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Original Research

Assessment of clinical profile of vernal keratoconjunctivitis patients

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ABSTRACT:
Background: The present study was conducted for assessing the clinical profile of vernal keratoconjunctivitis (VKC) patients. **Materials & methods:** A retrospective assessment of all patients of VKC who presented was done. A total of 100 VKC patients were identified. The diagnosis of VKC was made on the basis of history and typical signs and symptoms. Active VKC was diagnosed based on the complaint of ocular itching in the presence of upper tarsal conjunctival papillae and/or limbal hypertrophy with bulbar conjunctival pigmentation. A Performa was made and complete clinical details of all the patients was recorded. The severity of the disease was retrospectively graded based on the clinical signs at initial presentation. **Results:** Out of 100 patients, males were 69 and females were 31 in number. Mean age of the presentation was 13.8 years. Common clinical profile observed was itching (90%), redness (88%), and watering (71%). The commonest signs were palpebral papillae (81%) and limbal thickening (70%). Perilimbal conjunctival pigmentation was present in (16%) of patients. **Conclusion:** VKC is an inflammatory disease that can cause visual loss. Although little has changed in the diagnosis of VKC, which continues to be largely clinical, based on symptoms and clinical signs, newer therapies have been developed.
Key words: Keratoconjunctivitis, Vernal

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INTRODUCTION

Vernal keratoconjunctivitis (VKC) is an allergic disease that typically affects young individuals with male preponderance. Greater prevalence of VKC is seen in the regions with hot, humid climate, and higher load of airborne allergens. It is a common ocular surface disorder in the Mediterranean region, central Africa, India, and South America. Clinically, it is characterized by presence of papillary hypertrophy of the palpebral and/or the limbal conjunctiva, bulbar conjunctival pigmentation, limbal thickening, Horner Trantas dots, and mucous discharge. Patients with VKC experience significant morbidity, which affects the quality of life; moreover, vision-threatening corneal complication in severe and chronic cases coupled with potential iatrogenic side effects makes VKC a concerning ocular surface disorder.[1- 3]

VKC is characterized by infiltration of the conjunctiva by a variety of inflammatory cell types, especially eosinophils. Although VKC has previously been thought of as an IgE-mediated disease, several other immunologic pathways have also been implicated. Patients with VKC have been shown to have an increased number of activated CD4+ T-lymphocytes, predominantly Th2, indicating that there is a hypersensitivity reaction to an unknown pathogen. Increased levels of inflammatory cytokines IL-3, IL-4, and IL-5 have also been demonstrated. Conjunctival papillae formation is related to fibroblast activation and production, whereas limbal conjunctival nodules are related to infiltration of inflammatory cells. Studies using in vivo confocal microscopy have shown cellular irregularities in patients with VKC. Patients have been shown to have not only injury to the superficial corneal epithelial layer but also involvement of the basal epithelium and anterior stroma. Corneal nerves may be affected in VKC, and they have been shown to have decreased density as well as increased concentration of adjacent inflammatory cells.[4- 7]Hence; the present study was conducted for assessing the clinical profile of vernal keratoconjunctivitis patients.

MATERIALS & METHODS

The present study was conducted for assessing the clinical profile of vernal keratoconjunctivitis patients.A retrospective assessment of all patients of VKC who presented was done. A total of 100 VKC patients were identified. The diagnosis of VKC was made on the basis of history and typical signs and symptoms. Active VKC was diagnosed based on the complaint of ocular itching in the presence of upper tarsal conjunctival papillae and/or limbal hypertrophy with bulbar conjunctival pigmentation. A Performa was made and complete clinical details of all the patients was recorded. The severity of the disease was retrospectively graded based on the clinical signs at initial presentation. All the results were recorded and analysed by SPSS Software.

RESULTS

Out of 100 patients, males were 69 and females were 31 in number. Mean age of the presentation was 13.8 years. The disease was active at initial presentation in 72subjects (72%). The average period between the initial onset of symptoms and presentation to this institute was 21.5 months. Patients who had their first episode at or after 20 years of age were categorized as adult onset VKC. 15 percent of the subjects were aged ≥20 years at the time of presentation, while the rest had primarily a childhood disease that continued beyond 20 years of age. Common clinical profile observed was itching (90%), redness (88%), and watering (71%). The commonest signs were palpebral papillae (81%) and limbal thickening (70%). Perilimbal conjunctival pigmentation was present in (16%) of patients.

Table 1: Demographic data

Variable	Number	Percentage
Males	69	69
Females	31	31
Mean age of presentation (years)	13.8 years	
Age of presentation <20 years	85	85
Age of presentation ≥20 years	15	15

Table 2: Clinical profile

Clinical profile	Number	Percentage
Itching	90	90
Redness	88	88
Watering	71	71
Palpebral	81	81
Limbal thickening	70	70
Perilimbal conjunctival pigmentation	16	16
Others	12	12

DISCUSSION

Vernal keratoconjunctivitis (VKC) is a recurrent, bilateral allergic inflammation of the conjunctiva. The episodes are often periodic and have seasonal recurrences. Seasonal exacerbations characterize the condition in the initial stages with a peak incidence during spring and summer. Over time, the condition tends to become perennial. VKC is a subtype of allergic conjunctivitis. Vernal keratoconjunctivitis (VKC) is a type of allergic conjunctivitis. Additional types include perennial and seasonal rhinoconjunctivitis, atopic keratoconjunctivitis, and giant papillary conjunctivitis.VKC is classified based on the area of ocular involvement into palpebral, limbal, and mixed forms. Palpebral VKC: This involves the upper tarsal conjunctiva. There is a close association between the inflamed conjunctiva and the corneal epithelium, often leading to significant corneal disease. Limbal VKC: This typically affects bulbar conjunctiva in the palpebral area and typically affects the Black and Asian populations. Mixed VKC: This has features of both the palpebral and limbal forms.[6- 9] Hence; the present study was conducted for assessing the clinical profile of vernal keratoconjunctivitis patients.

Out of 100 patients, males were 69 and females were 31 in number. Mean age of the presentation was 13.8 years. The disease was active at initial presentation in 72subjects (72%). The average period between the initial onset of symptoms and presentation to this institute was 21.5 months. Patients who had their first episode at or after 20 years of age were categorized as adult onset VKC. I Kansakar assessed the profile of VKC. Total of 220 patients were enrolled in this study. Male to female ratio with VKC was found to be 4:1. Clinical presentation showed seasonal variation; 78.2% during the spring and summer season. Bilateral involvement was seen in 100% cases, out of which 44.5% were limbal type. The best spectacle corrected visual status of better than 6/9 was in 96.4%, while 2.3% had vision less than 6/12. In 9.5% corneal involvement was seen as superficial keratopathy, while others, such as Shield ulcer, pannus, corneal scar, and keratoconus consisted of 8.3%. The disease is predominantly seen in male child with seasonal variation. Visual impairment is mainly due to involvement of cornea.[10]

15 percent of the subjects were aged ≥20 years at the time of presentation, while the rest had primarily a childhood disease that continued beyond 20 years of age. Common clinical profile observed was itching (90%), redness (88%), and watering (71%). The commonest signs were palpebral papillae (81%) and limbal thickening (70%). Perilimbal conjunctival pigmentation was present in (16%) of patients. Alemayehu AM et al assessed the prevalence of vernal keratoconjunctivitis and its associated factors. A total of 578 study participants were selected using a systematic random sampling technique. A pre-tested semi-structured questionnaire, torch, and magnifying loop were used to collect data. A total of 574 children participated in this study representing a response rate of 99.30%. The mean age of the participants was 9.74±4.0 years. The prevalence of vernal keratoconjunctivitis was 11.10% (95% CI: 8.70, 13.90). Male sex (adjusted odds ratio = 4.12(95% CI: 1.42, 11.91)), close animal contact (adjusted odds ratio = 3.45(95% CI: 1.14, 10.41)), dust exposure (adjusted odds ratio = 3.38(95% CI: 1.31, 10.04)), and personal systemic allergy history (adjusted odds ratio = 4.82(1.40, 16.72) were independently associated with vernal keratoconjunctivitis. The prevalence of VKC was high among children in Gambella town. Sex being male, close animal contact, personal systemic allergy history, and dust exposure were positively associated with vernal keratoconjunctivitis independently.[11]

CONCLUSION

VKC is an inflammatory disease that can cause visual loss. Although little has changed in the diagnosis of VKC, which continues to be largely clinical, based on symptoms and clinical signs, newer therapies have been developed.

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