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CLINICAL PROFILE OF VERNAL KERATOCONJUNCTIVITIS A HOSPITAL BASED STUDY(SUBHIMALAYAN REGION OF NORTH BENGAL, W.B, INDIA)

Ophthalmology

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ABSTRACT

Vernal Keratoconjuctivitis(VKC) is a recurrent, allergic seasonal disease of childhood characterized by severe inflammation of the conjunctiva and giant papillae of the superior tarsal conjunctiva, gelatinous hypertrophy of limbus and keratopathy. Clinical and inmuno histochemical studies suggest that IgE dependent and IgE independent mechanisms are involved in the inmuno pathogenesis of VKC. Allergic disease affects 30-50% of the population. Most of the patients are present in the month of May to June. In this study, it has been found that 156(74.29%) patients show seasonal symptoms and 43(20.48%) patients show perennial symptoms out of total 210 patients.
KVC has predilection for young age group and the diagnosis is generally based on signs and symptoms of the disease. This study is undertaken to stress upon the disease and those secondary to its long term medication.

KEYWORDS

Vernal Keratoconjunctivitis, Giant Papillae, Shield Ulcer

INTRODUCTION

Vernal Keratoconjunctivitis(VKC) is a recurrent, ocular inflammation primarily affecting young adults living in warm dry climates.

The VKC has a good prognosis in early stages but in chronic recurrent disease, complication can occur due to corneal scarring, shield ulcer, corneal plaque and steroid induced glaucoma and cataract, etc. Allergic ocular disease is the most common eye disorder among young population.

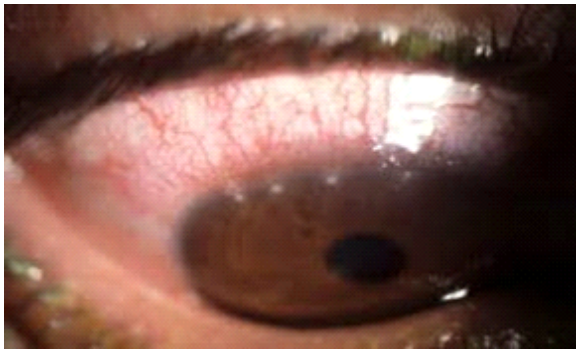
VKC affects bulbar palpebral and limbal conjunctiva and cornea of both eyes. Male children are more commonly affected than female. The more common complaints of VKC patients are intense itching, watering, redness, photophobia and ropy discharge. Due to alkaline nature of the discharge the intense itching happens. The main sign of VKC are mild papillary hypertrophy, cobble-stone papillae in the upper tarsal conjunctiva. Other signs are superficial punctate Keratopathy, Horner tantra's dots in conjunctiva, shield ulcers and pannas like vascularization of cornea. Patients with VKC have higher incidents of Keratoconus, as well other type of ectasia such as pellucid marginal degeneration and Keratoglobus. Other findings may be of steroid induced raise of IOP and steroid induced cataract.

MATERIALS AND METHODS

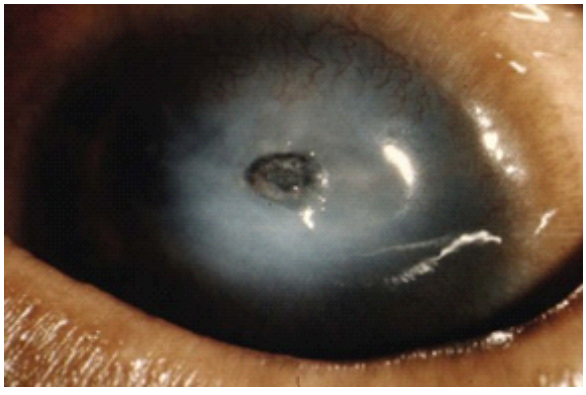
A prospective cross sectional study has been done upon 210 patients within period of between March 2016 to July 2017 who attended eye OPD, a tertiary eye centre (North Bengal Medical College & Hospital), i.e. located in subhimalayan area of North Bengal, INDIA.

Criteria for inclusion –

Patients up to age of 15 years, those who agreed to give consent to be checked up periodically, were enrolled in this study. First of all, refractive correction was done for ametropic patients, if required homatropine or cyclopentolate was used for refraction. Anterior segment examination was carried out with the help of torch light and slit lamp bio microscope, in doubtful cases we stained cornea with fluorescein strip and examined under slit lamp bio microscope to detect punctate epithelial erosions and shield ulcers. Goldmann applanation tonometer was used to detect raised intraocular pressure, in cases of suffering from steroid induced secondary glaucoma. Posterior segment examination was performed after dilating pupil, using 90 dioptre lens with slit lamp bio microscope and indirect ophthalmoscope. According to the clinical signs and symptoms of VKC is classified as bulbar, palpebral and mixed type. We also noted different clinical features and course of the disease like recurrence or increase in severity even after starting treatments.



Hornar Tantra's Dots



Shield Ulcer



Cobble-Stone Appearance of Papillae

RESULTS

Mean age group of patient was 8 years. There was predominance of male with around 59.52%, while 40.48% cases belong to the female gender (Table-1). Itching was seen in 166 patients(75.05%), conjunctival injection was seen in 118 cases(56.19%), watering was present in 61.09%. Papillary hypertrophy was found in 59.05%, limbal thickening was found in 75 patients (35.71%). Itching was the commonest symptoms (79.09%), followed by watering(61.90%), redness (61.13%), ropy discharge(39.80%) and photophobia (31.90%). In this study, history of allergy was present in 1.90%, atopies like asthma was 0.95%, eczema and allergic rhinitis were 0.95% and 1.34% respectively. Best corrected visual acuity in both eyes, was 6/6. However best corrected visual acuity (BE) was 6/12 in 3% cases. Visual acuity was(BE) 6/24 in 1% cases. The main reasons for impairment of vision were like limbal corneal scarring, shield ulcer, steroid induced raise of IOP, steroid induced cataract, etc.

Table 1 : Showing distribution of patients into different sex

	Patients	Male	Female	Total
VKC Patients	n=210	125	85	210
Percentage (%)		59.52	40.48	

Table 2 : VKC patients in different age group

Age Group	< 5 years	5 – 10 Years	11 – 15 Years
No. of Children (n=210)	41	86	83
Percentage(%)	19.52	40.95	39.53

Table 3 : Seasonal and perennial distribution of VKC patients

	No of Patients (n=210)	Percentage in %
Seasonal	156	74.29
Perennial	43	20.48

Table 4 : Showing distribution of allergy

Atopies	No of Patients (n=210)	Percentage in %
Asthma	2	0.95
Eczema	2	0.95
Allergic Rhinitis	3	1.43
Family history of allergy	4	1.90

Table 5

Sl. No	Signs	No of Patients (n=210)	Percentage in %
1	Mild Papillae on upper palpebral conjunctiva	163	77.62
2	Giant Papillae	12	5.71
3	Perilimbal Gelatinous thickening	75	35.71
4	Conjunctival congestion	118	56.19
5	Horner tantra's dots	61	29.05
6	Pseudo Xeron toxon	14	29.05
7	Vernal Shield Ulcer	7	3.33
8	Shield Ulcer perforation	1	0.83
9	keratoconus	3	1.43
10	Steroid induced raise of IOP	3	1.43
11	Steroid induced cataract	1	0.83

Table 6 : Comparison with other studies

Features	In present study	Stafeno Bonini et(22) al Ophthalmology(a case series of 195 patients with long term follow up)
Mean age	7	11+_ 5.8
Males	125	144
Females	85	51
M/F < 20 years	125/85	133/44
M/F > 20 Years	0	11/10
Seasonal Varison	74.10%	77.40%
Bilateral	100%	98%
All types of papillae	59.04%	100%
Conjunctival Hyperaemia	46.67%	90.30%
Shield Ulcer	3.30%	9.70%
Perforation of shield ulcer	0.83%	0
Itching	75.05%	96.10%
Tearing	61.09%	39.50%
Discharge	33.80%	53.30%

DISCUSSION

Total 210 patients were enrolled in this study for the evaluation of clinical signs and symptoms and management of VKC. Mean age was 8 and youngest patient was 2.5 years old. 86 children out of 210 were in the 5-10 years age(40.95%). 41 children were within 1-5 years of age(19.50%) and 83 (39.32%) patients were within 10-15 years of age. The disappearance of VKC after puberty points towards the hormonal role in VKC. The confirmatory role of this factors still needs to be proven. The majority of patients presented in the month of May. Ujwala S Saboo and co-workers reported highest incidence of the same patients in the month of May which corresponds to the hot dry weather during summer and spring.

Emnert's 1988 classification has been used to classify VKC into palpebral, bulbar and mixed types. According to our study, the majority patients were of the mixed type 36%, the Palpebral form accounted for 34% and bulbar form made up 29%. In this study, we have also found that presence of bulbar type is quite common in this area. The multicentre study from ITALY reported predominance of limbral presentation 53.80% where as Ujwala S Saboo and co-workers found majority of the mixed type of VKC 78.80%. In our study we found that itching was commonest symptoms seen in 166(75.05%), patients followed by Redness 136(56.90%), Watering 133(61.09%), Discharge 71(33.80%) and Photophobia in 67(31.90%). Ujwala S Saboo and co-workers also found almost similar results – itching 88%, Redness 86% and watering 65%.

In our study, majority of patients i.e 112 have mild hypertrophy of papilla in upper tarsal conjunctiva 53.30%, Giant papillae was found in 12 patients (5.71 %), Conjunctival congestion was found in 188 patients (56.90%). Majority of Ujwala S Saboo and co-workers found palpebral papillae in 85% of patients and limbal thickening in 73% of patients with VKC.

Family history of allergy was present in 4 cases(1.90%), Asthma was in 2 patients(0.95%), Eczema was in 2 patients(0.95%) and allergic rhinitis was in 3(1.43%) persons. A study conducted by Lambiase et al and Bonini et al who found associated systemic allergies 41. 5 – 48.7% patients in different states. Positive personal or family history of allergy was found 4.91%, in a study conducted by Ujwal S Saboo & co-workers. In our study, 156 patients(74.1%) showed seasonal symptoms and 44(20.17%) showed perennial symptoms. Ujwala S Saboo and co-workers described perennial form in 36 % of patients.

CONCLUSIONS

Vernal Keratoconjunctivitis(VKC) is a chronic ocular surface inflammation mediated by type-I hyper sensitivity reaction. The inflammation is mediated by eosinophils, IgE antibody, non-IgE mechanism, mixed mechanism and genetic mechanism. Male children are more commonly affected than female. The VKC has good prognosis in early stage but in chronic recurrent disease blinding complications can occur due to corneal scarring, shield ulcer keratoconus, punctate Epetheliopathy, steroid induced glaucoma and steroid induced cataract .so knowing the natural history of the disease will help in early intervention and help in preventing blinding complications. It creates awareness for proper management of VKC patients of subhimalayan area of north Bengal.

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