Volume : 5 | Issue : 12 | December-2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 78.46

Original Research Paper

STUDY OF OCULAR COMPLICATIONS IN PATIENTS SUFFERING FROM HIV INFECTION AND AIDS.

Ophthalmology

KEYWORDS:

Dr Darshana Rathod	Associate professor, Department of ophthalmology, TNMC & BYL Nair Hospital
Dr Sujit Murade	Assistant Professor, Department of ophthalmology, TNMC & BYL Nair Hospital, Mumbai.
Dr Hemkala Trivedi	Ex-Professor, Department of ophthalmology, TNMC & BYL Nair Hospital, Mumbai.

ABSTRACT

Study of ocular complications in 300 patients suffering from Human Immunodeficiency Virus(HIV) infection and Acquired Immune deficiency syndrome(AIDS). AIM:1)To determine the frequency of different ocular complications in HIV infected patients. 2)To study the ocular manifestations occurring in seropositive HIV patients & their progress and severity. 3) To determine percentage of patients presenting primarily with ocular manifestations and the stage of HIV in which ocular manifestations occur. METHOD: This study was conducted on 300 patients, who attended the Ophthalmic Out Patient Department, and the AIDS clinic conducted at the Skin & STD outpatients service or were admitted in the teaching hospital. RESULT: Significant ocular abnormalities were found in 54(18%) patients of the 300 patients included in the study. Ocular complications are common in AIDS and AIDS related complex patients compared to HIV infected patients. Herpes zoster ophthalmicus, HIV retinopathy and CytoMegaloVirus Retinitis are the commonest complication. CONCLUSION: Vision threatening diseases are usually among the later manifestations of AIDS but ocular problems may be the presenting features of the disease and the ophthalmologist is responsible for intiating the diagnosis. Early and accurate diagnosis of ophthalmic disease is critical, because, not only may the lesions be an early marker for potentially life threatening disseminated diseases, but preservation of sight requires immediate treatement in many cases.

INTRODUCTION: Over the last 30 years, the AIDS epidemic has emerged as a disease with medical, social, political and economic implications. Acquired Immuno-Deficiency Syndrome caused by Human Immunodeficiency Virus is a potentially lethal multi-system disease characterized by profound disruption of the immune system and predilection for various opportunistic infections and neoplasms. More than 50% of the patients with Acquired Immuno-Deficiency Syndrome will develop one or more ophthalmic disorders during the course of their illness, and at least 20% are at risk for severe visual loss from ocular infections. The ocular sequelae of human Immunodeficiency Virus infection can be particularly devastating because of their impact on the patients" quality of life.The importance of ophthalmic disease in the AIDS epidemic is reflected by the fact that the fear of blindness is believed to be the leading cause of suicide among patients with AIDS.The visualization of human retina, the sole organ in the body whose blood supply can be directly visualized reflects not only the devastating effects on the body's most vital organ by the deadly virus but also the health status of the body in general. Simple ocular examination can reveal profound ophthalmic changes caused by even tiny foci of the disease, which might be an early marker of this lethal disease compared to the clinically quiescent lesions caused by the same amount of the disease in other organ.Hence in this study of 300 cases of HIV infected & AIDS patients, effort is made to quantitiate the magnitude of ocular complications in relation to the spectrum of disease caused by HIV. MATERIALS AND METHODS:This study was conducted on 300 patients, who attended the Ophthalmic Out Patient Department, and the AIDS clinic conducted at the Skin & STD outpatients service or were admitted in the teaching hospital.

Inclusion criteria: All patients, inpatients and outpatients included in this study were previously diagnosed seropositive cases or diagnosed later subsequent to presentation with suspected clinical signs and symptoms of the disease.

A detailed clinical history including, information regarding the marital status, sexual behaviour, present and past infectious disease, blood transfusions, intravenous drug use and surgical intervention was obtained. All patients underwent complete ophthalmic and general physical examination with necessary laboratory studies. Visual acuity for distance was examined on Snellen's chart, near visual acuity was examined on near vision test types. Any patient found to have refractive error were prescribed glasses. Intraocular pressure was measured with Schiotz tonometer. Slit lamp biomicroscopy was done to study the anterior segment and vitreous. Certain bedridden patients underwent a torchlight examination for study of anterior segment. All patients underwent direct and indirect ophthalmoscopy. Colour photographs of external features in herpes zoster patients and fundus photographs in infectious retinopathy patients were taken. In those patients, whose photographs could not be taken the findings were confirmed by a senior ophthalmologist. OCULAR MANIFESTATIONS:HIV has been recovered from most ocular tissues, but its ability to cause clinically apparent ocular disease as a direct result of ocular infection remains a subject of debate.The secondary disorders that make up the bulk of the ophthalmic manifestations of AIDS fall into four major categories: Lesions attributed to microvascular disease of the retina and other tissues are

1) Infections
2) Neoplasms
3)Neuro-ophthalmic signs of intracranial disease.

OBSERVATION AND RESULTS: In this study of 300 Human Immunodeficiency Virus infected patients 238 were males and 62 were females.

SEX DISTRIBUTION:

Total Cases	Male	Female
300	238	62
Percentage	79.33	20.67

The ratio of infected males to infected females was approximately 3.8:1 in my study.

AGE DISTRIBUTION:

Age group(years)	0-10	11-20	21-30	31-40	41-50	51-60	61-70	>70	Total
No of cases	--	13	118	112	36	13	5	3	300
Percentage	--	4.33%	39.33 %	37.33 %	12.00 %	1.33%	1.68%	1.00%	100%

Volume : 5 | Issue : 12 | December-2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 78.46

Table indicates that the disease prevalence is more in the second and third decade of life, when the individuals are more sexually active than the elderly age group and first decade of life.

DISTRIBUTION OF PATIENTS ACCORDING TO STAGE OF HIV DISEASE :

Group	AIDS	ARC	Asymptomatic HIV infected	Total
No. of patients	94	188	18	300
Percentage	31.33%	62.67%	6.00%	100%

Among the 300 patients, 18(6%) patients were asymptomatic and were detected on contact tracing. 188(62.67%) patients presented with AIDS – related complex (ARC) and 94(31.33%) patients presented with clinical signs and symptoms of full blown AIDS.

PREVALENCE OF OCULAR FINDINGS IN 300 PATIENTS OF AIDS & HIV

No.	Ocular Findings	No. of Patients	Percentage
1	Herpes zoster ophthalmicus	12	4%
2	HIV Retinopathy : a) Cotton wool spots b) Intraretinal hemorrhages c) Combined	15 2 4	5% 0.67% 1.33%
3	CMV retinitis	9	3%
4	Corneal Involvement a) Ulcer b) Abscess c) Panophthalmitis	1 1 1	0.3% 0.3% 0.3%
5	Papilloedema	3	1%
6	Optic atrophy	1	0.3%
7	Molluscum contagiosum	1	0.3%
8	Toxoplasma retinitis	1	0.3%
9	Conjunctivitis	1	0.3%
10	Iridocyclitis	1	0.3%
11	Cranial nerve palsies	----	----
12	Kaposi's sarcoma	----	----
	Total	54	18%

Herpes zoster ophthalmicus, HIV retinopathy and CytoMegaloVirus Retinitis is the commonest ocular complication. . In this study, 4 patients of herpes zoster ophthalmicus, 2 patients of corneal abscess and 2 patients of CMV retinitis initially presented with ocular manifestations and were diagnosed HIV positive during the course of treatment.

DISTRIBUTION OF PATIENTS WITH OCULAR MANIFESTATIONS ACCORDING TO STAGE OF HIV DISEASE :

Group	No. of Patients	Percentage
HIV infection	2	3.70%
AIDS Related complex	16	29.63%
AIDS	36	66.67%

Ocular complications are common in AIDS and AIDS related complex patients compared to HIV infected patients CONCLUSION:. Vision threatening diseases are usually among the later manifestations of AIDS but ocular problems may be the presenting features of the disease and the ophthalmologist is responsible for intiating the diagnosis.The early and accurate diagnosis of ophthalmic disease is critical, because, not only may the lesions be an early marker for potentially life threatening disseminated diseases, but preservation of sight requires immediate treatement in many cases. Besides early treatement of intra-ocular infections presumably controls non-ocular sites of disease before they become clinical problems. With this in view we have, in this study covered contacts of HIV patients with no complaints but who have tested positive on contact tracing.Thus in patients with suspiciaous ocular findings and with positive history of risk factors, screening should be done. This will contribute a lot to controlling the disease and preventing its spread in the community. Since intra-ocular infections are usually manifestations of disseminated disease as pointed out in this study,systemic thereapy should be the mainstay of treatment.

REFERENCES:

1. Nathen C. AIDS in Africa in: Levy JA, Rose NA, and eds. AIDS: pathogenesis and treatement, 1989; 37.
2. Suresh Nadkarni: JCME: AIDS update vol.3 Nov. Dec.1993; page 1-31.
3. Gelderblom HEART RATE. Assembly and morphology of HIV: potential effect of structure on viral function. AIDS 1991;5;617-638.
4. Lori F, de Marzo Veronese F, de Vico AL, et al: Viral DNA carried by human immunodeficiency virus type I virions. J. Virol. 1992;66; 5067-5074.
5. Saah A, Warren D: Transmission of HIV-1. Transcript 1991; 19(Feb); 7-19.
6. Cohen ND, Munoz A. Reitz BA, et al: transmission of retroviruses by transfusion of blood in patients undergoing cardiac surgery. N. Eng.J.Med. 1989;320;1172-1176.
7. Cumming PD, Wallace EL, Schorr JB, et al: exposure of patients to human immunodeficiency virus through the transfusion of blood components that test antibody negative. N.Eng.J.Med. 1989;321; 941-946.
8. Sloand E, Pitt E, Chairello RJ, Nemo GJ: HIV testing state of the art. JAMA. 1991;266; 2861-2866.
9. Centeres for disease control: MMWR update: serologic testing for HIV-1, MMWR. 1990;39; 380-383.
10. Johnson JE: Detection of HIV-1 antibody by using commercially available whole cell viral lysate, synthetic peptide and recombinant protein enzyme immunoassay system J. Clin. Microbio. 1992;30 216-218.
11. Ou C-y, Kwoks, Mitchell SW, et al:DNA amplification for direct detection of HIV-1 in DNA of peripheral blood mononuclear cells. Science (Wash.DC). 1989;239;295-297.
12. Freedman WR, Lerman CW, Miner JA, Lash RS, Nadel AJ, Starr MB, Tapper ML: A prospective study of the ophthalmologic findings in AIDS. Am J. Ophthalmol. 97; 133-142; 1984.
13. William R. Freedman, Chester W Lerner: Study of ophthalmic findings in AIDS. Am. J. Ophthalmol. Vol.97; 133-142; 1984
14. Mansour AM, Rodendo G. Dutt R: Half life of cotton wool spots in AIDS. Int. J. STD AIDS. 132-133, 1990.
15. Holland GN, Papose JS, Petit TH, Gottlieb MS, Yee RD, Foss RY: AIDS ocular manifestations. Ophthalmology. 90:859-873;1983.
16. Kestelyn P, Vande Perr P, Rouvroy D, et al: A propective study of the ophthalmologic findings in AIDS in Africa. Am.J. Ophthalmol. 1985; 100-230-238.
17. Shuler JD, Engstrom RE, Holland GN: External ocular disease and anterior segment disorders associated with AIDS. Int. Ophthalmol. CI. 1989;29;98-104.
18. Engstrom RE, Holland GN: chronic herpes zoster virus keratitis associated with AIDS. Am. J. Ophthalmol. 1988; 105; 556-558.
19. Young TL, Robin JB, Holland GN, et al: Herpes simplex keratitis in patients with AIDS. Ophhalmology. 1989;96;1476-1479.
20. Robinson MR, Undell IJ, Gaber PF, Perry HO, Streeten BW: Molluscum contagiosum of the eylids in patients with AIDS. Ophthalmology. 1992;99;1745-1747.
21. Lowder CY, Meisler DM, McMohan JT, Longworth DL, Rutherford I: Microsporidia infection of the cornea in a man seropsitive for HIV. Am. J. Ophthalmol. 1990;109; 242-244.
22. Henderly DE, Freeman WR, Cassey DM, Rao NA: Cytomegalovirus retinitis and response to therapy with gancyclovir. Ophthalmology. 94;425-434;1987.
23. Sision RF, Holland GN, Mac Arthur LJ, Wheeler NC, Gottieb MS: cytomegalovirus retinopathy as the initial manifestation of AIDS. Am. J. Ophthalmol. 1991;112;243-249.
24. Petel P, Hirschtick R, Phair J, Chemiel J, Poggense L, Murphy R: Risk of developing cytomegalovirus retinitis in persons infected with HIV. J. Acq. Immunodef. Syn. 1992;5;1069-1074.
25. Holland GN, Shuller JD: Progression raes of cytmegalovirus retinopathy in ganciclovir treated and untreated patients. Arch. Ophthalmol. 1992;110;1435-1442.
26. Sandron GE, Anand R, Torti IE, Nightingale ST: Sustained release ganciclovir therapy for the treatment of cytomegalovirus retinitis. Use of an intravitreal device. Arch. Ophthalmol. 110;188-195; 1992.
27. Margolis TP, Lowder C Y, Holland GN, et al: Varicella zoster virus retinitis in patients with AIDS. Am. J. Ophthalmol. 1991;112;119-131.
28. Holland GN, Engstrom RE, Glasgow DJ, et al: Ocular toxoplasmosis in patients with AIDS. Am.J. Ophthalmol. 1988;106;653-667.
29. Gass JDM, Braunstein RA, Chenoweth RG: Acute syphilitic posterior placoid choreoretinitis. J. Ophthalmol. 1990;97;1288-1297.
30. Blodi DA, Johnson MW, McLeish WN, Gass JD: Presumed choroidal tuberculosis in an HIV infected host. Am. J. Ophthalmol. 1989;108;615-617.
31. Rao NA, Zimmermann PL, Boyer D, et al: A clinical histopathologic and electron microscopic study of pneumocystic carinii choroiditis. Am. J. Ophthalmol. 1989;102;218-228.
32. Coser MW, Jampol LN, MacDonnel K: Treatment of pneumocystis carinii choroidopathy. Arch. Ophthalmol. 1990;108;1214-1215.
33. Carni MD, Combs JS, Waschellen W: cryptococcal choroiditis. Retina 1990;10;27-32.
34. Dugel PU, Gill PS, Frangieh GT, Rao NA: Treatment of ocular adnexial Kaposi's sarcoma in AIDS. Ophthalmology. 1992;99;1127-1132.
35. Schuller JD, Holland GN, Miles SA, Miller BJ, Grossman I: Kaposi's sarcoma of the conjunctiva and eyelids associated with AIDS. Arch. Ophthalmol. 1989;107;858-862.
36. Keane JR: Neuro-ophthalmologic signs of AIDS, 50 patients. Neurology. 1991;41;841-845.