



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

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ABSTRACT HIV infection causes by retrovirus. It causes acquired immuno deficiency syndrome (AIDS). HIV infection causes many ocular infections. One is Posterior segment ocular manifestations. By testing CD4 cell count by flow cytometry and posterior segment ocular manifestations in relation to CD4 cell count by a number of experimental studies.

KEYWORDS : Hiv – Cd4 Cell, Posterior Segment Ocular, Flow Cytometry, Slit Lamp, Fundoscopy – Indirect Ophthalmoscopy.

AIM OF THE STUDY:

HIV infection is a potentially lethal multi system disorder, which damage the body's immune system. And causes many life threatening opportunistic infections. In the present study under possible relationship between various levels of CD4 cell count and posterior 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 posterior 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 on follows: In present study 100 HIV cases had been evaluated for posterior segment manifestations.

Clinical Study Carried Out Of Follows:

1. CD4 cell count done by flow cytometry for 100 cases
2. Through clinical examination
3. Slit lamp examination
4. Fundoscopy
5. Indirect Ophthalmoscopy

OBSERVATIONS:

Out of 100 HIV patients the Posterior segment ocular manifestations are

Table-1: Posterior Segment Lesions

Ocular Manifestations	Number of findings in 60 patients	percentage
HIV Retinopathy	11	18.3%
CMV retinitis	9	15%
Acute retinal necrosis	2	3.3%
Toxoplasma retinitis	2	3.3%
Papillitis	4	6.6%
Perivascular sheathing	5	8.3%
Papilloedema	3	5%
Vitritis	5	8.3 %
Retro bulbar neuritis	3	5%
Tubercular choroiditis	5	8.3
Total	49	81.6%

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

Ocular lesions	Cd4 cells/cumm			
	>500	499-200	199-51	50
CMV retinitis	0	0	3	6
HIV Retinopathy	0	8	3	0
Acute retinal necrosis	0	0	1	1
Papilloedema/ Optic atrophy	0	0	2	1

Table-3: Age and Sex Distribution

Age (Yrs)	Number of HIV cases	
	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%).

Commonest presentation of Posterior segment ocular manifestations were cotton wool spots (18.3%) majority of ocular manifestations in HIV patients were infective origin. Viral infection are the commonest ocular manifestations. CMV retinitis was the commonest opportunistic infective manifestations (15%).

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. Ophthalmologists 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 in relation to CD4 cell count and Posterior segment ocular manifestations.

1. CMV retinitis occurs in 3 cases at cell count of in between 199-51 cells/cumm
2. CMV retinitis occurs in 6 cases at cell count of 50 cells/cumm
3. HIV retinopathy occurs in 8 cases at cell count of in between 499-200 cells/cumm
4. HIV retinopathy occurs in 3 cases at cell count of 199-51 cells/cumm
5. Acute Retinal Necrosis occurs in 1 case at cell count of 199-51 and 1 case at cell count of 50 cells/cumm
6. Papilloedema/ Optic atrophy in 2 cases at cell count of 199-51 and 1 case in CD4 cell count at 50 cells/cumm

SUMMARY:

1. Total 100 HIV positive cases were studied 100 cases 60 of them are having ocular manifestations
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 posterior lesions cotton wool spots (HIV retinopathy 18.3% were the commonest ocular manifestations
5. Next is CMV retinitis 15%
6. Perivascular sheathing is (8.3%)
7. Vitritis were 8.3%
8. Retinal hemorrhage and cotton wool spots were the early signs of infection.

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