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RESEARCH ARTICLE

"TO STUDY THE CLINICAL PROFILE OF VERNAL KERATOCONJUNCTIVITIS IN A TERTIARY HEALTH CARE CENTRE" (VINDHYA REGION MP)

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Key words:-
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Abstract

Purpose: To evaluate the clinical profile of VKC in tertiary health care centre.

Methods: This prospective observational longitudinal single-Centre study, included 200 eyes of 100 patients with age group 05-20 years with diagnosedVKC.Subjects who satisfy all inclusion criteria and meet no exclusion criteria were included in the study. Each patient was thoroughly examined with slit lamp.

Results: In the study, the age group 11-15 yr was in majority (49%) followed by 16-20 yr (26%) while 25% cases belong to the age group 5-10 yr. The study included 76 males while 24 were females. The history of allergic disorder was found in 31 cases. Chronic VKC stage was the common present in cases. The palpebral VKC type was present in maximum cases. Itching was present in all the 100% cases. The other major symptom was redness, watering,photophobia and ropy discharge.

Conclusion: VKC is the disease of childhood, and males are more affected. In VINDHYA REGION part of our country, mixed type is the most common form of the disease.

Introduction:-

VKC/Spring catarrh is a chronic, bilateral, may occasionally present unilaterally[1] at times asymmetrical, seasonally exacerbated, allergic inflammation of the ocular surface, involving the lids, conjunctiva (tarsal/bulbar), limbus and the cornea,[2-3] with periodic incidence of self-limited character.[4]The male predominance in VKC is conspicuous below 20 years of age but after 20 years, male and female ratio almost become equal. It is more common and most severe in hot, arid environment such as temperate zones, Central and West Africa, the Middle East, Japan and the Indian subcontinent. Some patients also have family history of atopy, most common atopy being Asthma.Most common presenting symptoms of VKC are itching, redness, photophobia, burning sensation, watering, and a mucinous or ropy discharge. Knowledge of clinical profile of the disease in the local population will help in designing preventive measures and also proper management of the disease. The present study was conducted to describe clinical and demographic profile of VKC from a tertiary care

Material And Method:-

This prospective observational longitudinal single- centre study a total of 200 eyes of 100 patients with VKC attending the out-patient department of Ophthalmology Department at tertiary health centre, Rewa (M.P.).

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Inclusion Criteria:-
1. All cases of VKC.
2. Patients willing to sign consent.

Exclusion Criteria:-
1. Patients below 5 years of age.
2. Patients with previous history of drug instillation.
3. Patient with ocular trauma and surgery.
4. Contact lens wearers.

5.Ocular disorders like glaucoma and blepharitis.

Data Collection Method:
Subjects who satisfy all inclusion criteria. A written and detailed Informed consent was taken and demographic details of all patients were documented. The purpose of study was explained to the subjects and their parents in cases of minority.

Ocular Examination:
Visual Acuity:
Assessment of visual acuity with snellen's visual acuity chart, Landolt's C-Chart .

Slit Lamp Bio-Microscopy:
Slit lamp examination for anterior segment evaluation.

Intraocular Pressure:
Intraocular pressure of each patient was noted with Applanation tonometer.

Fundus Examination:
With 90D Lens and Indirect Ophthalmoscopy.

Schirmer test 1 was performed on each patient to see for the presence or absence of associated dry eye.

Statistical Analysis Plan
1. The collected data was fed in computer in MS Excel sheet and an individual master chart was prepared for each group for analysis.
2. Graph pad instat softwareemployed for the statistical analysis in which unpaired t-test and Chi square was applied to compare the two groups and thus the probability (p) value procured. 'p' value indicates how likely it is that a result has occurred by chance alone.
3. Smaller the 'p' value more is the significance of a test and so a 'p' value of < 0.05 or $< 5\%$ is taken as statistically significant.

Results:-

Table 1:- Age and gender distribution of the patients.

Age group in years	Male		Female		Total	
	No of cases	%	No of cases	%	No of cases	%
5-10 yr	19	19.0%	06	06.0%	25	29.0%
11-15 yr	38	38.0%	11	11.0%	49	49.0%
16-20 yr	19	19.0%	07	07.0%	26	26.0%
Total	76	76.0%	24	24.0%	100	100.0%

In the study, the age group 11-15 yr was in majority.

Table 2:- Visual acuity at presentation.

VA	No. of Eyes	%
6/24 - 6/18	4	2.0
6/12 - 6/9	108	52.0
6/6	88	44.0

Total	200	100.0

Maximum cases had visual acuity between 6/12 – 6/9 (52%).

Table 3:- Seasonal variation of Vernal keratoconjunctivitis (VKC).

Seasonal variation of Vernal keratoconjunctivitis (VKC)		
January to March	20	20.0
April to June	46	46.0
July to September	12	12.0-
October to December	22	22.0
History of allergic disorder		
Present	31	31.0
Absent	69	69.0
VKC Stages		
Acute	39	39.0
Chronic	61	61.0
Clinical Type		
Palpebral	59	59.0
Bulbar	16	16.0
Mixed	25	25.0
Symptoms		
Itching	100	100.0
Redness	56	56.0
Watering	43	43.0
Photophobia	47	47.0
Ropy discharge	13	13

Maximum cases were reported in April – June (46%). 61 cases, chronic VKC stage was present. The palpebral VKC type was present in maximum cases. Itching was present in all the cases.

Table 4:- Ocular signs of VKC patients:

Ocular Signs		**No. of Cases**	**Percentage**
I	**Bulbar Conjunctiva**		
	a) Congestion	58	58.0
	b) Thickening cornea Tranta's dots	40	40.0
	c) Perilimbal conjunctival pigmentation	60	60.0
II	**Tarsal Conjunctiva**		
	a) Micro papillae	34	34.0
	b) Macro <1mm papillae	35	35.0
	c) Giant >1mm papillae	15	15.0
	d) Mega cobble stone	14	14.0
III	**Cornea**		
	a) Micro-erosion	0	0.0
	b) Macro-erosion	0	0.0
	c) pseudogerontoxon	35	35.0
	d) Shield ulcer	0	0.0
IV	**Limbal**		
	a) Focal inflammation <180	32	32.0
	b) Diffuse inflammation >180	30	30.0
	c) Limbal deficiency	01	01

Tranta's dots in 40% cases. PCP was present in 60% cases.micro papillae were found in 34% cases,pseudogerontoxon in 35%cases,Shield ulcer in none of the cases

Table 6:- Distribution of Cases according to Schirmer's Test 1:

Schirmer Test	**No. of Eyes**	**%**
Normal	190	95.0

Mild	6	3.0
Moderate	4	2.0
Distribution of Cases according to Intraocular pressure (IOP):		
5-10 mmHg	31	15.5
11-15 mmHg	143	71.5
16-20 mmHg	26	13.0

Maximum cases had normal Schirmer's test 1 (95%), while mild and moderate levels were found in 3% and 2% eyes respectively. Majority of the cases had IOP level between 11-15 mmHg (71.5%), while IOP of 5-10 mmHg was found in 15.5% eyes and IOP of 16-20 mmHg found in 13% eyes.

Discussion:-

The age group in study was 5 to 20 years. The mean age of presentation was 12 (mean 10±2.5 years) years with maximum subjects were in the age group of 11-15 years, similar to studies conducted by **Saleh et al**[5] in 2011 at Yemen Saudi Arabia years**, Shaikh et al**[6]in 2001 at Pakistan years)and**,Bonini et al**[2]in 2000 at Rome Italy **Leonardi et al**[7] in 2006 at Italy **Niharika Shetty et al**[8] in 2019 at Tumakuru Karnataka

52% VA ranging between 6/12-6/9 mild vision loss**, 2%** patients moderate vision loss while **44%** were having visual acuity 6/6. **Ujwala SS et al**[9]in 2012 at Hyderabad reported slightly higher **88%** patients with mild vision loss,8% moderate vision loss and 4% with severe vision loss.

Disease was more presentable during summer peaking at April to June month, with maximum **46%** of patients. Similar studies conducted by **Jivangi VS et al**[10]in 2015 at Kerala, **Sinha R et al**[11]in 2019 at Patna and **Ujawala SS et al**[9]

31% having history of allergy. Similar studies conducted by **Lambiase et al**[12]**, Tuftet al**[13]**, and Bonini et al**[2]. In contradictory to these a study conducted by **Ujwala SS et al**[9] in 2013 at India shown only 5% patients with allergic history. In present study we found **39%** acute VKC and **61 %** chronic VKC. Similar findings were shown in study conducted by **Niharika KS et al**[8] in 2012 at India,

Itching was the commonest presenting complaint, and was observed in almost (100%) cases of VKC, followed by redness (56%), watering (43%) and photophobia. Similar findings reported by **Ujwala SS et al**[9] in 2013 at India (88%), **Dahal P et al**[14]in 2015 at Bharatpur (100%),**Bisht R et al**[15] in 1992 at Himanchal Pradesh (90%), **Rajappa SA et al**[16]in 2014 at Karnataka(100%), **Nagrale P et al**[17] at Telangana**, Nagpal et al**[18] at Punjab, **Panda TK et al**[19] at Odisha**, Ramzan R et al**[20]in 2018 at Kashmir**, Sinha R et al**[11]**,Jivangi VS et al**[10]**,Duke RE et al**[21]in 2016, **Shetty NK et al**[8] at Karnataka and **Ahmed SM et al**[22]at Kashmir.

58% showed congestion and hyperaemia in bulbar conjunctiva. Studies conducted by **Nagpal et al**[18] at Punjab and **Dahal P et al**[14] at Bharatpur and **Ahmed SM et al**[22] at Egypt

Perilimbal conjunctival pigmentation (PCP) was found in **60%** of the cases. Similar findings with higher percentage of PCP were observed in various studies conducted by **Rao et al**[29]and **Luk FO et al**[23]at China **.**

While percentage was low in Nepal (11%) in a study done by **Pokharel S et al**[4] in 2007 at Nepal.

Horner–Tranta's dots, was found in 40% of the cases. Similar to by **Awargaonkar AV et al**[24]in 2014 at India, study conducted by **Kumar J et al**[25] in 2019 at Jhansi UP showed relatively lower percentage (18%). micro papillae were found in 34% cases, mega cobble stone in 14% cases. Similar results were shown by**Ujwala SS et**[9]al in 2006**, Nagpal et al**[18]in 2017**, Jivangi VS et al**[10]and **Dahal P et al**[14]

Cornea

Pseudogerontoxon in **35%** cases. Similarto K**umar J et al**[51]in 2019 at Jhansi UP showing percentage (32%), while Shield ulcer in none of the cases.Contradictory to this, studies conducted by **Bonini et al**[26]and **Leonardi et al**[25]reported shield ulcer 9.7% and 15.3% respectively.

Limbal deficiency present in **1%** of the cases. Similar to**Ujwala SS et al**[9]in 1.2% of the cases.

Myopia was the commonest refractive error **(28%)** followed by astigmatism **(19%)** and hypermetropia **(9%)** associated with VKC.

In accordance with DEWS the cut off value for Schirmer's test 1 was done and found that 4 eyes **(2%)** had values less than 10mm in 5 minutes (moderate dry eye) and 6 eyes **(3%)** have value less than 15mm (mild dry eye). Similar results were shown in study conducted by **Minhas S et al**[28]

Conclusion:-

This study has shown that VKC in this part is essentially similar to the typical pattern of VKC seen in other tropical countries. VKC is the disease of childhood, and males are more affected. In VINDHYA REGION part of our country, mixed type is the most common form of the disease.

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