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ORIGINAL ARTICLE

Frequency of Vernal Keratoconjunctivitis Types in Patients Presenting to Tertiary Care Hospital

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ABSTRACT

Background: Vernal keratoconjunctivitis (VKC) is a condition that affects both eyes at the same time, recurs at regular intervals, and is an allergic inflammatory reaction of the conjunctiva and cornea to a variety of chemicals. Amongst the various populations the prevalence of various types of VKC varies.

Objective: To assess the frequency of vernal keratoconjunctivitis types in patients presenting to tertiary care hospital

Methodology: The current cross sectional study was carried out at the Ophthalmology Department, Qazi Hussain Ahmad Medical Complex, Nowshera from March 2022 to August 2022. All the patients were assessed under slit-lamp for VKC and their types. IBM SPSS version 23 was employed for analysis of data.

Results: In the current research, totally 150 patients were enrolled. There were 90 (60%) male patients while female patients were 60 (40%). Based on the types of VKC, 75 (50%) patients were observed with Palpebral VKC, 41 (27.33%) with Limbal VKC and 34 (22.67%) patients were observed with Mixed VKC.

Conclusion: Our study concludes that Vernal keratoconjunctivitis is a common problem of children. Both males and females are affected by this problem but occur predominantly in male. The most prevalent type of vernal keratoconjunctivitis was Palpebral VKC in our study.

Keywords: Frequency; vernal keratoconjunctivitis; Eye diseases

INTRODUCTION

Vernal keratoconjunctivitis (VKC) is a condition that affects both eyes at the same time, recurs at regular intervals, and is an allergic inflammatory reaction of the conjunctiva and cornea to a variety of chemicals. Seasonal hyperactivity occurs often with this illness. The patho-physiology of this condition is a type 1 hypersensitivity response, which often manifests itself within a short period of time after an individual, is exposed to an allergen. The affected individuals are often sensitive to a variety of substances, such as mold, animal dander, pollen from flowers, and mites [1]. Hot and arid climates have a higher prevalence of VKC. The disease is prevalent in South America central Africa and South Asia [2]. It is estimated that 5% of children in the paediatric age range in Asian and African populations have VKC [3]. There are three different types of this disease named as palpebral VKC, limbal VKC and mixed VKC [4, 5]. Symptoms of the illness include intense itching, photophobia, inflamed eyes, and heavy mucus discharge [6]. Examining the eyes reveals conjunctival chemosis, which causes the eyelids to enlarge, persistent mucus discharge, and massive papillary conjunctivitis, which might resemble cobblestone. Under slit lamp observation, the giant papillae may be observed on the upper tarsal conjunctiva, and papillae can also be detected surrounding the limbus. Palpebral VKC is said to be characterized by the cobblestone-like morphology of the papillae [7]. Both the illness and the accompanying treatments for VKC may cause serious, sometimes life-threatening ocular complications. Shield ulcers, keratoconus, epithelial macro-erosions, plaques, scarring, and pseudo-gerontoxon are some of the potential consequences. Glaucoma and cataracts caused by steroids, as well as persistent epithelial abnormalities, are examples of problems that might arise from treatment [8]. VKC is a condition that affects people of paediatric age all around the globe. Given the climate and other predisposing variables, it presents a significant health care problem to our people. Due to restrictions on everyday activities, education, and vacations as well as possible psychological and relational problems, children who have severe VKC might experience a low quality of life [9]. VKC has a high morbidity rate with periodic acute recurrences and remissions [10]. As a result, serious consequences might arise if the condition is not adequately managed. Additionally, there are considerable differences in the likelihood of corneal involvement across the various forms of VKC [11]. A particular strategy for treating patients is required depending on the severity of the illness and its extent of involvement in the cornea [12]. Different researches revealed that the frequency of this disease vary with the different population [13, 14]. Therefore, it is important to understand the disease frequency in our setting.

MATERIALS AND METHODS

The current cross sectional study was carried out at the Ophthalmology Department, Qazi Hussain Ahmad Medical Complex, Nowshera for a duration of six months from March 2022 to August 2022. The ethical approval of the study was taken from the IRB of the hospital. A total of 150 patients were enrolled in our study by using WHO calculator for sample size. Our study inclusion criteria were patients of both the gender having age 5-16 years with vernal keratoconjunctivitis and willing to participate in our study. The criteria for exclusion in our study were all the patients having viral/bacterial conjunctivitis, patients with past history of ocular trauma, contact lens wearer and patients allergic to drug. The informed consent was taken from all the participants of the current research. All the patients were assessed under slit-lamp for VKC and their types. All the data including age, gender and frequency of Vernal keratoconjunctivitis was documented in a proforma designed for this research. IBM SPSS version 23 was employed for analysis of data. Age was documented as mean (± SD) while gender and type of Vernal keratoconjunctivitis were documented as percentage and frequency.

RESULTS

In the current research, totally 150 patients were enrolled. There were 90 (60%) male patients while female patients were 60 (40%). (Figure 1) The mean age (SD) of the enrolled patients was (1.5) years. Based on age groups, the number of patients observed in age range of 5-8 years were 48 (32%), 67 (44.67%) patients were 9-12 years old while 35 (23.33%) patients were 13-16 years old.

(Figure 2) Based on the types of VKC, 75 (50%) patients were observed with Palpebral VKC, 41 (27.33%) with Limbal VKC and 34 (22.67%) patients were observed with Mixed VKC. (Figure 3)

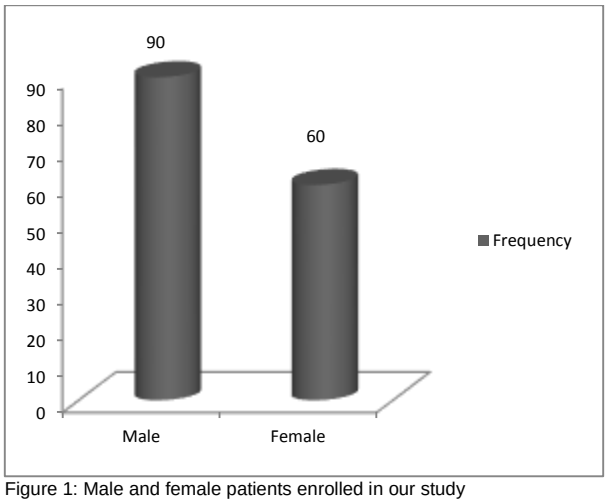

Figure 1: Male and female patients enrolled in our study

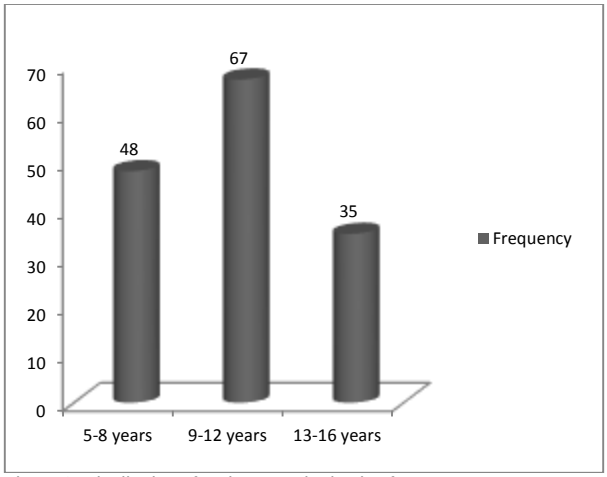

Figure 2: Distribution of patients on the basis of age

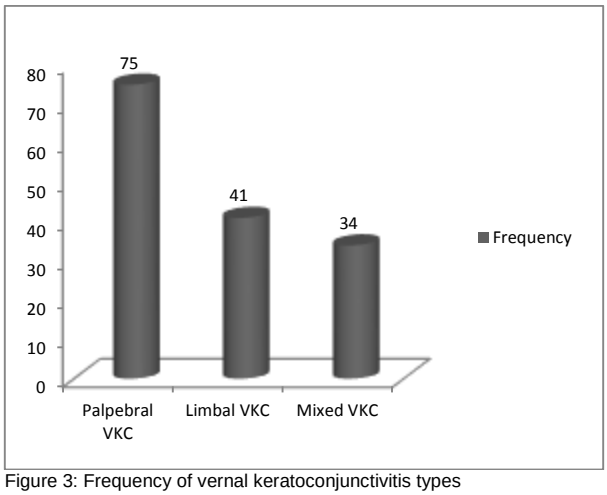

Figure 3: Frequency of vernal keratoconjunctivitis types

DISCUSSION

Childhood and adolescence are both prevalent ages for allergic conjunctivitis. The most problematic kind of allergic conjunctivitis is known as VKC [15]. VKC is considered as a disease of childhood and during puberty it disappears. In the current research, totally 150 patients were enrolled. There were 90 (60%) male patients while female patients were 60 (40%). These results are in line with the findings of the earlier study who reported that VKC is more prevalent in male as compared to female [11]. Another study done by Marey et al. also reported male predominance in patients with VKC which is consistent with our findings [16]. The mean age (SD) of the enrolled patients was (1.5) years. Based on age groups, the number of patients observed in age range of 5-8 years were 48 (32%), 67 (44.67%) patients were 9-12 years old while 35 (23.33%) patients were 13-16 years old. A previous study almost reported similar mean age to our study [17]. Another previous study reported that age group 11-20 years is mostly affected by VKC [18]. The age group 6-10 years was commonly affected by VKC in another study [19]. Therefore, it is pretty apparent that this condition mostly affects children in the school-age group. This may be because they are spending more time outside, where they are exposed to environmental risk factors like allergens and ultraviolet light. Based on the types of VKC, 75 (50%) patients were observed with Palpebral VKC, 41 (27.33%) with Limbal VKC and 34 (22.67%) patients were observed with Mixed VKC. Amongst the various populations the prevalence of various types of VKC varies. A study carried out by Rajappa SA et al. reported palpebral, limbal and Mixed VKC in 49%, 27% and 24% respectively which is almost similar with our findings [14]. Another study carried out by AM Zicari et al. found palpebral VKC in 71% patients, Mixed VKC in 29% while no patients was observed as limbal VKC. These findings are not in accordance with our study [4]. A study carried out by Leonardi A. et al reported palpebral, limbal and Mixed VKC in 33%, 48% and 19% respectively which is almost similar with our findings [13]. These variations in the prevalence of VKC might be due to difference in environmental conditions and genetic predisposition.

CONCLUSION

Our study concludes that Vernal keratoconjunctivitis is a common problem of children. Both males and females are affected by this problem but occur predominantly in male. The most prevalent type of vernal keratoconjunctivitis was Palpebral VKC in our study.

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