

The Clinical Features of HIV/AIDS at Presentation at the Jos University Teaching Hospital

*Akolo, C FWACP **Ukoli, C O FMCP ***Ladep, G N FWACP ****Idoko, J A FMCP

*AIDS Prevention Initiative Nigeria (APIN) Centre, Jos University Teaching Hospital, Jos, Nigeria.

**Department of Medicine, Jos University Teaching Hospital, Jos, Nigeria.

ABSTRACT

Background: The clinical characteristics and consequences of HIV-1 infection observed in studies from developed countries cannot be generalized across the multiple virus subtypes that circulate in sub-Saharan Africa in general and Nigeria in particular. This study was therefore conducted to determine the commonest symptoms and signs at presentation in HIV-infected individuals at the Jos University Teaching Hospital.

Method: This descriptive study was conducted at the antiretroviral clinic of the Jos University Teaching Hospital, Jos, between May and October 2004. Two hundred (200) newly diagnosed and laboratory confirmed adult cases of HIV infection without prior antiretroviral drug use were recruited after obtaining informed consent. Each qualified patient had a comprehensive history taken with emphasis on the clinical symptoms and detailed physical examination performed by the researchers. The data collected were analyzed using a multipurpose computer programme, Epi-info 2000 version 1.1.3 (Atlanta GA, USA).

Results: There were 86(43.0%) males and 114(57.0%) females whose mean ages were 39.0 ± 7.8 and 32.0 ± 8.1 years, respectively. The major symptoms in the study population were: weight loss (65.5%), fever (41.5%), chronic cough (38.5%), diarrhea (32.0%), pruritus (13.0%) and body rash (12.5%). The major signs were pallor (25.0%), oral thrush (20.5%), wasting (20.0%), lymphadenopathy (18.0%), dermatitis (16.0%), hyperpigmented nails (13.5%) and finger clubbing (8.5%).

Conclusion: The symptoms and signs of HIV/AIDS obtained were similar to those obtained by other workers from different parts of the world; however, the findings of hyperpigmented nails and finger clubbing have not been frequently reported for other populations.

Keywords: Clinical features, HIV/AIDS, Presentation, Nigeria

Date accepted for publication 10th October 2007

Nig J Med 2008; 83 - 87

Copyright©2008 Nigerian Journal of Medicine

INTRODUCTION

Investigators now recognize that HIV infection induces a chronic and progressive process with a broad spectrum of manifestations and complications from primary infection to life threatening opportunistic infections, malignancies and wasting and that the clinical features of HIV/AIDS vary from one part of the world to another depending on the population studied.

Primary infection with HIV is typically asymptomatic; however, 50 to 80% of patients may have symptoms. Due to patients' and clinicians' lack of consideration of HIV, acute primary HIV infection frequently goes unrecognized.¹ Acute primary infection (also known as acute retroviral syndrome) is characterized by fever, malaise, myalgia, arthralgia, pharyngitis, nausea, and a diffuse erythematous rash.²

Early clinical manifestations of HIV disease include constitutional symptoms such as headache, fatigue, malaise, myalgia, fever, night sweats, anorexia, diarrhea and weight loss. Symptoms may be present alone or in combination. Generalized lymphadenopathy involving extra-inguinal sites may persist during both the asymptomatic and symptomatic phases of the disease. Other features include oral lesions, reactivation of herpes zoster, thrombocytopenia, prurigo, seborrheic dermatitis, molluscum contagiosum, condyloma acuminatum, recurrent oral or genital herpes simplex infection.³ The commonest oral lesions at this stage include oral candidiasis, hairy leukoplakia and recurrent aphthous ulcers.

However, much of the understanding of HIV disease progression and clinical manifestations is derived from studies in the Western world where HIV-1 infection is almost exclusively due to subtype B as opposed to sub-Saharan Africa in general and Nigeria in particular where a large number of infection is due to other subtypes of HIV-1 such as A and G subtypes and A/G recombinant subtypes.⁴

Furthermore, most of the studies carried out in Nigeria have focused largely on the epidemiological aspects of

HIV disease^{5,6,7} with few on its clinical aspects.⁸ Studies conducted earlier in Nigeria before the availability of antiretroviral therapy showed that the commonest symptoms observed among some HIV-infected populations included weight loss, fever, cough, lymphadenopathy, diarrhea, skin rash, herpes zoster and genital ulcers.^{9,10,11} It is notable that these studies were conducted at a period of high stigmatization of HIV disease. It is desirable to present data about the symptoms and signs of HIV disease in the era of highly active antiretroviral therapy (HAART) as more cases turn up for care now than before. We therefore determined the common symptoms and signs among our HIV/AIDS cohort at the Jos University Teaching Hospital.

PATIENTS AND METHODS

Study site

This study was conducted at the Jos University Teaching Hospital (JUTH), located in Jos, the capital city of Plateau State in the North-central region of Nigeria. The city of Jos enjoys a very fine weather, various mining activities and lots of other tourist attractions. These attract people from both within and outside the country.

JUTH is the main referral center of the North-central region, a region with the highest prevalence of HIV/AIDS in Nigeria.¹² The hospital is also one of the centers in the country where the antiretroviral therapy sponsored by the Nigerian government is available. The study was carried out at the antiretroviral clinic which runs every working day of the week and an average of 10 new patients with HIV infection are seen on a daily basis.

Study Design

This was a cross-sectional descriptive study of the clinical symptoms and signs of HIV/AIDS in JUTH which was carried out between May and October, 2004. Permission for the study was obtained from the Ethics Committee of JUTH. Informed written consent was sought individually from all the study participants before being enlisted for the study.

The 200 consecutive adult patients that met the criteria were recruited into the study. Each qualified patient had a comprehensive history taken and detailed physical examination performed by the researchers. Included in the study were patients confirmed by Western blot to be HIV infected (after an initial reactive ELISA) as well as being antiretroviral therapy-naïve while excluded from the study were those already on antiretroviral therapy.

Statistical analysis

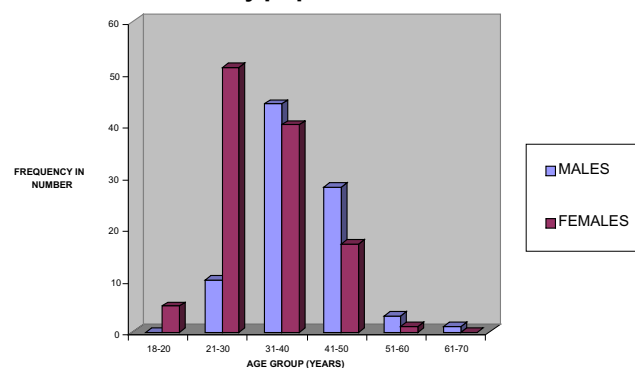
Data were analyzed using a multipurpose computer programme, Epi-info 2000 version 1.1.3 (Atlanta GA, USA). Mean and standard deviation (mean±SD) were used for continuous data and percentages for qualitative variables.

RESULTS

The age and sex distribution of the study subjects is shown in Figure 1. There were 200 subjects, made up of 86(43.0%) males and 114(57.0%) females. The male to female ratio was 1:1.3. The mean age of the study population was 35.0±8.7 years and range 18-70 years. The largest number of subjects totaling 84(42.0%) was in the age group 31-40 years, where males predominated. The mean age for females was 32.0±8.1 years and males 39.0±7.8 years, showing no statistically significant difference (t = 0.1, p = 0.74). Fifty one (83.6%) of the 61 patients in the 21-30 years age group were females.

Of the 200 subjects, 107(53.5%) were married with a male preponderance, 43(21.5%) were singles, 26(18.0%) were widowed and 14(7.0%) were divorced. Females predominated in the single, divorced and widowed groups.

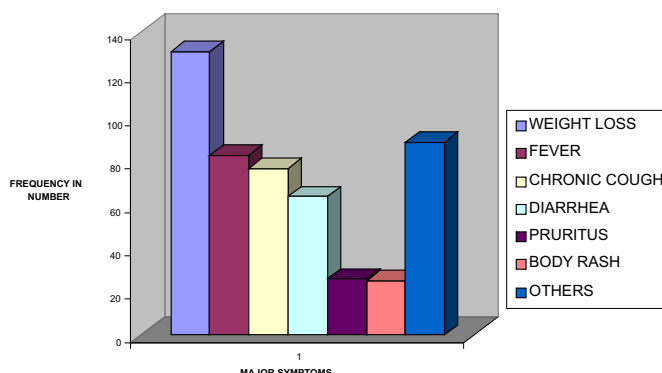
Figure 1. Bar chart showing the age and sex distribution of study population



Symptoms of HIV/AIDS

Figure 2 shows the major symptoms the patients presented with. One hundred and thirty one (65.5%) subjects presented with weight loss, while 83(41.5%) subjects had fever at presentation. Seventy seven (38.5%) presented with chronic cough, 64(32.0%) with diarrhea, 26(13.0%) with pruritus while 25(12.5%) had different forms of body rash. Eighty nine (44.5%) subjects presented with other symptoms which included; parasthesia, dizziness, body swelling, weakness of one half of the body, vomiting and mouth sores. Some subjects had more than one symptom.

Figure 2. Bar chart showing frequency of common symptoms in HIV/AIDS patients



Clinical Signs of HIV/AIDS

The major clinical signs seen in the study population are summarized in Table 1. Pallor had the highest number of 50(25.0%) subjects followed by oral thrush with 41(20.5%) subjects, wasting 40(20.0%) subjects, lymphadenopathy 36(18.0%) subjects, non-specific dermatitis 32(16.0%) subjects, hyperpigmented nails 27 (13.5%) subjects while 17(8.5%) subjects presented with finger clubbing. Fourteen (7.0%) subjects had herpetic rash, 13(6.5%) subjects were dehydrated, 12(6.0%) had hepatomegaly while 6(3.0%) had pedal edema. Fifty one (25.5%) subjects had other signs which included splenomegaly, signs of meningeal irritation, perineal ulcers, jaundice, fluffy hair, and mouth ulcers. Some subjects had more than one clinical sign.

Table I. Major clinical signs of HIV/AIDS in the study population

Sign	Yes (%)	No (%)
Palor	50(25.0)	150(75.0)
Oral thrush	41(20.5)	159(79.5)
Wasting	40(20.0)	160(80.0)
Lymphadenopathy	36(18.0)	164(82.0)
Non-specific dermatitis	32(16.0)	168(84.0)
Hyperpigmented nails	27(13.5)	173(86.5)
Finger clubbing	17(8.5)	183(91.5)
Herpetic rash	14(7.0)	186(93.0)
Dehydration	13(6.5)	187(93.5)
Hepatomegaly	12(6.0)	188(94.0)
Pedal edema	6(3.0)	194(97.0)
Others	51(25.5)	149(74.5)

Others included; splenomegaly(4), meningeal signs(3),perineal ulcers(6), lateralizing signs(4), chest signs(3), jaundice(3), leuconychia(4), fluffy hair(4), parotid fullness(3), ascites(5), elevated jugular venous pressure(1) e.t.c.

DISCUSSION

Our study aimed at determining the commonest symptoms and signs at presentation among HIV-infected adults at the Jos University Teaching Hospital, Jos.

Progression from HIV infection to disease could be insidious but once there is significant immunosuppression, a variety of symptoms and signs may appear. The results from our study showed that the commonest symptoms of HIV/AIDS in Jos were weight loss (65.5%), fever (41.5%), cough (38.5%), and diarrhea (32.0%). The fact that majority of the patients presented with weight loss is probably because most patients in this environment present late. Moreover, the uptake of voluntary counseling and testing (VCT) is still very low. Diagnosis through VCT would have made the patients present early even before the development of clinical symptoms. The symptoms obtained from our study are similar to those reported by other workers in Nigeria.^{9,10,11,13} In a study by Akinsete and Co-workers,⁹ the commonest symptoms seen in their study population were weight loss, fever, cough, lymphadenopathy and diarrhea. Similar findings were also reported by Onunu and Associates¹⁰ in Benin, Abdulrazaq and Colleagues¹¹ in Zaria and Anteyi and Co-workers¹³ in Jos.

The commonest signs in the study population were palor (25.0%), oral candidiasis (20.5%), wasting (20.0%), lymphadenopathy (18.0%) and non-specific dermatitis (16.0%). Seventeen (13.5%) patients had finger clubbing and 27 (13.5%) had hyperpigmented nails. These clinical signs were similar to those obtained by other workers.^{10,11,13} In a study conducted by Klotz and Colleagues in Vietnam, 24% of their study population who were mainly intravenous drug users presented with lymphadenopathy while men and women were reported to be anemic at presentation.¹⁴ The hyperpigmented nails reported among our patient population may be due to the chronic nature of HIV infection as many chronic illnesses cause hyperpigmentation of the skin and/or nails. Finger clubbing may be as a result of some degree of malabsorption due to recurrent diarrhea in this group of patients and associated complicated tuberculosis in some of the patients.

There were more females than males in this study and the male to female ratio obtained was 1:1.3. This is similar to findings from recent studies in Africa¹⁵ which did not show significant differences between the two genders in transmission of HIV infection.

Several studies have shown varying results in terms of male to female ratio in HIV infected individuals. However, it has been noted that AIDS in Africa is characterized epidemiologically by an apparently equal male to female ratio of 1:1.¹⁶ Anteyi *et al*¹³ in Jos reported that the male to female ratio was 2.4:1. The significant male preponderance in the study might have been a reflection of the pattern of clinic attendance of both gender and under reporting of the female patients at that time. With increased awareness about HIV/AIDS, there has been an improvement in the health care seeking attitude of female patients and this might have been responsible for the male to female ratio obtained from our study. Furthermore, because the study was conducted in one of the centers where antiretroviral drugs are available; more people especially females were probably coming forward because of the availability of treatment.

The peak age incidence of HIV infection from our study was in the sexually active age groups of 21-50 years as observed by studies from Africa and the United States of America.^{17,18,19} The 2003 sentinel survey conducted by the Federal Ministry of Health showed that majority of Nigerian adults infected with the HIV virus are in the 15-49 years age groups.¹² Wawer and Co-workers²⁰ found a higher incidence of HIV infection among younger women compared to males of same ages. It has been shown that young women are at a comparatively higher risk for HIV acquisition than older women because of several factors.²¹ There was a female preponderance in the 21-30 years age group from our study which further supports the above observations. This is probably due to the fact that

younger women have immature vaginal mucosa which may be more susceptible to trauma during sexual activity, and may be especially prone to STD due to large transformation zones and exposed squamocolumnar epithelium. This may also be due to having sexual activities at times when blood exposure is likely such as during menstruation, rape or first coital experience.²¹ In addition, older men who are more likely to be HIV infected than younger men, often seek younger sexual partners.²² This may be referred to as "cross generational sex."

Some of the limitations of this present study included the fact that consecutive patients were recruited and the study was conducted at an antiretroviral treatment centre. The study site probably accounted for the nature of some of the clinical manifestations observed in the study population. It is possible that if this study was conducted in a different setting, such as a community, a different set of results could have been obtained.

In conclusion, the symptoms and signs of HIV/AIDS obtained from this study were similar to those obtained by other workers from different parts of the world; however, the findings of hyperpigmented nails and finger clubbing have not been frequently reported for other populations. Larger studies are required to determine clinical features that could help in early diagnosis of HIV/AIDS in this part of the world so that the aim of the scaling-up of HAART in sub-Saharan Africa could be achieved.

Acknowledgement

We are grateful to all the patients that were part of this study and to all the entire staff of Adult ARV Clinic of AIDS Prevention Initiative Nigeria (APIN) Centre, Jos University Teaching Hospital, Jos, for all their assistance.

REFERENCES

1. Schacker T, Collier AC, Hughes J, et al. Clinical and epidemiologic features of primary HIV infection. *Ann Intern Med.* 1996; 125:257-264.
2. Kinloch-de Loes S, de Saussure P, Saurat JH, et al. Symptomatic primary infection due to HIV type 1: review of 31 cases. *Clin Infect Dis.* 1993;17:59-65.
3. Coleblunders RL, Latif AS. Natural history and clinical presentation of HIV-1 infection in adults. *AIDS.* 1991; 5: S103-S112.
4. Martine Peeters, Eka Esu-Williams, Laurence Vergne, et al. Predominance of subtypes A and G HIV Type 1 in Nigeria, with geographical differences in their distribution. *AIDS Research and Human Retroviruses.* 2000; 16(4):315-325.
5. Williams EE, Mohammed I, Chikwem JO et al. HIV-I and HIV-2 antibodies in Nigeria populations with high and low risk behaviour pattern. *AIDS.* 1990; 4:1041-1042.
6. Olaley OD, Bernstein L, Ekweozor CC, et al. Prevalence of HIV-1 and HIV-2 infections in Nigeria. *J Inf Dis.* 1993;167:710-714.
7. National AIDS Control Programme. Federal Ministry of Health and Human Services. AIDS in Nigeria. *Nig Bull of Epidemiol.* 1992; 2:6-16.
8. Idoko JA, Anteyi EA, Idoko LO, et al. HIV and associated tuberculosis in Jos, Nigeria. *Nig Med Pract.* 1994; 28:48-50.
9. Akinsete I, Okpara CC, Akanmu AS. Spectrum of clinical diseases in HIV infected adult patients at the Lagos University Teaching Hospital (LUTH) Nigeria. A five year experience. 1992-1996. In: Program and abstract of the Xth International Conference on AIDS and STD in Africa; December 7-11, 1997, Abidjan, Cote d'Ivoire. Abstract 53-2-AB97-2.

10. Onunu AN, Omuemu CE, Omeife HO, et al. Clinico-epidemiological features of the Acquired Immunodeficiency Syndrome in Benin City, Nigeria. In: Program and abstract of the 12th World AIDS Conference; June 28th-July 3rd, 1998, Geneva. Abstract 92-17-GE98-3.
11. Abdulrazaq GH, Ismail BK, Usman IG, et al. Clinical Presentation of HIV infection in Northern Nigeria and its Relationship to CD4+ T-Cell Counts. *Nig Med Pract.* 1998; 35:3-8.
12. National HIV sentinel survey report. Nigeria Federal Ministry of Health. December, 2003.
13. Anteyi EA, Agbaji OO, Idoko JA, et al. AIDS in Adults in Jos, Nigeria. *Nig Med J.* 1994; 27:13-15.
14. Klotz SA, Nguyen HC, Van PT, et al. Clinical features of HIV/AIDS patients presenting to an inner city clinic in Ho Chi Minh City, Vietnam. *Int J of STD & AIDS.* 2007; 7: 482-485
15. Fideli US, Allen SA, Musonda R, et al. Virologic and immunologic determinants of heterosexual transmission of HIV-I in Africa. *AIDS Res Hum Retroviruses.* 2001; 17: 901-10.
16. Angelis DD. Epidemiology of HIV infection, *J NIH Res.* 1990; 2:41-45.
17. Biggar RJ. The AIDS Problem in Africa. *Lancet.* 1986; 1:79-82.
18. Biggar RJ. The Clinical Features of HIV infection in Africa. *Br Med J.* 1986; 293:1453-1454.
19. Clumerk N, Sonnet J, Taelman H, et al. AIDS in African Patients. *N Engl J Med.* 1984; 310:492-497.
20. Wawer MJ, Serwadda D, Musgrave SD, et al. Dynamics of spread of HIV-1 infection in a rural district of Uganda. *BMJ.* 1991; 303:1303-1306.
21. Vermund SH. Transmission of HIV-1 among adolescents and adults. In: DeVita VT, Hellman S, Rosenberg SA, eds. *AIDS: Etiology, Diagnosis, Treatment and Prevention*, Fourth Edition. Philadelphia: Lippincott-Raven Publishers, 1996; 147-165.
22. Campbell T, Kelly M. Women and AID in Zambia: a review of the psychosocial factors implicated in the transmission of HIV. *AIDS Care.* 1995; 7(3): 365-373.