%
5	Superficial punctate keratitis (SPK)	07	9.45%
6	Horner trantas spot (TS)	14	18.91%
7	Keratokonius (KC)	01	1.35%
8	Pseudoxerontoxon (PX)	01	1.35%
9	Vernal shield ulcer (VSU)	01	1.35%
10	Perilimbal pigmentation (PPIG)	04	5.40%
11	Mechanical ptosis (MP)	01	1.35%

Table 4: Patients with atopies and family history of atopy.

Atopies	Number of Patients	Percentage
Asthma	1	1.35%
Eczema	3	4.05%
Allergic rhinitis	3	4.05%
Family history of allergy	4	5.40%

Table 5: Seasonal and perennial distribution of vkc patients.

	Number of Patients	Percentage
Seasonal	59	79.72%
Perennial	15	20.27%

Table 6: Clinical severity grading in patients with vkc.

	Number of Patients	Percentage
Mild	31	41.89
Moderate	16	21.62
Severe	27	36.48

In this study history of allergy was present in 4 (5.04%) of patients. Atopies like asthma in 1 (1.35%), eczema in 3 (4.05%) and allergic rhinitis in 3 (4.05%).

DISCUSSION

74 patients were enrolled in this study for the evaluation of clinical signs and symptoms and management of vernal keratoconjunctivitis (VKC).

The youngest patient in this study was 3 years and the oldest was 38 years. Majority of patients i.e. 22 out of 74 (29.72%) were in the 6-10 years of age. 74.31% i.e. 55 patients were in the age group of 6-20 years. 13 (17.56%) patients were over the age of 20 years. Ujwal S Saboo and co-workers reported persistent disease beyond 20 years of age in 12% patients.⁵

The sex distribution showed that 53 (72%) of the patients were males and remaining 21 (28.32%) were females. The male: female ratio was 2.7:1.13. Lambiase and co-workers found M: F ratio of 3.5:1 in a prospective study conducted at Italian referral centers between March 2005 and March 2006.⁶ Leonardi and co-workers found M:F ratio of 3.3:1 in a demographic and epidemiological study involving case series of 406 VKC patients.⁷

The majority of the patients presented in the month of May. Ujwala S Saboo and co-workers also reported highest incidence of patients in the month of May, which corresponds to the hot dry weather in the southern part of India.⁵

Emmert’s 1988 classification has been used to classify VKC into palpebral, bulbar and mixed types. The majority of patients were of the mixed type (60.81%) palpebral form of the disease accounted for 35.13%, while the bulbar form made up 03 (4.05%) of the total number of patients.

The multi centric study from Italy reported predominance (53.8%) of limbal presentation, whereas Ujwala S Saboo and co-workers found majority of the cases (71.8%) had a mixed presentation comprising of both limbal as well as palpebral involvement, followed by isolated palpebral involvement in 15.6% and limbal involvement in 12.6% of the patients.^{5,6}

Itching was the commonest symptom seen in 59 (79.82%) patients followed by redness (66.21%), watering (47.29%) and discharge (40.54%). Ujwala S

Saboo and co-workers also found almost similar results-itching (88%), redness (86%) and watering (65%).⁵

Majority of patients i.e. 72 (97.29%) had papillae on the upper tarsal conjunctiva. Conjunctival congestion was found in 51 patients (68.91%) and gelatinous limbal thickening in 26(35.13%) of patients. Ujwala S Saboo and co-workers found palpebral papillae in 85% of patients and limbal thickening in 73% of patients with VKC.⁵

Perilimbal conjunctival pigmentation was present in 4 (5.40%) of patients. Perilimbal conjunctival pigmentation is a new clinical sign described in VKC. Rao et al described perilimbal pigmentation as a consistent finding in VKC. 8 Ujawala S Saboo and co-workers found perilimbal conjunctival pigmentation in 52/468 (11%) of the patients.⁵

Family history of allergy was present in 4 (5.04%) of patients. Atopies like asthma in 1 (1.35%), eczema in 3 (4.05%) and allergic rhinitis in 3 (4.05%) patients. This is in contrast to the picture seen in the temperate zones as reported by Lambiase et al and Bonini et al who found associated systemic allergies in 41.5-48.7% patients in different series.^{4,6}

Positive personal or family history of allergies was present in only 4.91% of patients in study conducted by Ujwala S Saboo and co-workers.⁵

In this study 59 (72.72%) patients showed seasonal symptoms and 15 (20.27%) patients showed perennial symptoms. Ujwala S Saboo and co-workers described chronic perennial form in 36% of patients.⁵

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