

East African Medical Journal Vol. 78 No. 3 March 2001

HIV INFECTION IN ELDERLY MEDICAL PATIENTS

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ABSTRACT

Objective: To determine the prevalence and presentation of HIV-infection among medical admissions aged 55 years and above.

Design: Prospective cross-sectional study.

Setting: Dar es Salaam, Tanzania.

Subjects: Consecutive patients aged 55 years and above hospitalised in the medical wards of the Muhimbili Medical Centre in Dar es Salaam from February to May 1998.

Results: The overall HIV-1 seroprevalence was 15.0% (38/253); and by sex it was 18.5% (28/151) among males compared to 9.8% (10/102) among females ($p=0.06$). The HIV-1 prevalence among those aged 55 to 59 years was 29.7%. There was no association between HIV-1 serostatus and whether one lived in a rural or urban area, marital status, level of education nor socio-economic status. The main presenting features in patients who were found to be HIV-1 seropositive were wasting 44.7%, fever 39.5%, pallor 34.2% and weight loss 31.6%. Only six (15.8%) of the 38 patients were initially suspected to have been HIV-infected before laboratory results were obtained.

Conclusions: HIV-infection is a notable problem in the population of elderly medical admissions in Dar es Salaam. The possibility of HIV-infection should be considered among elderly patients with clinical features of immunodeficiency. HIV/AIDS prevention programmes directed towards the elderly should be established.

INTRODUCTION

Although it is well known that HIV-infection occurs commonly in persons aged between 15 and 40 years, no age group is spared. Because of its long latency period, a person infected in the middle age may progress to old age before manifestations of the infection have occurred, while those infected in old age may live out their life expectancy without adequate time for manifestations to occur(1,2). The incidence of HIV infection among older adults has been found to be rising faster than in younger age groups in the USA(3). Some figures of unexpected prevalence in the elderly have been reported from different parts of the world, for instance 10.3% of all reported HIV/AIDS cases in the USA by June 1997 were 50 years and above(4), while 4% of all cases occurred in people above 70 years(3). In Egypt, 5.1% of sera from persons above 60 years who died of supposedly known causes was found to be positive for HIV(5). Australian statistics for 1993 showed that 10.9% of HIV cases were 50 years and above(6).

Sub-Saharan Africa is leading worldwide by hosting countries with the highest prevalence of HIV/AIDS(7). Reported data for East Africa indicated a prevalence of 3.7% for those above 50 years in Kenya (1997)(8), 5.2% for Uganda (1996)(9), and 1.9% for those above 55 years

in Tanzania (1997)(10). The preceding figures are suspected to be grossly underestimate, with respect to the true prevalence since the elderly are not considered a group at risk for HIV infection.

The Adult Morbidity and Mortality Project performed in Tanzania in an urban district and two rural districts with a total population of 307,912, released its report in August 1997(11). Among significant findings were that HIV/AIDS was the leading cause of death among adults aged 15-59 years in the project areas. In Dar es Salaam AIDS was reported to have been the fourth commonest cause of death in males 60 years and above, contributing to 6.3% of the deaths in this group. Only stroke, heart failure, and acute febrile illnesses surpassed it. It should be emphasised that acute febrile illnesses embody an assortment of conditions where HIV infection cannot be ruled out. In Dar es Salaam among females aged 60 years and above, AIDS was the thirteenth (1.7%) cause of death while acute febrile illnesses were the second commonest causes accounting for 14.3% of all deaths. In the other project areas AIDS was not reported among the top causes of death though pulmonary tuberculosis and acute febrile illnesses were major causes. There is suspicion that HIV-infection may ensue unknown to relatives since older people find it traumatic to inform their offspring of the

diagnosis (if known) considering the attached stigma and grief(3). One can speculate that the magnitude of the infection was grossly underrated.

Various studies have indicated that elderly patients with HIV infection presented with non-specific problems or with signs and symptoms similar to other age-related illnesses. Dementia was the only sign of HIV infection in 25% of patients in a particular study(3). Even in studies where patients presented with conditions such as Kaposi's sarcoma and *P. carinii pneumonia* commonly found in association with HIV infection(12-14), the index of suspicion was so low that the diagnosis of HIV-related immunosuppression was overlooked.

Gilks *et al*(15), reported from Kenya that in contrast to findings in Europe and North America, considerable morbidity and mortality occurred in African HIV-1 infected adults who presented with typical features of other recognised diseases and with relatively few indicators of immunodeficiency. With this in mind, we set out to establish the actual prevalence of HIV-infection in elderly patients in a relatively high endemic area and ascertain the manifestations they presented with.

MATERIALS AND METHODS

Consecutive patients aged 55 years and above hospitalised at the medical wards of the Muhimbili Medical Centre in Dar es Salaam from February to May 1998 were included in the study. The centre is the major referral hospital in Tanzania and is situated in the largest commercial city. The centre deals with patients referred from various hospitals within the city and from upcountry.

After informed consent, patients were clinically evaluated, socio-demographic data collected, and venous blood samples drawn. HIV antibodies were determined by ELISA test Enzygnost® Anti-HIV 1/2 plus (Behring). All reactive sera were tested by Western Blot assay (Diagnostic Bio-Technology immunoblot) for confirmation. The HIV serostatus was then recorded into a statistical package for analysis. Categorical variables were analysed using Chi-square test while the difference between proportions was analysed using Student's t-test. Differences were considered significant if the p value was less than 0.05.

RESULTS

Of the 1,934 patients hospitalised during the study period, 276 (14.3%) were aged 55 years or more. Two hundred and fifty three out of 276 (91.7%) patients were recruited into the study and comprised 151 (59.7%) males and 102 (40.3%) females. Their ages ranged from 55 to 96 years (mean = 65 years).

The HIV-1 seroprevalence among the patients was 15.0% (38/253); and by sex the prevalence was 18.5% (28/151) among males compared to 9.8% (10/102) among females (p=0.06). The oldest HIV-1 seropositive patient was a 78-year old female. Half of the HIV-1 seropositive patients were in the age group 55 to 59 years old, and made up almost 30% (19/64) of the population in this age. Figure 1 summarises the distribution of the study subjects

according to age and sex. About 60% of the HIV-1 seropositive patients were married while 32% were widowed (p<0.09). A gender differential was observed regarding the marital status of the patients. About 67% of the HIV-1 seropositive males were married compared to 20% of females (p=0.04). On the contrary, 17% of the HIV-1 seropositive males compared to 70% of the HIV-1 seropositive females were widowed (p=0.009).

Figure 1

Distribution of HIV-1 seroprevalence among patients aged 55 years or more according to age and sex

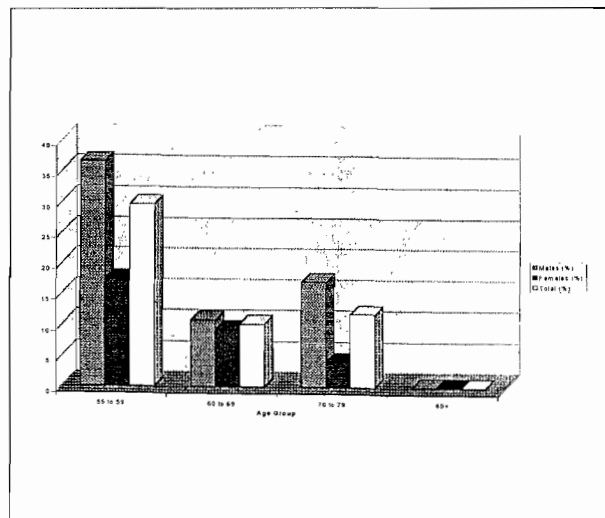


Table 1

Commonest symptoms and signs in the patients who tested HIV-1 seropositive

Symptom/sign	Number (n=38)	%
Wasting	17	44.7
Fever	15	39.5
Pallor	13	34.2
Productive cough*	11	28.9
Palpitations	9	23.7
Skin lesions#	9	23.7
Chest tightness	8	21.1
Oral candidiasis	8	21.1
Diarrhoea	7	18.4
Disorientation/Confusion	2	5.3

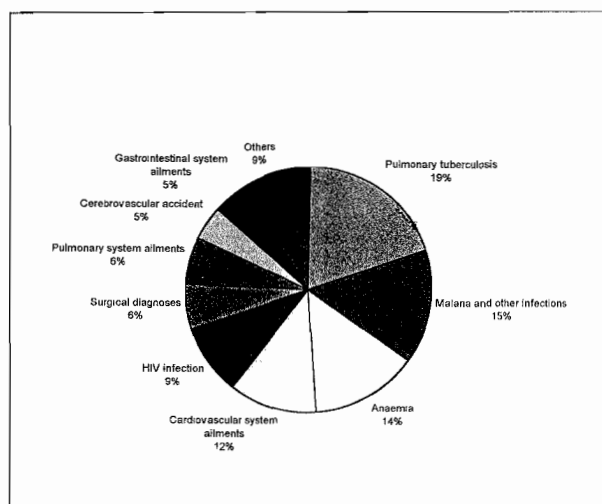
*One patient had haemoptysis

#These included two patients with *Herpes zoster* and one with Kaposi's sarcoma

In general, there was no association between the level of education and HIV-1 serostatus though there was a tendency of finding the least educated patients testing seronegative. There was also no association between HIV-1 serostatus and the household economic status and no association with the place of residence (rural or urban) (p=0.35).

Figure 2

Diagnoses given to patients who tested HIV-1 seropositive



The pattern of signs and symptoms with which the study participants presented with are shown in Table 1. The patients who were found to be HIV-1 seropositive presented with signs and symptoms indicative of various diseases. Only six of the 38 patients (15.8%) were initially suspected to have been HIV-infected before laboratory results were obtained. Even though some indicators of immunodeficiency were noted in most of the 38 patients, the index for suspecting HIV-infection was low. Figure 2 depicts the diagnoses that were ascribed to the study subjects who tested seropositive.

DISCUSSION

The prevalence of HIV-1 antibodies in this population of hospitalised medical patients over 55 years was 15%. The prevalence of 29.7% in the age group 55 to 59 years was astoundingly high reflecting a high infection rate in the society. Relatively lower incidences of HIV infection in elderly populations in Eastern Africa and other parts of the world had previously been reported. However, since this is hospitalised patients' data, the prevalence is expected to be higher than in the general population of a similar age group.

In the USA the number of HIV-infected patients aged over 50 years has been found to be greater than that of the paediatric population(16) and in Tanzania the age specific rate in ages 55-64 is much higher than in the 0-4 age group(10). Furthermore, a study conducted in 1996 in the paediatric wards of the Muhimbili Medical Centre, Dar es Salaam involving 2,015 children aged from one month to seven years found an HIV-1 seroprevalence of 10.2%(17). The elderly group seems to have surpassed paediatric cases. The oldest patient in this study was a 78-year old woman who presented with chronic diarrhoea while the oldest reported patient so far has been a 90-year old man who presented with easy bruising and was initially thought to have had autoimmune thrombocytopenic purpura(18).

Males constituted 73.7% of HIV-1 seropositive elderly patients and this figure compares to previous studies that have all shown a greater proportion of males ranging from 79% to 91%(12,13). Whereas homosexuality explained such findings in the developed world(2,3,4,6,12,13), it is not the case here as homosexuality is reported to have an insignificant role in HIV transmission in Tanzania(19). This difference could be explained by the fact that as they both age, men have greater chances of getting infected compared to women since men are polygamous and elderly men remarry upon widowhood and tend to marry younger women(11,20).

There was a decline in the prevalence of HIV-1 seropositivity with increasing age as has been found in other studies(4,13). However, though Ship *et al*(13) found an increase in the prevalence of infected women with increasing age (attributing it to acquisition through blood transfusion), it was not so in this setting.

The clinical presentation of HIV infection in the elderly patients in this study was similar to that encountered in patients in younger age groups in a similar setting(21). Chen *et al*(12) found that 83.9% of her elderly patients had at least one indicator disease while 16.2% were diagnosed by CD4 counts alone. The only difference with a younger age group was the increased incidence of dementia with distinct similarities to ageing associated illnesses like Alzheimer's dementia and depression. Whipple *et al*(3) reported finding opportunistic infections in elderly patients and highlights the significance of AIDS dementia as the "great imitator" of Alzheimer's dementia. Elderly sub-Saharan Africans are known to retain confidence in traditional healers(22) and hence the diseases brought to hospital are quite selective with relatively few cases of dementia/depression as compared to the developed world. Demented elderly patients are more likely to be incarcerated at home and at most will undergo treatment with traditional medication. Moreover, those sent to hospital would most probably be confined to psychiatric units. Therefore, age related depression and dementia (Alzheimer's) which usually present a challenge in diagnosing AIDS dementia in this age group(12) was not observed in this study.

In conclusion, HIV infection is a notable problem in the population of elderly medical admissions in Dar es Salaam. This denotes that elderly people with HIV/AIDS in Tanzania and other sub-Saharan African countries may be overlooked due to a low index of suspicion among clinicians, mostly because they do not actually think about it. The possibility of HIV-infection should, hence be considered among elderly patients, especially if they exhibit clinical features of immunodeficiency. Since most HIV/AIDS prevention programmes show images or issues related to younger age groups, prevention programmes directed towards the elderly should be established.

ACKNOWLEDGEMENTS

The Directorate of Postgraduate Studies at the Muhimbili University College of Health Sciences, the Director General of Muhimbili Medical Centre and the Permanent Secretary in the Ministry of Health are acknowledged for facilitating the conduction of this study.

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