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Original Research Paper

Ophthalmology

A CLINICAL STUDY OF HIV INFECTION AND ANTERIOR SEGMENT OCULAR MANIFESTATIONS IN RELATION TO CD4 CELL COUNT

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ABSTRACT Acquired Immunodeficiency syndrome (AIDS) is an infectious disease caused by a retrovirus, human immune deficiency virus. HIV infection causes many ocular infections. One is Anterior segment ocular manifestations. By testing CD4 cell count and ocular manifestations by flow cytometry (CD4 cell count study) by a number of experimental studies.

KEYWORDS : HIV – CD4 cell, Anterior Segment Ocular, Flow cytometry, Slit lamp, Schirmer's test.

AIM OF THE STUDY:

HIV infection is a potentially lethal multi system disorder, which break down the body's immune system. And causes many life threating opportunistic infections. In the present study under possible relationship between various levels of CD4 cell count and Anterior segment ocular manifestations. In this study 100 cases of known target population of HIV patients were taken in randomized manner.

MATERIALS & METHODS:

The study of Anterior segment ocular manifestations in relation to CD4 cell count had been carried out in REH Kurnool and Govt. General Hospital, Kurnool HIV out patients and HIV patients admitted in various wards of Govt. General Hospital, Kurnool for various Medical and Surgical complaints.

1. Clinical study carried out as follows: In present study 100 HIV cases had been evaluated for ocular anterior segment manifestations.

Clinical study carried out of follow:
1. CD4 cell count done by flow cytometry for 100 cases
2. Through clinical examination
3. Slit lamp examination
4. Dry Eye (Schirmer's test)

OBSERVATIONS:

Out of 100 HIV patients the Anterior segment ocular manifestation are

Table-1: Ocular manifestations of HIV disease Anterior segment lesions

Ocular Manifestations	Number of findings in 60 patients	percentage
Blepharitis	3	6.8%
Herpes zoster ophthalmicus	7	16%
Corneal ulcer	3	6.8%
Keratitis	9	20.5%
Anterior uveitis	8	18%
Lid abscess	3	6.8%
Dry eye	3	6.8%
Nerve palsies	1	2.3 %
Complicated cataract	7	16%
Total	44	73.3%

Table-2: Correlation between CD4 cell count and Ocular Anterior Segment Manifestations

Ocular lesions	CD4 cells/cumm			
	>500	499-200	199-51	50
HZO	0	5	2	0
Anterior uveitis	0	5	3	0
Corneral ulcer	0	3	0	0

Table-3: Age and Sex Distribution

	Number of HIV cases	
Age (Yrs)	Males	Females
1-10	01	01
11-20	02	01
21-30	33	19
31-40	22	08
41-50	08	02
51-60	03	0
Total	**69**	**31**

Table-4: Mode of Transmission

Type	Number of cases
Hetero sexual	90
Homosexual	0
Blood transmission	06
Perinatal Transmission	01
Needle stick injury	02
Professional Blood donors	01

Table-5: Occupation

Category	Number of patients
Labourers	36
Drivers	24
Destitutes	05
Commercial sex workers	06
Health workdrs	02
Business men	03
House wives	21
Students	03

Table-6: Marital status

Category	Number of HIV cases
Married	60
Un Married	33
Widows	07

DISCUSSION:

This clinical study has been done over a period of one and a half year to document various ocular manifestations in HIV/AIDS. Total of 100 patients were examined, out of them, 60 had ocular lesions and were examined and investigated.

Out of 100 HIV patients, 69 were males and 31 females. Males to Females ratio was 2.2:1. Majority of these cases were between 20 to 40 yrs age, the sexually most active age group. Most of these were from low socio economic community. The highest incidence of HIV infection was seen in married patients 67% compared to unmarried 33%.

68% of HIV positive male patients had sexual contacts with

CSWs. Most of the house wives got the infection through their husband, who had multiple sexual contacts. In two male patients, HIV transmission was due to blood transfusion following an accident. In one female patient, infection was due to blood transfusion during an abdominal surgery. And in one other female, infection was during blood transfusion for gross anaemia The most common of transfusion was hetero sexual transmission in 90%. The highest incidence of HIV infection was seen in manual labourers (36%) due to multiple sexual contacts and unprotected sex, followed by House wives (21%) and Drivers (24%). Other group include students (3%), Business men (3%), Destitute (5%).

1. The most common viral infection were herpes simplex
2. Herpes zoster were more common seen in these patient were (16%)

Ocular manifestations may be the primary presenting feature or may be an associated finding. Among 100 cases in this study 60% presented with ocular manifestations. Therefore eye is the most common organ to be affected. Ocular involvement in AIDS is as high as 75%. Ocular lesions are varied and affect almost all structures of the eye. 12 patients in this series were seen in advanced stage of the disease with ocular manifestations. This delay in diagnosis reflects the general lack of awareness about the disease in the population as well as the physicians. Opthalmologists need to recognise ocular lesions in HIV infection as it may help in early diagnosis and prompt treatment of this disease, as recent reports indicate that newer modalities of treatment can delay the disease progression and reduce the mortality and morbidity. This study highlights the importance of clinical presentation of various ocular lesions in HIV patients.

CONCLUSION:

The present clinical study had been carried out in 100 HIV patients to CD4 cell count and Anterior segment ocular manifestations.

Corneal ulcer in 3 cases out of 100 cases in relation to CD4 count in between 499-200 cells/cumm and 3 cases in relation to CD4 cell count 199-51 cells/cumm HZO in relation to CD4 cell count 499-200 cells/cumm occurs in 5 cases and 199-51 cells/cumm occurs in 2 cases.

SUMMARY:

1. Total 100 HIV positive cases were suspected 60 of them had ocular lesions majority of thease are the age group of 20-40 yrs
2. Out of 100 69 were Males and 31 were Females
3. Opportunistic infections were the common ocular manifestations in HIV positive patients
4. Among the Anterior segment lesions viral keratitis was the most common (20.5%)
5. Anterior uveitis are the second more common anterior segment lesion (18%)
6. Herpes Zoster ophthalmicus are the 3rd common with 16%.

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