

Epidemiology and Clinical Characteristics of HIV-Infected Patients in Kuala Lumpur

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Summary

Between 1987 to 1995, a total of 334 patients infected with HIV were treated at the Hospital Kuala Lumpur. There were 159 Malays, 108 Chinese, 64 Indians, and 3 from other ethnic groups. Three hundred and twenty one (96.1%) of these individuals were males and 262 (65.9%) were between the ages of 26-45 years. Intravenous drug users made up 77% (256) of the attributable risk behaviour from the group although many of them also had added risk behaviours like heterosexual activity with multiple partners (50 patients), tattoos (7 patients), homosexual practice (4 patients) and previous transfusions (3 patients). The others acquired their infection through heterosexual promiscuity (59 patients), homo/bisexual activity (7 patients), previous transfusions (5 patients) and tattoos (1 patient). Sixty six patients (all males) had since progressed to full blown AIDS and 10 have died. The two commonest AIDS-defining events were tuberculosis infection and *Pneumocystis carinii* pneumonia occurring in 37 (56%) and 15 (22.7%) of patients respectively. Forty one patients with AIDS presented for the first time with their AIDS-defining infections. The mean CD4 count of the patients when they progressed to AIDS was 130/mm³. The mean time for progression from "known" seropositivity to AIDS was 2.42 years. These results suggest that Malaysians infected with HIV are not coming forward for treatment until they are in the advanced stage of the disease.

Key Words: HIV/AIDS, IVDUs, Epidemiology

Introduction

Acquired immunodeficiency syndrome (AIDS) was first recognised in 1981. Since then, modern science has discovered it is caused by a novel retrovirus known as human immunodeficiency virus (HIV), defined the nature of the immune defect, developed tests to detect the presence of the infection in blood, and developed specific antiviral treatment that, although not a cure, significantly prolongs life. Despite these remarkable accomplishments, the epidemic progresses unabated, resulting in enormous suffering for those infected and great demands are made on health care facilities. In 1995, the World Health Organisation (WHO) estimated there were 20 million persons worldwide infected with HIV, of whom approximately one-quarter

had developed AIDS. By the year 2000, WHO estimates that there will be 40 million people infected with HIV and 42% of HIV-infected individuals will be in Asia. In Malaysia, the number of HIV infected persons has increased rapidly following the detection of the first case in 1986¹. The prevalence rate had increased from 3.7/100,000 population in 1990 to 14.5/100,000 in 1995. The total number of confirmed HIV-infected individuals up to November 1995 was 14,226 of which 314 had developed AIDS, and 268 of whom had since died².

This is a retrospective study to determine the characteristics of the HIV patients seen at the Kuala Lumpur Hospital, a tertiary referral centre for peninsular Malaysia with over 3000 beds.

Materials and methods

Clinical data were obtained retrospectively from the medical records of all HIV-infected patients (confirmed by Western Blot technique) seen at the Infectious Diseases Unit, Department of Medicine, Universiti Kebangsaan Malaysia and the Department of Medicine, Kuala Lumpur Hospital. The following data were collected: age, sex and race of the patient; date of seropositivity and presentation; clinical stage of the disease at presentation; date of progression to AIDS; the AIDS-defining event[s]; risk behaviour[s] of the patient for HIV infection; CD4 count at presentation and at the time of progression to AIDS; duration of follow-up, and cause of death.

These data were then collated and statistically evaluated.

Results

Although there were 366 patients registered with the two clinics during the study period, only 334 case notes were suitable for analysis. There were 321 (96.1%) males and 262 (78.9%) patients were between the ages of 26-45 years (Table I). There were 159 Malays (47.3%), 108 Chinese (31.7%), 64 Indians (18.6%) and 3 others which included one Thai, one Eurasian and one of unknown ethnic origin.

Table I
Age distribution of 334 Malaysians with HIV infection

Age (years)	Number
0-15	1
16-25	38
26-35	159
36-45	103
46-55	20
56-65	4
>66	1
unknown	8
Total	334

Intravenous drug use was the main risk behaviour for acquiring HIV infection in 256 (76.6%) individuals although many also had added risk behaviours like heterosexual activity with multiple partners (50 patients), tattoos (7 patients), homosexual practice (4 patients) and previous transfusion (3 patients). Of the remaining 78 patients, 59 had heterosexual intercourse as the only risk behaviour, 7 had homosexual/bisexual activities, 5 had previous transfusions and 1 had tattoo. Six patients had no known risk behaviour in the past to account for the infection.

Sixty six patients had progressed to full blown AIDS and all were males. The AIDS-defining events of the patients are shown in Table II

The mean CD4 cell count at the time of their AIDS-defining events of 36 patients was 130 cells/mm³. The total number of tuberculosis infection (all types) was 37. Of those patients with extrapulmonary tuberculosis, 3 had TB lymphadenitis, 2 had miliary TB and one each had TB osteomyelitis and TB spine.

Forty one of the patients with AIDS first presented with their AIDS-defining event. By May 1995, 10 patients had died of their disease. The mean time from their "known" seropositivity to full blown AIDS was 2.42 years.

Discussion

The distribution of HIV infected persons in this study by age and gender are reflective of the national statistics compiled by the Ministry of Health². It was interesting to note that none of the females had developed full blown AIDS whereas women accounted for 7% of AIDS cases in the national figures. The proportions by race shown that although Malays head the percentage of those with HIV infection (47.3%), it was disproportional to the population structure of the country (Malays make up approximately 60% of the population). In contrast national statistics report that Malays made up 70% of the known HIV cases to date. This disparity may be because the Malay population in Kuala Lumpur is less than the national average.

The risk behaviours of the affected individuals in the study were similar to those of the national statistics

Table II
AIDS-defining events* of 66 patients with HIV infection

AIDS-defining event	Frequency
<i>Pneumocystis carinii</i> pneumonia	15
Pulmonary tuberculosis: CD4 count >200/cmm	19
CD4 count <200/cmm	11
Extrapulmonary tuberculosis	7
Oesophageal candidiasis (5 patients also had PTB)	6
Dementia (1 patient also had salmonellosis bacteraemia)	2
Toxoplasma encephalitis	2
Cytomegalovirus retinitis	2
Recurrent pneumonia	1
Recurrent salmonellosis	1
Total	66

*Progression to AIDS was defined according to the CDC 1993 revised classification³

and to the findings of another study reported from the University Hospital, Petaling Jaya³. Intravenous drug use is the commonest route of spreading the virus followed by heterosexual intercourse particularly with infected commercial sex workers. The problem of drug dependency has a long history in Malaysia; this dates back to as early as 1987 where opium was largely consumed by the Chinese settlers in Malaysia. Since 1970, the total number of registered drug dependents in the country had risen from 711 cases to 200,605 in 1995⁵. It is estimated that 15-20% of the IVDUs in the country are already infected with the HIV. Thirty three percent of the individuals in the study cohort admitted to high risk heterosexual behaviour (including sexual intercourse with foreign prostitutes) whilst only 13 individuals (3.8%) acknowledged homosexual activities. The low level of the latter risk behaviour HIV infection in Malaysia contrasts with the epidemiological pattern seen in the West where homosexuals make up more than 50% of the HIV infected population⁶. Part of the explanation for this difference is that homosexuality is still a taboo subject and not an accepted practice in the Malaysian society, and consequently the under-reporting of this high risk behaviour for acquiring HIV infection is inevitable.

Forty one of the 66 patients who have developed AIDS presented for medical care for the first time with

their AIDS-defining events, a pattern uncommon in the West. This pattern of late presentation suggests that individuals involved in high risk behaviours are still reluctant to be tested for HIV infection and even when tested positive, are not coming forward for counselling and treatment due to the associated social stigma and implications of the being HIV positive in our society. Despite the aggressive AIDS awareness and education campaign by the government and non-government organisations in the country (stressing on the importance of spread of the virus during heterosexual intercourse), the message is not getting through to the average man on the street and AIDS is still perceived as very much a problem of the West because of homosexuality and drug abuses. This late presentation makes it impossible for preventive counselling of those infected to minimise the spread of the virus to the general population and when they do finally come for treatment, they are already in the advanced stage of the disease when nothing much can be offered to prolong their life.

Pneumocystis carinii pneumonia (PCP) is the commonest AIDS-defining event in the West⁷. In contrast, tuberculosis infection (pulmonary and/or extrapulmonary) was the commonest opportunistic infection in this series and was diagnosed in 37 of the 66 patients (35.5%) who had developed AIDS.

Tuberculosis infection is now the most important opportunistic co-infections in HIV infected patients particularly in the less developed regions like Africa, South America and South East Asia where there is a high prevalence of the disease⁸. There has been a notable increase in the number of tuberculosis infection diagnosed in HIV infected individuals in Malaysia from 6 in 1990 to 54 in 1992⁹. Of greater concern is the emergence of tuberculosis resistant to the primary anti-tuberculosis drugs¹⁰. Although we used the revised 1993 CDC classification that included pulmonary tuberculosis for defining AIDS in this report, some of our patients (particularly those with CD4 count $>500/\text{mm}^3$) recovered successfully from their pulmonary tuberculosis without any complication suggesting that the tuberculosis infection was merely a co-infection to the HIV infection and not necessarily reflecting a severely immunocompromised state so typical of advanced HIV infection. A higher prevalence of tuberculosis infection has also been reported in IVDUs who are not infected with HIV¹¹.

There are objections for the inclusion of pulmonary tuberculosis without qualification as an AIDS defining event as proposed in the 1993 CDC re-classification for HIV infection. This is particularly so in the less developed countries where tuberculosis is endemic and Malaysia falls into this category. However, to underplay the importance of tuberculosis infection in a situation where resurgence of tuberculosis is predicted (due to the large number of individuals with defective cell mediated immunity from HIV infection) is unreasonable. Eleven of the patients in the study who contracted pulmonary tuberculosis had CD4 count $<200 \text{ cell}/\text{mm}^3$, and there is little doubt that they were all severely immunocompromised and rightly deemed to have developed AIDS at this stage. Pulmonary tuberculosis should only be regarded as an AIDS defining event if and when the CD4 count had fallen to less than $200/\text{mm}^3$.

Similar to the experience at the University Hospital⁹, none of our patients developed Kaposi's sarcoma. This contrasts with the pattern seen in the West and is best explained by the small number of homosexuals in our local cohorts as Kaposi's sarcoma is caused by the

dissemination of a herpes virus during anal sexual intercourse¹². Another possible explanation is that many of our patients do not survive long enough to develop Kaposi's sarcoma because they have succumbed to complications arising from their drug-abuse habits.

The mean time from "known" seroconversion (often at first presentation in the hospital) to development of full blown AIDS was only 2.42 years. As the actual dates of seroconversion in most of our patients remain unknown, this mean time to the development of AIDS remains hypothetical. Nonetheless, it appears very much shorter than the mean time taken by homosexuals and haemophiliacs infected with the virus to develop AIDS¹³. Ronald *et al*¹⁴ suggest that concurrent heroin injecting increased the risk of progression to AIDS. Co-infections with other chronic viral diseases eg. cytomegalovirus and hepatitis viruses have also been implicated as an important factor for more rapid progression of the disease. Hepatitis C co-infection was confirmed in all patients reported in a cohort of Malaysian IVDUs infected with HIV¹⁵.

Epidemiological data shows that HIV infection in Malaysia is still largely confined to IVDUs. However, despite greater publicity and many awareness campaigns, recent statistics indicate that the disease is spreading unabated to the general population through heterosexual activities. The WHO has predicted that by the year 2000, heterosexual spread will be the commonest mode of transmission of the virus and this is particularly so in the less developed countries. This is a cause of great concern to the Malaysian government. Tuberculosis is expected to emerge as the most important co-infection (and AIDS defining infection) in HIV infected individuals and unless aggressive measures are taken now against this resurgence, tuberculosis will again become an important cause of morbidity and mortality in the country. Until we come up with an effective vaccine or anti-retroviral drug, HIV will continue to spread in epidemic proportion. The only proven effective control measure for the moment is the reduction of risk behaviour activities through education. Unprotected sexual intercourse must be strongly discouraged. There is simply no place for complacency.

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