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CLINICAL PROFILE OF VERNAL KERATOCONJUNCTIVITIS AT A TERTIARY EYE CARE CENTER IN BUNDELKHAND REGION.

Ophthalmology

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ABSTRACT

Purpose: To study the clinical profile of patients with vernal keratoconjunctivitis (VKC) in department of ophthalmology at M.L.B Medical College Jhansi.**Materials and Methods:** Retrospective study of 100 patients of VKC present in department of ophthalmology at M.L B Medical College Jhansi. **Results:** A total of 100 patients were examined out of which 71(71%) were male and 29(29%) were female. The maximum percentage of the patients were in the age group 11-15 years(51%), followed by the age group 5-10 years(32%), followed by the age group 15-20years(12%), followed by the age group 0-4 (3%) and the least number of patients were in the age group 21-25 years(02%). A total of 49(49%) patients had papillae on the upper palpaberal conjunctiva, 30(30%) patients had conjunctival congestion. Limbal Papillae were seen in a total of 33(33%) patients followed by SPK in 26(26%) and Horner Tranta's Spots 12(12%).Out of the total of 100 patients, majority of patients were not having any associated allergic conditions. **Conclusions:** VKC is the most common form of allergic conjunctivitis, seen in hot and dry climate and occurs in Males of 11-15 years of age and palpaberal papillae were commonest sign in 49% of patient. Some patients of VKC had history of atopy and other allergic conditions.

KEYWORDS

Bulbar, Palpebral, Papillae ,Vernal Keratoconjunctivitis

INTRODUCTION

Vernal keratoconjunctivitis (VKC) is a recurrent, bilateral allergic inflammation of the conjunctiva.[1] 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. Vernal keratoconjunctivitis (VKC) is a type of allergic conjunctivitis.[2]

VKC is classified based on the area of ocular involvement into palpebral, limbal, and mixed forms.[3]

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. Vernal keratoconjunctivitis is a recurrent, bilateral disorder. VKC is more commonly present in males and is most commonly seen after five years. Most cases show remission over the years and are usually resolved by puberty. Few may develop atopic keratoconjunctivitis over the years. VKC is more commonly seen in warm and dry climates. There is also a seasonal variation in these patients, with peak incidence occurring in the spring and summer. These symptoms might become perennial over the years. Thus more chronic the disease, the higher are the chances of symptoms becoming persistent.[4]

MATERIALAND METHOD

This was a retrospective study that involved 100 eyes of 50 patient of Vernal keratoconjunctivitis complaining of marked burning and itching sensation and some with congestion, lacrimation and ropy discharge. Patients were recruited from the OPD of MLB medical Jhansi, Uttar Pradesh and followed from 1st may 2022 to1stOctober 2022 . It was performed under the Helsinki Declaration of 1975 ,as revised in 2000.The necessary from the Ethical and Research Committe was obtained for the study.

Inclusion Criteria

All patients who presented to the OPD of MLB medical college Jhansi with the complaint of marked burning and itching sensation and some with congestion, lacrimation and ropy discharge were included.

Exclusion Criteria

1. Suffering from any other infectious or inflammatory ocular pathology.
2. Using topical/ systemic corticosteroids, antihistamines, non-steroidal anti-inflammatory drugs or immunosuppressives .
3. Patient with recent intraocular surgery.
4. sPatient with the history of trauma.

All patients were subjected to detailed history taking and ocular examination using Haag Striet slit lamp.

RESULT

A total of 100 eyes of 50 patients were studied . we included eyes with complain of of marked burning and itching sensation and some with congestion, lacrimation and ropy discharge . All eyes had one or more features typical of vernal keratoconjunctivtis (cobble stone papillae, gelatinous limbal membrane, horner tranta's spot ,ropy discharge).

Table 1. Age distribution of 100 patients of vernal keratoconjunctivitis

Age	Male	Female	Total
0-4	03	00	03
5-10	21	11	32
10-15	37	14	51
15-19	09	03	12
>20	01	01	02

Table 2. Details of 100 patients of vernal keratoconjunctivitis

	Total%	Palpebral Form%	Limbal Form%	Mix %
Male	71	31	26	14
Female	29	18	07	04
Total	100	49	33	18

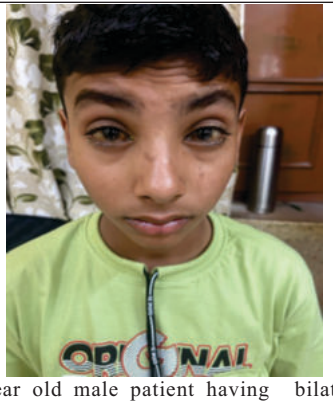

Image-1 11 year old male patient having bilateral vernal keratoconjunctivits with conjunctival congestion and ropy discharge in both eyes.

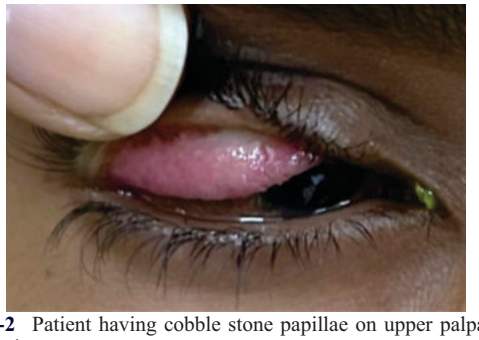

Image-2 Patient having cobble stone papillae on upper palpaberal conjunctiva.

DISCUSSION-

Vernal keratoconjunctivitis is a severe form of allergic disease characterized by marked itching. This is more commonly seen in young boys. The common symptoms include photophobia, burning, foreign body sensation, mucoid discharge, and tearing. Parents also complain about children rubbing their eyes frequently and increasing blinking. The clinical examination findings vary based on the type of disease, further dependent on the geographical location.[5]

There is often a history of atopy present in these patients. Family history of atopy might be positive in close to 49% of these cases. Thus, a genetic link has also been suggested. Apart from personal allergy history, other predisposing factors include male gender, close contact with animals, and increased exposure to dust and sunlight.[6]

Both IgE-mediated and cell-mediated immune mechanisms are thought to be responsible for these exacerbations. Activated eosinophils have also been implicated in the pathophysiology of VKC. Gabrielides also showed the consistent presence of eosinophils in the conjunctival scrapings of VKC patients. Additionally, the role of type 4 hypersensitivity mediated by CD4 T helper cells has also been highlighted through a few studies. Immunomodulators like interleukins 4, 5, 13, and fibroblast growth factors have also been implicated. There is also reported over-expression of cytokines and chemokines in the conjunctiva of these patients.[7]

The treatment of vernal keratoconjunctivitis depends on the extent and severity of the disease at the time of presentation. The management may vary from conservative treatment to surgical interventions.

Conservative treatment – The foremost step in managing these patients shall be an attempt to remove any possible allergens in the patient's surroundings. Cold compresses have a soothing effect.[8] Lid scrubs also form the first line of treatment. Dark goggles are helpful to prevent excess glare and photophobia and help prevent exposure to allergens in the surrounding environment. If the disease is recalcitrant, the patient might need to change from hot, windy areas to cold areas.

Medical treatment – In cases with moderate severity, topical mast cell stabilizers like sodium cromoglycate (2%), sodium nedocromil (2%), lodoxamide are helpful.[9] These can be used with topical antihistaminic eye drops, which act on H1 receptors like olopatadine and alcaftadinie. [10]

Dual-action drops with H-1 blockers and mast cell stabilizers are preferred for moderate to severe diseases. These give the advantage of the immediate onset of action and have a long-term disease-modifying action. Topical nonsteroidal anti-inflammatory agents have also shown a beneficial effect in patients with VKC.[11]

Topical corticosteroids, especially low absorptions steroids like fluorometholone, loteprednol, remexolone, are safe alternatives. Severe cases might need more robust alternatives like dexamethasone or betamethasone. Topical steroids need a quick taper and close monitoring for intraocular pressure.

For patients with recurrent episodes, steroid-sparing agents are a better alternative. Topical immunomodulators like cyclosporin (0.05 to 2%) and tacrolimus (0.1%) are the most commonly used in this class. These act by decreasing the inflammatory cytokines. Cyclosporine acts by blocking the T helper two cells, thus blocking lymphocyte proliferation.[12][13] It also works by inhibiting histamine release from mast cells and basophils and reducing the conjunctival fibroblast proliferation and interleukin 1b production.[14]

RESULTS:

Vernal keratoconjunctivitis is more commonly seen in warm and dry climates. Individuals with Vernal keratoconjunctivitis have characteristics ropy discharge, cobble stone papillae, horner tranta's spot. Vernal keratoconjunctivitis is male predominant condition, occur more commonly in 10-15 years age groups followed by 5-10 years of age group and least common in >20 years of age group.

Patient most commonly present with itching and burning sensation with mucoid discharge. In vernal keratoconjunctivitis patient palpaberal form is the most common presentation. Some patient had family history of atopy.

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