Original Article National Journal of Medical and Dental Research, January-March 2019: Volume-7, Issue-2, Page 581-585

PREVALENCE OF OCULAR MANIFESTATION AMONG HIV POSITIVE PATIENTS IN KARNATAKA

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Ophthalmology

Article Submitted on: 10 January 2019
Article Accepted on: 11 January 2019

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Abstract:

Aim : TO estimate the prevalence of ocular manifestation in HIV patients and to study the clinical pattern of ocular lesions in HIV positive patients.

Materials and methods : A cross sectional study carried out among 150 HIV positive patients attending ART center of KIMS Hospital Hubli during the period of April 2017 to June 2017. Detailed ophthalmic evaluation was carried out among all patients after taking consent. Dilated fundus examination was done on each patient.

Results: Prevalence of ocular manifestation of HIV was found to be 28%. Ocular adnexal manifestation is found among 22 patients (14.66 %) among them Herpes zoster ophthalmicus was most common manifestation which was found in 8 patients (5.3%). Blepharitis was found among 5 patients (3.33%) , molluscum contagiosum was found in 5 patients (3.33%), squmaous cell carcinoma was found in 3 patients (2%) and Kaposi sarcoma was found in 0.66%.Anterior segment manifestations was found among 12 patients among which infectious keratitis was found among 4 patients (2.66%) , signs and symptoms of keratoconjunctivitis sicca were found in 5 patients (3.33%) and uveitis was found in 3 patients (2%).Posterior segment manifestation was found among 8 patients (5.33%) among which HIV microvasculoapathy was found among 4 patients (2.66%), CMV retinitis was found among 3 patients (2%) and toxoplasma lesions were found in 1 patient (0.66 %).

Conclusion: Prevalence of ocular manifestation in HIV patients is significant in our study. Regular ophthalmic examination specially dilated fundus examination should be carried out on each HIV patient to rule out opportunistic infections.

Keywords: Ocular Manifestation, HIV, Karnataka

Introduction:

India has the third largest HIV epidemic in the world. In 2017, HIV prevalence among adults (aged 15-49) was an estimated 0.2%. This figure is small compared to most other middle-income countries but because of India's huge population (1.3 billion people) this equates to 2.1 million people living with HIV.[1,2]

By the end of 2017, there were an estimated 21.40 [15.90 - 28.39] lakh people living with HIV (PLHIV) in India. There was an adult (15-49 years) HIV prevalence of 0.22%. Slightly more than two fifths (42%) of the total estimated PLHIV were females. Around 87.58 [36.45 – 172.90] thousand new HIV infections and 69.11 [29.94 -140.84] thousand AIDS-related deaths occurred in 2017. Meanwhile, an estimated

22,677 [10,927-40,605] pregnant women needed ART to prevent mother-to-child transmission of HIV.[3]

Patients with HIV/AIDS suffer from wide varieties of complications that are related to the infection. No organ of the body is spared from the virus or related diseases. The eye is an organ with wide spectrum HIV-related manifestations. The ocular manifestations can be the presenting sign of a systemic infection in an otherwise asymptomatic HIV-positive person. It can affect any tissue in the eye right from eyelid to retina.[4]

Ocular complications are common in human immunodeficiency virus (HIV)-infected individuals with at least 50–75% of infected individuals expected to develop ocular disease at some point of time during the course of the disease in the pre- highly active antiretroviral therapy (HAART) era.[5,6]

Due to the potentially devastating and rapid course of retinal opportunistic infection, all persons with HIV disease should undergo routine ophthalmologic evaluations. Any HIV-infected person who experiences ocular symptoms also should receive prompt and competent ophthalmologic care. In patients with early-stage HIV disease (CD4 count >300 cells/µL), ocular syndromes associated with immunosuppression are uncommon. Nonetheless, eye infections associated with sexually transmitted diseases (STDs) such as herpes simplex virus, gonorrhea, and chlamydia may be more frequent in HIV-infected persons.[7]

There are very few studies which estimated the prevalence and clinical pattern of ocular lesions in HIV patients. Present study is carried out to estimate the prevalence of ocular manifestations in HIV patients.

Aims and objectives:

1. To determine the prevalence of ocular manifestations in HIV positive patients.

2. To manage the ocular complications in HIV positive patients.

Materials and methods:

A cross sectional study was carried on 150 HIV positive patients presented to ART center during the months of April 2017 to June 2017. Age of the patients ranges from 25 to 55 years among them 120 were males and 30 were females. Patients with other health problems such as diabetes mellitus and hypertension are excluded from the this study to avoid coincidental fundus problems in such patients. Required permission for the examination of HIV patients was obtained from the authorities of ART center. Consent was taken from each patient for examination.

Detailed ophthalmic evaluation was carried out on each patient right from eyelid to retina examination. Visual acuity of each patient was recorded with snellens E chart as most of the patients were illiterate. Detailed slit lamp examination was carried out on each patient for evaluation of eyelid, conjunctiva, cornea, iris ,pupil and lens. Dilated fundus examination with 90 D slit lamp biomicroscopy was carried out on each patient as fundus manifestation can be a presenting sign of HIV in few patients. Tests for the evaluation of the dry eye was carried out on suspected patients with the help of schirmers strip and tear film break up time. Pathological examination was carried out on patients with ocular adnexal lesions such as mass on the eyelid or conjunctiva. Conjunctival impression cytology was carried out on patients with suspected features.

Results:

Out of 150 patients studied, 42 patients (28%) were having ocular problems due to HIV infection. We divided manifestations of HIV in three groups such as ocular adnexal manifestation, anterior segment manifestation and posterior segment manifestations.

Ocular adnexal manifestations are the most common ocular manifestation of HIV which were found in our study which is found among 22 patients (14.66 %) among them 8 patients (5.33%) were having typical clinical features of Herpes zoster ophthalmicus. Blepharitis was found among 5 patients (3.33%) . Molluscum contagiosum lesions on the eylid which were having typical clinical appearance of elevated umbilicated lesions was found in 5 patients (3.33%). 3 patients (2%)were giving histoty of mass on the conjunctiva since 1 year which was non painful. On conjunctival impression cytology it was found to be squmaous cell carcinoma of conjunctiva. Clinical features of Kaposi sarcoma of upper eyelid was found in one male patient (0.66%).

Anterior segment manifestations was found among 12 patients (8%) in our study. Signs and symptoms of keratoconjunctivitis sicca was the most common anterior segment manifestation which was found among 5 patients (3.33%). Infectious keratitis was found among 4 patients (2.66%).On laboratory evaluation it was found that 3 of them were fungal corneal ulcers and one was bacterial corneal ulcers. All patients with corneal ulcer were having poor response with fortified antibiotics preparation.

Signs and symptoms of anterior uveitis was found in 3 patients (2%). One of them was having severe fibrinous reaction in anterior chamber.

Posterior segment manifestation was found among 8 patients (5.33%) in our study.

4 patients (2.66%)were having multiple dot hemorrhages and cotton wool spots in mid periphery of retina, suggestive of features of HIV microangiopathy which was the most common posterior segment manifestation in our study.

3 patients (2%) were having multiple fluffy lesions all over the fundus with multiple superficial and deep hemorrhages, suggestive of CMV retinitis.

One patient (0.66%) was having typical lesions suggestive of toxoplasma retinopathy.

Discussion:

Between 73% and 100% of AIDS patients develop ocular lesions. The commonest lesions seen are retinal--either infectious or noninfectious retinopathy. Involvement of the conjunctiva with Kaposi's sarcoma, infected tears and infected cornea as well as the vitreous are less common. Infections with cytomegalovirus and varicella zoster virus are common causes of visual loss.[8]

Prevalence of ocular manifestation of HIV in our study was found to be 28 % which is lesser than a study conducted by S U Shah et al in which it was 8%.[9] This difference in prevalence could be because of different inclusion criteria, as in our study specific CD 4 count was not a inclusion criteria and patients not on HAART therapy also were included in our study.

Ocular adnexal involvement is the most common pattern of ocular involvement of HIV found in our study. Herpes zoster virus infection is one of the common opportunistic infection in HIV as found in our study which was 5.33 %. Similar results were found in a study conducted by Samson at al. in which it was found that HZO is one of the vision threatening problem in HIV infected patients.[10] In addition we found that HZO infection which are found in HIV infected patients are more aggressive and difficult to treat.

Infection with Molluscum contagiosum is next common adnexal involvement of eye which we found in our study. The lesions were having typical features though confirmation with histopathological examination was also done. In a study conducted by Dr Gur in 2008,molluscum infection in HIV patients may signify immunosuppression.[11]

Squmaous cell carcinoma of eyelid and conjunctiva is one of the common carcinomatous lesion in HIV patients.[12] Histopathological and cytological examination of conjunctival and eyelid mass which was found in 3 patients was found to be well differentiated squmaous cell carcinoma.

Incidences of dry eyes are more in HIV infected patients as found in study conducted by Anant Gallor et al in 2011.[13] On detailed slit lamp examination we found significant number of patients with dry eyes in our study which was found to be 3.33 %.

In Africa it has been found that fungal keratitis is an indicator of HIV infection.[14] Aggressive corneal ulcers which were difficult to treat were found to be 4 patients. As most of the patients were malnourished and immunocompromised the ulcers were not responding to topical antibiotic drops. Ulcers were rapidly spreading with associated hypopyon. Treating corneal ulcers in HIV infected patients is a big challenge as we found in our study.

As most of the patients with HIV have coincident tuberculosis infection, signs of tubercular uveitis such as koppe and bussaca nodule were found in 3 patients. Uveitis is one of the common cause for visual morbidity as found in study conducted by Cunningham.[15]

HIV vasculopathy is most common ocular manifestation in AIDS,seen in about 40 to 60 % of patients.[16] HIV microangipathy was found to be most common posterior segment manifestation in HIV found in our study. It can be a presenting feature of HIV even without ocular symptoms,

as 2 patients with fundus lesions were not having any ocular symptoms. Hence examination of fundus strongly recommended to rule out HIV microangipathy.

Cytomegalovirus retinitis is the most common AIDS-related ocular opportunistic infection and can develop in up to 40 to 50% of AIDS patients prior to HAART. Although its incidence has declined markedly since the advent of HAART in the western world, it still remains the leading cause of ocular morbidity in the developing countries.[17] But prevalence of CMV retinitis in our study was found to be 3%, this difference could be due to more number of patients of HAART therapy in our study.

Conclusion:

Prevalence of ocular lesions in HIV patients is significant in our study. Detailed ocular examination, specially dilated fundus examination should be carried out on each patient with HIV infection to rule out opportunistic infections and carcinomas associated with HIV.

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