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Original Research Paper

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CLINICAL PROFILE OF PAEDIATRIC PATIENTS OF VERNAL KERATOCONJUNCTIVITIS PRESENTING TO THE TERTIARY HEALTH CARE CENTRE

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ABSTRACT

PURPOSE - to study the clinical profile of patients of vernal keratoconjunctivitis presenting to the tertiary health care centre.

METHODS- This was a prospective observational study that involved 100 eyes of 50 patients with vernal keratoconjunctivitis complaining of itching, burning and ropy discharge. Slit lamp examination was done in all the patients.

RESULTS-There were 37 males and 13 females and the age group taken was 1 to 15 years. 4 patients belonged to the age group of 1 to 5 years, out of which all 4 were males. 32 patients belonged to age group of 6 to 11 years, out of which 24 were males and 8 were females. 14 patients belonged to the age group of 12 to 15 years, out of which 9 were males and 5 were females. On slit lamp examination cobblestone papillae were seen in 46% patients, pseudogerontoxon was seen in 32% patients, Horner Tranta's spots were seen in 18% patients and shield ulcer was seen in 4% patients.

CONCLUSION-VKC is a common form of allergic conjunctivitis and the disease tends to occur in males of 6 to 11 years age group. Most common is palpebral form followed by mixed and bulbar forms. Some cases showed history of dust exposure, atopy and other allergic conditions.

KEYWORDS : vernal keratoconjunctivitis, papillae, ropy discharge, pseudogerontoxon.

I. INTRODUCTION

Allergic conjunctivitis is the inflammation of the conjunctiva (caused by hypersensitivity type I reaction) due to the immune response to the allergens [1]. Vernal (springtime) keratoconjunctivitis (VKC) is a chronic bilateral inflammation of the conjunctiva/cornea which is manifested by the presence of giant/cobblestone papillae at the tarsus/limbus [2–5].

Commonly presenting symptoms of VKC are stringy mucoid discharge, itching swollen eyelid, tearing, burning, red- eye, foreign body sensation, and photophobia. Whereas most common signs of VKC are lid edema, chemosis, tarsal papillae, psuedogerontoxon, Horner Tranta's-Dots, brownish discoloration of eyeballs, darkened eyelids limbal infiltrates [6–8] and shield ulcer.

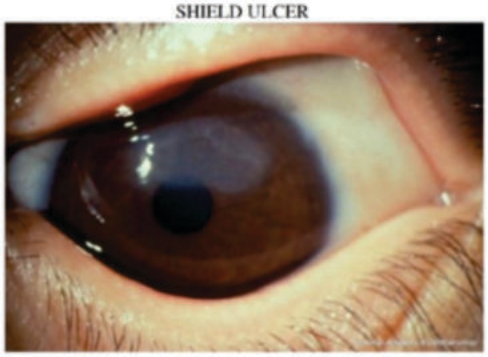
Clinically 3 types of VKC are identified. Limbal type is with a fine gelatinous limbal infraction and Horner Trantas-Dots; the palpebral type has giant papillae > 1mm in diameter on upper tarsus only and mixed type include both types [5,9]. Palpebral VKC is the most predominant form followed by mixed and bulbar forms. About 24% of patients have a perennial form of VKC and more than 66% have a seasonal recurrence [13].

Numerous patients have an exacerbation of VKC in spring season [1]. VKC is a major health problem in dry and hot regions. Effect of climate, sun exposure[9,14], male gender, economic status, dust and wind exposure, underlying atopy, kerosene/wood fire smoke, and close animal contact are identified associated factors of VKC [4,11,15]

COBBLE STONE PAPILLAE

HORNER TRANTA'S SPOTS

SHIELD ULCER



The possible management options of VKC includes from supportive to medical intervention based on its severity. These includes; regular hand and face washing, staying out of the sun, keeping away from dust and smokes [14], and avoiding touching or rubbing of the eyes [16], cold compress, artificial tears, steroidal and nonsteroidal drugs with care of duration of treatment to avoid long-term use complications [1,9,10]. In the absence of proper management, 5.2% of VKC patients lead to visual impairment and total visual loss [12].

The severe form of VKC is a potentially blinding disease in developing countries following its worrisome complications including keratitis, shield ulcer, keratoconus, corneal hydrops, astigmatism, cataract and glaucoma [7,9,10,17].

II. METHOD AND MATERIAL

This was a prospective observational study that involved 100eyesof50patientswithvernal keratoconjunctivitis complaining of itching, burning and ropy discharge. Patients were recruited from the OPD of MLB MEDICAL College, Jhansi, Uttar Pradesh and were followed from 15th January 2021 -15th September 2021. It was performed under the Helsinki Declaration of 1975, as revised in 2000. The necessary permission from the Ethical and Research Committee was obtained for the study.

INCLUSION CRITERIA

1. All patients between the age group 1to 15 years who presented to the OPD of MLB medical College Jhansi with the complaint of itching, burning and ropy discharge and who were found to have cobble stone papillae, psuedogerontoxon, Horner Tranta's spots or shield ulcer on slit lamp examination were included in the study.

EXCLUSION CRITERIA

1. Patients outside the age group of 1 to 15 years.
2. Patients with any corneal pathology.
3. Patients with other conjunctival diseases.
4. Patients with recent intraocular surgery.
5. Patients with the history of trauma.
6. Patients with any other ocular pathology.
7. Mentally or physically unfit patients.

All patients were subjected to a detailed history taking, complete ophthalmic examination in diffuse and focal light, slit lamp examination along with fluorescein dye staining.

III. RESULTS

A total of 100 eyes of 50 patients were studied. We included only eyes with a recent complaint of itching, burning and ropy discharge. There were 37 males and 13 females and 60% of the studied eyes were the right eyes. All eyes had one or more clinical features of vkc like cobble stone papillae, Pseudogerontoxon, Horner Tranta's spots and Shield ulcer.

Table1: Slit lamp findings of patients presenting with vkc

Slit lamp finding	no. of patients
1. Cobble stone papillae	23
2. Pseudogerontoxon	16
3. Horner Tranta's spots	09
4. Shield ulcer	02

Table2: Age distribution in vkc population

Age group	no. of patients
1. 1 to 5 years	04
2. 6 to 11 years	32
3. 12 to 15 years	14

Table3: Gender distribution in vkc population

Gender	no. of patients
1. Male	37
2. Female	13

IV. DISCUSSION

VKC is an allergy-associated recurrent inflammatory disease found predominately in prepubescent males. It is characterized by the bilateral presence of palpebral and/or bulbar conjunctiva papillae, corneal keratopathy, and mild-to-severe itching. VKC is usually considered to be a childhood disease and has been found to resolve usually by the age of puberty. The age group considered in our study was 1 to 15 years. A hospital-based study done in Pakistan by Shafiq and Shaikh [18] reported a low prevalence of only 6% of patients with VKC to be above the age of 20 years. Leonardi et al. [19] in their study also reported only 4% of patients to be more than 20 years of age. However, an Indian study by Saboo et al. [20] has reported 12% of patients to be above 20 years of age. Male: Female ratio in our study was 2.84:1. Most of the studies have reported male: female ratio between 4:1 and 2:1.[21],[22] Our study has found a male: female ratio which is in line with most other studies. There is a higher predilection for warm, dry climates, as inflammation trends to decrease in the cooler months of the year. VKC is self-limiting and typically lasts 4–10 years with remission at puberty. The immunopathogenesis is multifactorial. Classically, it has been thought of as a type I IgE-mediated hypersensitivity reaction; however, it has been suggested that there is cell-mediated Th2 involvement. The major symptom is ocular itching. Minor symptoms include photophobia, burning, tearing, mild ptosis, and a thick, ropy, yellow, mucoid discharge. Clinically, there are three forms of conjunctivitis: palpebral, limbal, and mixed. The palpebral form is characterized by polygonal, flat-topped, giant cobblestone papillae of the superior tarsal conjunctiva. Most of the cases from our study showed a palpebral presentation. Complications of visual loss from corneal neovascularization, corneal scars, keratoconus and steroid-induced cataracts, and glaucoma are found in 7% of patients. 36% of subjects in our study were found to be atopic based on the history of hay fever, asthma, and eczema. Studies by Lambiase et al. [23] and Bonini et al. [24] reported associated systemic allergies in 41.6% patients in different series. Pharmacologic therapy is the mainstay of treatment. Topical treatments are more effective than systemic. The first line of treatment is a topical mast cell stabilizer, antihistamine, or mast cell stabilizer/antihistamine combination (olopatadine or lodoxamide). These classes of drugs are safely used long term for moderate-to-severe cases and should be taken 1 month before the seasonal onset of symptoms. Steroid use is limited to severe inflammation and corneal shield ulcers to minimize the iatrogenic harm. Cases not responding to steroids can be treated with cyclosporine. Nonsteroidal anti-inflammatory eye drops are used as a safe alternative in mild cases. Environmental strategies of therapy include avoidance of allergens and triggering factors, cold compresses, and moving to a cooler climate.

V. CONCLUSION

VKC is a common form of allergic conjunctivitis, and this disease tends to occur more in males of 6 to 11years age group. Some cases showed a history of atopy, other allergic conditions. Our study spans over a period of 6 months and is prospective in nature focusing on age and gender distribution, frequency of symptom presentation and the presence of various ocular signs. Slit lamp examination seems to be the modality of choiceforexamination of vkc patients.

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