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Original Research Article

Hospital based study of demography and clinical picture of vernal keratoconjunctivitis

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ABSTRACT

Background: Vernal Keratoconjunctivitis (VKC) is common cause of ocular morbidity in children living in tropical countries. Its diagnosis is based on signs and symptoms of the disease. The study was undertaken to stress upon the demography and clinical presentation of VKC.
Methods: Retrospective pre-formed proforma of 155 patients of VKC, who were detected at random in the out - patient department of ophthalmology, ASCOMS, Jammu from May 2016 to April 2017, were analyzed.
Results: Mean age at presentation was 10.31 years +4.05. The Male: Female ratio was 4.96:1. Majority of patients reported in the month of May. Mixed type of VKC was predominant. Personal or family history of allergy was seen in 5.8% of patients. Itching (100%) was commonest symptom and palpaberal papillae were commonest sign seen in 78.70% of patients.
Conclusions: Clinical pattern of VKC seen in hot and dry climate of Northern India is like that seen in other parts of country.

Keywords: Allergy, Limbal, Palpebral, Vernal keratoconjunctivitis

INTRODUCTION

Vernal keratoconjunctivitis (Vernal: Latin, Spring) is a chronic, recurrent bilateral inflammation of conjunctiva affecting mainly young males in the first decade of life.[1] Vernal keratoconjunctivitis (VKC) is more prevalent in regions with hot and humid climate.[2] It has a global distribution with a widely varying incidence.[3] The disease is seasonal, lasting from the beginning of spring until autumn.

VKC is characterized by the presence of papillary hypertrophy of the palpaberal and/or the limbal conjunctiva, bulbar conjunctival pigmentation, limbal thickening and Horner Trantas dots. It is associated with itching, redness of eyes, lacrimation and mucous discharge. Inflammation of bulbar conjunctiva is variable but a ropy discharge can be found in the inferior fornix.[4] The clinical course of this disease is usually benign and self-limiting, with vision in most children remains normal but sight threatening complications may manifest.[5]

The clinical course of VKC seems to have geographical variations. Therefore, the retrospective study was undertaken to know the demographic and clinical expression of disease in this part of India.

METHODS

The present study is a hospital based, retrospective study carried out on 155 patients, who attended the outpatient department of the Ophthalmology, ASCOMS, Jammu.

The study period was May 2016 to April 2017. The study was carried out after obtaining permission from ethical committee of institution and conducted in strict adherence to the tenets of Declaration of Helsinki. Verbal informed consent was taken from patients.

Diagnosis of VKC was based on the patient's history and the presence of typical clinical signs and symptoms. All patients with history of itching, photophobia and mucous discharge were included in the study.

Patients with history of atopy, contact lens induced conjunctivitis, other ocular diseases and trauma were excluded from the study. The data was retrieved using a pre-formed proforma which included age, gender, history with special attention to characteristic symptoms, duration of symptoms, family or personal history of allergy. Patients underwent a detailed clinical examination including visual acuity, slit lamp examination, fundus examination, details of treatment and complications if any. Papillae of size > 1mm on upper tarsal conjunctiva with no limbalinfilteration marked the palpberal form of VKC. Papillae of < 1 mm on the upper tarsal conjunctiva with limbal infilteration marked the limbal form of VKC. Mixed VKC had features of both limbal and palpaberal form. The severity of disease was graded according to Bonini.[6]

RESULTS

A total of 155 patients of VKC attended out- patient-department of Ophthalmology with effect from May 2016 to April 2017.

The great majority of VKC patients were males (83.22%), with a Male: Female ratio of 4.96:1. The mean age at presentation was 10.31 years ±4.05. The youngest patient in this study was 2 years and oldest was 21 years. Majority of patients i.e. 115 (74%) were in the age group of 6 – 15 years, 4 (2.5%) patients were above 20 years of age (Table 1).

Table 1: Age wise distribution of patients.

Age Range (in years)	Frequency	%
1-5	21	13.54
6-10	60	38.70
11-15	55	35.48
16-20	15	9.67
> 20	04	2.58
Total	155	100

Maximum patients were reported in the months of May and June and minimum in December (Figure 1).

Out of all reported symptoms, itching (100%) was commonest. Other symptoms were redness (61.93%), watering (50.32%), photophobia (44.51%), thick discharge (41.93%), and foreign body sensation (11.6%). (Table 2).

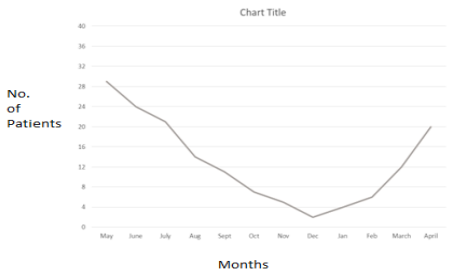

Figure 1: Month wise distribution of VKC.

Table 2: Distribution of patients by symptoms.

Variables	Frequency	%
Itching	155	100
Redness	96	61.93
Watering	78	50.32
Photophobia	69	44.51
Thick discharge	65	41.93
FB sensation	18	11.6

One hundred twenty-two (78.70%) patients had palpaberal papillae. Limbal thickening was seen in 98 (63.22%) patients. Thirteen patients (8.3%) showed perilimbal conjunctiva pigmentation.

In our study, majority of patients i.e. 65 (41.94%) had mixed type of VKC. Isolated Limbal form was seen in 33 (21.29%) patients and isolated palpaberal form was seen in 57 (36.77%) patients (Table 3).

Table 3: Clinical types of VKC.

Types	No. of Cases / frequency	%
Mixed	65	41.94
Palpaberal	57	36.77
Limbal	33	21.29
Total	155	100

Table 4: Severity of vernal keratoconjunctivitis at presentation.

Clinical Grade	No. of Cases	%
(Quiescent) absence of Symptoms	0	0
(Mild): Presence of Symptoms with no corneal involvement	85	54.83
(Moderate): Presence of Symptoms + Photophobia with no corneal involvement	64	41.29
(Severe): Presence of symptoms + photophobia, Mild to moderate superficial puntate keratopathy / corneal involvement	05	3.22
(Very severe): Presence of symptoms + photophobia + diffuse superficial punctuate keratopathy/ corneal ulcer.	01	0.06

The grading of severity of VKC is described in Table 4. Majority 85(54.83%) of patients had mild form of VKC. Corneal ulcer was seen in only one (0.06%) patient.

In this study, positive personal or family history of allergy was present in 9 (5.8%) patients.

DISCUSSION

Vernal keratoconjunctivitis (VKC) is bilateral, chronic, external ocular inflammatory disorder mainly affecting young boys. Male predominance was noted in our study which included 129 males and 26 females with Male: Female ratio of 4.96:1. Saboo US et al. also reported male preponderance (M: F ratio 6.4:1) in their study which is consistent with our finding.[7] On the contrary Ukponmwan found female predominance (M: F ratio of 1: 1.3) from Nigeria. Male predominance was also found by Leonardi A in his study.[2]

Mean Age of patients was 10.31 years ±4.05. Maximum patients i.e. 60 / 155 (38.70%) were in age group of 6-10 years. This is in accordance with the study conducted by Kawuma M, which found the commonest presentation with VKC to be between 5 and 9 years of age.[8] In this study, only 2.58% patients were above the age of 20 years whereas Saboo US et al. found 12% patients above 20 years and Leonardi et al. found 4% of patients above 20 years.[2,7] Different environmental and geographical variations may be responsible for such varied demography.

VKC showed seasonal variations in our study. Majority of patients reported in the months of May and June which corresponds to the hot, dry weather of the northern part of India. This is in agreement with a study conducted by Jivange VS et al., which reported highest incidence in hot and dry season.[9] Study conducted by Malu KN in Nigeria also reported a perennial presentation of VKC with seasonal variations.[10]

In our study, 5.8% of patients had personal or family history of allergy which correlates with the study of Saboo US et al. where personal or family history of allergy was present in 4.91% of patients.[7] The Hayilu D et al. also found an association between family history of non-ocular allergic disease such as asthma, atopic rhinitis and VKC.[11]

In present study, the most common presenting feature of itching (100%) supports the dictum, 'no itching, no vernal catarrh'. Apart from this, redness was found in 96 (61.93%) patients, watering in 78 (50.32%) patients and thick discharge in 65 (41.93%) patients. Foreign body sensation was reported by 18 (11.61%) patients. Similar findings were found by Bisht R et al.[12] and Rajappa SA et al.[13] The predominant type of VKC was of the mixed form (41.94%) followed by palpaberal (36.77%) and limbal (21.29%). Khan FA et al. and Saboo US et al. also reported mixed form as commonest presentation.[7,14] On the contrary, Rajappa et al. found predominance of palpaberal form in their study, whereas Kawuma M reported limbal form (75%) in majority of patients.[13,8] This signifies that the prevalence of subtypes of VKC is different in various parts of the world.

Perilimbal conjunctival pigmentation was present in 13 patients (8.3%) in our study. This sign was documented in 52/468 (11%) patients by Saboo US et al, whereas Rao et al. found perilimbal conjunctival pigmentation as consistent finding in VKC.[7,15] In this study, 122 (78.70%) patients had palpaberal papillae and 98 (63.22%) patients had limbal thickening. Rao Parsad I.S.V.S.P et al. also found palpaberal papillae in 89% of patients and limbal thickening in 61% of patients.[16]

This study has some important limitations. Much of the data is self- reported and subject to recall bias from the subjects. Another limitation was retrospective nature from a hospital based eye centre, hence the data may not represent the exact characteristic of patient treated in a community centre.

CONCLUSION

In conclusion, VKC is a common form of allergic conjunctivitis in tropical counties like ours, affecting young males below 20 years. It is also summarized that the VKC in this part of India is essentially similar to the typical pattern of VKC seen in rest of country.[7,12,13,16]

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