

Herpes zoster infection and HIV seropositivity among eye patients – University of Ilorin Teaching Hospital experience

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Summary

This paper reports cases of Herpes Zoster Ophthalmicus (HZO) seen in 10 Nigerian adults at the Eye clinic of the University of Ilorin Teaching Hospital (UITH), Ilorin, Kwara State, Nigeria, some of whom tested positive to HIV infection using ELISA method with confirmation using the Western blot test. There were 6 female and 4 male patients. Five (50%) of the patients tested positive for HIV. A high index of suspicion should be maintained among Ophthalmologists when confronted with patients with HZO who are healthy looking.

Keywords: HIV infection, Herpes Zoster Ophthalmicus, AIDS, VZV, Ilorin, Nigeria.

Résumé

Ce document traite le rapport des cas des Herpes zoster ophthalmicus (HZO) vus chez 10 adultes, nigériens au clinique ophthalmologique du centre hospitalo universitaire d'Ilorin (UITH) Ilorin état du Kwara, Nigeria. Quelques individus avec leurs tests de dépistage de l'infection du VIH se sont révélés positifs, avec l'utilisation de la méthode d'Elisa avec la confirmation à travers le Western blot test. Il y avaient 6 femmes et 4 hommes malades, cinq soit 50% des patients avaient leurs tests de dépistage du VIH révélés positifs.

Un indice très élevé de la soupçon devrait être maintenir parmi les ophtalmologues quand ils se trouvent face avec des malades atteints du HZO qui ont bonne mine.

Introduction

The HIV epidemic has become a world wide problem and the scale of infected numbers of people is vast¹. Both developed and developing countries are involved but the clinical spectrum of the disease differs in different environments¹. The disease Acquired Immune Deficiency Syndrome (AIDS) mainly affects homosexual and bisexual men with a much smaller proportion of individuals acquiring it by intravenous drug use (abuse) and blood transfusion¹. In Africa, HIV/AIDS is a fatal sexually transmitted disease that has affected mainly the economically active age group, causing considerable morbidity, mortality and socio-economic damage. Young people aged between 15 and 24 years comprise about 20% of the world's population² but account for 60% of new HIV infections each year². Unfortunately only a small proportion of the HIV infected young people know they are HIV positive in most developing countries². In Africa, the most common first presentation in HIV infected patients is Herpes zoster ophthalmicus (HZO)² which is characterised by a vesiculobullous rash of ophthalmic division of the trigeminal nerve, and may be associated with blepharitis, conjunctivitis, keratitis and uveitis². The incidence of Herpes zoster increases sharply with advancing age, roughly doubling in each decade past the age of 50 years³. This has been attributed to the normal age-related decrease in cell-mediated immu-

nity. However, patients with disease states that affect cell-mediated immunity such as Human Immunodeficiency Virus (HIV) are also at increased risk^{3,7} such that the incidence of Herpes zoster was found to be up to 15 times higher in HIV-infected patients than in uninfected person⁷.

The clinical manifestations of HIV infection in Africa are similar to those observed in Europe and North America⁴. However in Africans, dermatological manifestations occur at an early stage and are both common and varied (papular eruption, pruritus, herpes zoster, changes in hair and skin appearance). These characterise the "African aspect" of AIDS⁴. AIDS was first reported in Nigeria in 1986⁵, five years after the dreaded disease was reported in the United States of America⁶. HZO is a common form of the recurrent form of Herpes Zoster (HZ) infection caused by Varicella Zoster Virus (VZV)⁸. Although HZO is generally benign in most non-immuno-compromised patients, the incidence of ocular complications is high⁸. Immuno-compromised hosts manifest HZ and HZO in much higher frequencies and develop more severe sequelae, which may lead to loss of vision, dissemination of the virus, or death⁸.

Materials and methods

Over a period of 1 year, July 1998 – June 1999, Ten (10) cases of Herpes zoster ophthalmicus seen at the eye clinic of the University of Ilorin Teaching Hospital, Ilorin, Nigeria, were screened for HIV infection, using the ELISA method. The result was further confirmed using the Western Blot Test. All the patients who presented to the eye clinic with the history of hyperaesthesia affecting one half of the face and who on examination were found to have a vesiculo-bullous skin eruptions or healed crusts affecting one half of the forehead extending to the bridge of the nose, with associated blepharitis and hazy cornea formed the subject of the study. The patients were investigated for HIV -I & II infection using the ELISA test initially and later confirmed in positive cases by the Western Blot test. The positive cases were further counselled about the HIV/AIDS disease including information on safety and on available chemotherapy. Attempts were made to follow-up all the cases.

Result

There were 6 female patients and 4 male patients involved in this report. All the female patients were students of a tertiary institution out of which four of them tested positive to HIV infection. The age, marital status and sex distribution of HIV positive cases is as shown in Table 1. Four of the positive cases were single; only one positive case was married. Figure 1 shows the percentage distribution of the seropositive cases. The positive cases fall within the age-range of 21 – 35 years. These groups constitute the sexually active age groups.

All the 4 positive female patients, who were students of higher institution, were within the age group of 21 – 25 years – representing 40% of the cases. Of the four male patients, one, within the age-range of 31 – 35 years, tested positive – repre-

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Table 1 Age, sex distribution and HIV seropositivity among the patients

S/N	Age (year)	Sex	Occupation	Marital status	HIV Positivity
1.	16	F	ST	S	–
2.	20	F	ST	S	–
3.	31	M	APP	S	–
4.	23	F	ST	S	+
5.	23	F	ST	S	+
6.	24	F	ST	S	+
7.	25	F	ST	S	+
8.	25	M	University Graduate	S	–
9.	32	M	App	Mar	+
10.	42	M	Trading	Mar	–

Key:
 F – Female M – Male ST – Student S – Single
 – = Negative + = positive App – Apprentice Mar – Married

senting 10% of the positive cases. Figure 2 shows the picture of one of the patients with healed crusts affecting the right half of the forehead extending to the bridge of the nose.

Discussion

Eye infections, both opportunistic and non-opportunistic, are some of the ocular manifestations of AIDS and HIV infection¹. In the western world, the most common ophthalmic problem occurring in patients with AIDS who are severely immuno-suppressed is CMV retinitis¹. The normal age-related decrease in cell-mediated immunity is thought to account for the

increased incidence of varicella-zoster virus reactivation⁷. Patients with disease states that affect cell-mediated immunity such as human immunodeficiency virus (HIV) infection are also at increased risk⁷. Thus, it has been found out that an increased incidence of acquired and iatrogenic immunodeficiency states has given rise to a greater occurrence of recurrent VZV infection⁸. There is an established strong correlation between HIV seropositivity and the severity of Herpes Zoster (HZ) in young adults⁸. Thus, there is a greater need for earlier diagnosis and appropriate management of the protean manifestations of this disastrous disease⁸. Despite its occurrence, Herpes Zoster infections are not the marker for HIV infections in the western world as it is in Africa¹⁹. It has been suggested that race may influence susceptibility to herpes zoster¹⁹. Varicella-zoster virus is a highly contagious DNA virus. Varicella represents the primary infection in the nonimmune or incomplete immune person. During the primary infection, the virus gains entry into the sensory dorsal root ganglia. The varicella-zoster virus genome has been identified in the trigeminal ganglia of nearly all seropositive patients¹⁰. The virus remains latent for decades because of varicella-zoster virus-specific cell-mediated immunity acquired during the primary infection, as well as endogenous and exogenous boosting of the immune system periodically throughout life¹¹. In all the five positive cases, it is probable that the infection occurred through sexual intercourse as none of them admitted to exposure of other known factors such as intra-venous drug use or blood transfusion in the past. This is also in support of assertion of heterosexual activity as the main mode of HIV transmission in Africans¹². Ocular involvement in HIV-infection is known to occur in 50 – 60% of cases, during the course of the disease¹³. The cases reported here, though few in number, seem to support this view with 50% of the cases being positive.

Conclusion

The scope of the AIDS pandemic has already led to serious consequences, not only for health care systems of countries unable to cope with many AIDS victims, but also for the national economies of those countries because of the loss of young to middle aged persons who are economically most productive. Apart from the HZO, all the patients were healthy looking. A high index of suspicion should be maintained among Ophthalmologists when confronted with patients with such problems who are otherwise healthy looking.

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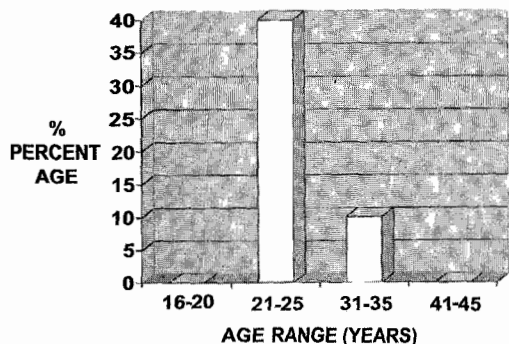


Fig. 1 Percentage seropositivity



Fig. 2 Healed crusts affecting the right half of the forehead extending to the bridge of the nose.

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