



PREVALENCE OF OCULAR MANIFESTATIONS IN HIV PATIENTS AND THEIR CORRELATION WITH CD4 COUNT AND DISEASES DURATION

Ophthalmology

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KEYWORDS

INTRODUCTION

Acquired immuno-deficiency syndrome (AIDS) is a retro viral disease caused by (HIV) human immune deficiency virus characterised by progressive failure of immune system and resulting in several opportunistic infections and malignancies.¹

HIV related ophthalmic manifestations are wide and can affect any part of eye from adnexal disorders to posterior segment diseases including the optic nerve and the optic tract.²

Ocular involvement in AIDS is due to opportunistic infections, vascular abnormalities, neoplastic conditions, or adverse effect of medications.³ The lifetime risk for developing at least one ocular lesion ranges from 52% to 100% in various studies. Ocular lesions usually occur in the late phase of HIV infection but can also be the presenting manifestation of the disease.⁴ Ocular manifestations seen in up to 73% of AIDS patients.

Adnexal involvement includes herpes zoster ophthalmicus, Kaposi sarcoma, conjunctival microvasculopathy, molluscum contagiosum. Anterior segment involvement in HIV includes keratoconjunctivitis sicca (20%), keratitis (5%) and iridocyclitis. Posterior segment involvement more common and includes retinal microangiopathy, CMV retinitis, fungal retinitis, VZV retinitis, toxoplasma choroiditis, cryptococcal choroiditis, bacterial and fungal retinitis. Retinal Microangiopathy is more common ocular manifestation in HIV and characterised by presence of cotton wool spots, retinal haemorrhages, micro aneurysms. CMV retinitis is the most common ocular opportunistic infection occurring in approximately 20-40% of HIV-infected patients, considered as the leading cause of 90% of blindness associated with AIDS worldwide.^{5,6}

The prevalence HIV related ocular manifestations increases as CD₄+T cells count falls below 500 cells/mm³. Use of highly active antiretroviral therapy (HAART) has changed prevalence and pattern HIV-related ocular conditions. In HAART era clinical conditions like, immune recovery uveitis have appeared as cause of concern related to blindness.⁶

The aim of this study is to describe the prevalence and pattern of HIV related ocular manifestations and to determine the correlation with CD₄+T cell count.

METHODS AND MATERIALS:

Study Design:

The present study was a hospital based observational, non-invasive cross-sectional study after obtaining ethical clearance. Carried out on 100 HIV positive patients attending ART centre at Gulbarga institute of medical sciences Kalaburagi for a period of 1 year from ().

Data was collected from medical records - duration of disease, clinical stage of HIV, CD 4 count and status of HAART.

Ophthalmic examination was carried out including

- (1) Distant and near vision using Snellen's chart and Jaeger's chart respectively.
- (2) Slit-lamp biomicroscopic examination of Anterior segment

including eyelids, conjunctiva, cornea, anterior chamber and lens.

(3) Posterior segment evaluation by Indirect ophthalmoscopy under mydriasis.

(4) IOP measured with non-contact tonometer.

(5) Ocular motility tested in all cardinal gazes.

(6) Examination of face, adnexa, orbits, eyebrow, eyelid and lacrimal area on torch light.

Inclusion Criteria:

- 1) HIV positive patients visiting ART centre GIMS
- 2) both male and female patients

Exclusion Criteria:

- 1) Non consenting patients

RESULTS:

100 HIV positive patients among the 62 males 38 female patients. In our study, 40 patient had ocular involvement 50% Anterior segment, 20% posterior segment, 5% orbital, 10% neuro-ophthalmic, 15% adnexal.

DISCUSSION:

In this study, we evaluated the prevalence of ophthalmic manifestations in HIV patients.

- Here 60% of pts were in age group of 30-35 years
- HIV was more prevalent in males
- CD4 count is an important predictor of immune status of HIV patients. Patients with less CD4 T cell count had more ocular manifestations, than pts with normal CD4 count.
- Ocular disease was common in CD4 count < 200 cells/cumm
- In our study, anterior segment manifestations were seen in 60% of cases, the commonest manifestation was OSSN, uveitis, with complicated cataract and keratoconjunctivitis sicca
- Posterior segment manifestations were seen in
 - Anterior segment 50%
 - keratoconjunctivitis sicca
 - blepharitis, kaposi sarcoma
 - Molluscum contagiosum
 - OSSN
 - Herpetic keratosis
 - HIV retinopathy
 - Cranial nerve palsies
 - Herpes zoster ophthalmicus
 - Anterior uveitis
 - Complicated cataract
 - CMV retinitis

Prevalance was not among patients with low CD4 count.

The commonest posterior segment manifestation was HIV microangiopathy most of these patients were asymptomatic. Other common manifestation were toxoplasma retinitis and CMV retinitis. Herpes Zoster ophthalmicus was seen in one patient

CONCLUSION:

As the incidence of ocular disease is high and since most of the patients are asymptomatic it mandates regular follow up of HIV patients at 3

monthly interval.

-OSSN

- uveitis with complicated cataract

- CMV retinitis

- HZO

- viral keratosis

- More prevalent in males
- 60% of patients were in age group of 30 -35 yrs
- patients with ocular manifestations has less CD4-T cell count than patients without ocular involvement
- ocular manifestation was common in patients with CD4- T cell count <200 cells /cumm

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