

Clinical features of HIV positive patients attending a tertiary care hospital of north India

Neha Wal¹, Vimala Venkatesh¹, G.G. Agarwal², A.K. Tripathi³, Mastan Singh¹, R.K. Singh⁴

Departments of ¹Microbiology, ³Medicine and ⁴Biochemistry, Chhatrapati Shahuji Maharaj Medical University, Lucknow, Uttar Pradesh, India

²Department of Statistics, Lucknow University, Lucknow, Uttar Pradesh, India

Abstract

HIV infection is a major public health problem as it has dramatically increased the global burden of disease. HIV infected patients experience a variety of clinical signs and symptoms. Our aim was to study the profile of clinical features and opportunistic infections in HIV infected adult subjects attending a tertiary care teaching hospital in north India. A total of 317 HIV infected patients attending the ART Centre and the ICTC of Chhatrapati Shahuji Maharaj Medical University, Lucknow were enrolled in the study, after obtaining informed consent. Clinical symptoms were recorded by direct questioning. Documented opportunistic infections were noted from patient records. 193/317 (60.9%) HIV positive patients were males and 124/317 (39.1%) females. Mean age of the patients was 34.2 ± 7.9 years. 271/317 (85.5%) patients were symptomatic. The common symptoms were weakness (65.6%), bodyache and joint pain (63.4%), lethargy and fatigue (62.5%), prolonged fever (53.3%), weight loss (47.6%), cough (44.5%), loss of appetite (44.2%) and chronic diarrhoea (40.1%). The overall proportion of symptomatic patients was significantly higher than the number with an etiologically documented opportunistic infections (32.5%). Pulmonary tuberculosis (30.9%) was the most frequently documented opportunistic infection. Affordable high quality laboratory diagnostic facilities for the diagnosis of opportunistic infections under the public health program will help to obtain an accurate picture of the range of opportunistic infections in HIV patients in India.

Key words: HIV, symptoms, antiretroviral therapy, opportunistic infections, diagnosis, India

Accepted June 07 2011

Introduction

HIV infection represents a major public health problem for both developing and developed countries as it has grown to pandemic proportions worldwide. The UNAIDS estimates that at the end of 2007, there were approximately 33 million people living with HIV/AIDS globally [1]. Currently it is estimated that about 2.5 million people are living with HIV in India [2]. The Sentinel surveillance conducted in October 2007, shows that states of northern India including Uttar Pradesh (UP), Bihar, Uttarakhand have a low level HIV epidemic with the rate of HIV infection being <1% among antenatal women and <5% in any of the high risk groups [3].

It has been observed that the clinical course of HIV infection varies considerably from patient to patient and the spectrum of opportunistic infections also varies depending on the geographic regions [4,5]. A few studies in India

have documented self reported presenting symptoms in HIV/AIDS patients [6,7,8,9,10,11]. The present study analyses the profile of clinical features and opportunistic infections in HIV infected adult subjects attending a tertiary care teaching hospital in north India.

Material and Methods

The study was conducted in the Department of Microbiology of Chhatrapati Shahuji Maharaj Medical University (C.S.M.M.U.) Hospital, Lucknow. This is a tertiary care teaching hospital located in the capital city of India's most populous state - Uttar Pradesh. The hospital caters to the poor and seriously ill patients from the city and several surrounding districts. Patients are mostly referred from primary health centres, district hospitals, nursing homes, private doctors and community health workers. The hospital has an Integrated Counselling and Testing Centre (ICTC) facility which is well attended and pro-

vides counselling and HIV testing and linkages for medical and psychosocial care for persons living with HIV infection. The hospital also has an active Anti-Retroviral Therapy (ART) Centre.

Ethics Committee of C.S.M.M.U. provided ethical clearance for the study. 317 HIV-infected adults attending the ART Centre and the ICTC were enrolled in the study between January 2007 and July 2008, after obtaining informed consent. The subjects were interviewed using a pre-designed proforma. Current clinical symptoms were elicited by direct questioning by the interviewer, using a checklist. The questions were designed so that answers were obtained in a yes or no format. Questions were asked in the local language and responses recorded. Case records at the ART Centre were reviewed to obtain data for documented opportunistic infections in the subject around the interview date.

Data was entered in Microsoft Excel. Statistical analysis was performed using SPSS software for Windows (version 11.5, SPSS).

Results

The socio-demographic characteristics of the study population are given in Table 1. 193/317 (60.9%) HIV positive subjects enrolled were males and 124/317 (39.1%) females. Mean age of the patients was 34.2 ± 7.9 years. Most patients were in the 20-39 years age group. Majority 219 (69.1%) of the patients had no or low literacy levels and were mostly (83.9%) from a rural background. 53 (27.6%) of the male patients were currently unemployed or had low paying occupations like small scale farmer, small shopkeepers, fruit and vegetable sellers, driver or daily casual labourer. The median income in these patients was about Rs. 1000/- per month. Most of the female patients were housewives and had no independent income.

Table 2 describes the clinical features and documented opportunistic infections in the study population. Overall

271 (85.5%) of the patients were symptomatic. The commonest symptoms were weakness (65.6%), bodyache and joint pain (63.4%), lethargy and fatigue (62.5%) followed by prolonged fever (53.3%), weight loss (47.6%), cough (44.5%), loss of appetite (44.2%) and chronic diarrhoea (40.1%). A total of 103 (32.5%) of the patients had documented opportunistic infections. Tuberculosis (30.9%) was the most common opportunistic infection, followed by TBM (1.6%) and candidiasis (0.6%).

Discussion

In the present study, the profile of clinical features and opportunistic infections in adult HIV positive patients attending a large tertiary care teaching hospital were analyzed.

The demographic profile of HIV positive patients at our centre appears to be broadly similar to that reported from other parts of the country [9,10,11].

Common symptoms in the present study as in other studies from India are generalized symptoms like weakness, bodyache & joint pains and lethargy & fatigue were present in more than sixty percent of the patients followed by fever, weight loss, cough, loss of appetite and chronic diarrhoea [6,7,8,9,10,11]. While some of the large variety of symptoms noted may be due to the HIV infection itself or antiretroviral therapy related, they can also be due to opportunistic infections like bacterial, fungal or viral pneumonias, hepatitis, cryptococcal meningitis, toxoplasmosis, oesophageal candidiasis, extra pulmonary tuberculosis and cryptosporidial or isosporidial diarrhoea, which need to be established by laboratory testing.

Tuberculosis (30.9%) was the most common laboratory documented opportunistic infection observed in our study [4,12,13] followed by TBM (1.6%) and candidiasis (0.6%). There is considerable difference in the spectrum of opportunistic infections in AIDS patients in India compared to western countries. Kaposi's sarcoma, lymphoma,

Table 1 : Socio-demographic characteristics of 317 adult HIV positive patients

Characteristics		No. of patients	Percentage
Gender	Male	193	60.9
	Female	124	39.1
Age (in years)	20-39 years	252	79.5
	40-59 years	57	18
	≥ 60 years	8	2.5
Educational background	Illiterate/Primary	219	69.1
	High School	72	22.7
	Graduate	26	8.2

Clinical features of HIV positive patients

Table 2 : Clinical features and documented opportunistic infections in 317 adult HIV positive patients

Symptoms and documented opportunistic infections	No. of patients	Percentage
Prolonged fever	169	53.3
Weight loss	151	47.6
Cough	141	44.5
Loss of appetite	140	44.2
Chronic diarrhoea	127	40.1
Abdominal pain	107	33.8
Nausea and vomiting	94	29.7
Constipation	83	26.2
Weakness	208	65.6
Bodyache and joint pain	201	63.4
Lethargy and fatigue	198	62.5
Headache	123	38.8
Skin rash	88	27.8
Oral lesions	65	20.5
Night sweats	7	2.2
Chest pain	85	26.8
Tuberculosis	98	30.9
TBM	5	1.6
Candidiasis	2	0.6

CNS toxoplasmosis, atypical mycobacterial infection and disseminated cytomegalovirus disease, common in western literature, were not seen in this study. Similar trends are observed in other studies from other parts of India [6,7,8,11,14].

The proportion of symptomatic patients in the study was (85.5%) much higher than the proportion of patients with an etiologically documented opportunistic infections (32.5%). One of the reasons may be that in user-paid health care settings, most patients are unable to afford the cost of investigations needed, to establish opportunistic infections. In our health care settings, while diagnostic testing services for HIV, CD4⁺ T-cell enumeration and antiretroviral therapy are offered free of cost through support from the National AIDS Control Organization (NACO), Government of India, patients have to pay for other laboratory parameters including tests for opportunistic infections. Also in overcrowded Outpatient department (OPD) minor symptoms may be often ignored or patients offered symptomatic or empirical therapy with no attempt being made to document or obtain an etiological diagnosis.

Conclusion

Long-term cohort studies closely monitoring HIV positive patients with frequent clinical, radiological and laboratory screening for opportunistic infections are required to establish the true picture of opportunistic infections in this

region. Early etiological diagnosis and treatment of opportunistic infections in symptomatic patients will help to improve quality of life of HIV patients in this region. Capacity building of medical laboratories and radiological facilities for the diagnosis of opportunistic infections and subsidizing costs of such investigations are urgently needed.

Acknowledgements

We are grateful to Prof. U.K. Misra, Senior Professor and Head, Department of Neurology, and Dean, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow for his constant help and guidance throughout the study and for critical reading of this manuscript. This study was funded by the Uttar Pradesh Council of Science & Technology, Lucknow.

References

- Joint United Nations Programme on HIV/AIDS (UNAIDS)/WHO, AIDS epidemic update; August 2008, Geneva: UNAIDS/WHO, 2008.
- National AIDS Control Organization. Ministry of Health and Family Welfare, Government of India: HIV estimates in India. 2006.
- National AIDS Control Organization. HIV Sentinel Surveillance and HIV Estimation, 2007.
- Kumarsamy N, Solomon S, Jayaker PSA, Vnilla R and Amalraj RE. Spectrum of opportunistic infections

- among AIDS patients in Tamil Nadu, India. Int J STD AIDS 1995; 6(6): 447-9.
5. Mohar A, Romo J, Salido F, Jessurun J, Ponce de Leon S, Reyes E *et al.* The Spectrum of clinical and pathological manifestations of AIDS in a consecutive series of autopsied patients in Mexico. AIDS 1992; 6(5): 467-73.
 6. Kaur A, Babu PG, Jacob M, Narasimhan C, Ganesh A, Saraswathi NK *et al.* Clinical and laboratory profile of AIDS in India. J Acquir Immune Defic Syndr 1992; 5(9): 883-9.
 7. Chacko S, John TJ, Babu PG, Jacob M, Kaur A and Mathai D. Clinical profile of AIDS in India: a review of 61 cases. J Assoc Physicians India 1995; 43(8): 535-8.
 8. Sircar AR, Tripathi AK, Choudhary SK and Misra R. Clinical profile of AIDS: a study at a referral hospital. J Assoc Physicians India 1998; 46(9): 775-8.
 9. Kothari K and Goyal S. Clinical profile of AIDS. J Assoc Physicians India 2001; 49: 435-8.
 10. Zaheer MS, Rabbani MU, Ahmad Z, Khan T, Rewari BB and Pandey DK. Clinical and demographic profile of patients of AIDS in and around Aligarh. JIACM 2003; 4(2): 121-26.
 11. Chakravarty J, Mehta H, Parekh A, Attili SV, Agrawal NR, Singh SP *et al.* Study on Clinico-epidemiological Profile of HIV Patients in Eastern India. J Assoc Physicians India 2006; 54: 854-857.
 12. Ayyagari A, Sharma AK, Prasad KN, Dhole TN, Kishore J and Chaudhary G. Spectrum of opportunistic infections in human immunodeficiency virus (HIV) infected cases in a tertiary care hospital. Ind J Med Microbiol 1999; 17(2): 78-80.
 13. Saldanha D, Gupta N, Shenoy S and Saralaya V. Prevalence of opportunistic infections in AIDS patients in Mangalore, Karnataka. Trop Doct 2008; 38(3): 172-3.
 14. Kumarasamy N, Solomon S, Flanigan TP, Hemlatha R, Thyagarajan SP and Mayer KH. Natural history of Human Immunodeficiency virus disease in southern India. Clin Infect Dis 2003; 36: 79-85.

Correspondence:

R.K. Singh
 Department of Biochemistry
 SGRRIM&HS, Patel Nagar, Dehradun – 248001.
 (Former Senior Professor and Head,
 Department of Biochemistry,
 Chhatrapati Shahuji Maharaj Medical University,
 Lucknow-226 003), India.

Mobile: 0091-9839829211
 Fax: 0091-135-2522117
 e-mail: singhrk23a@hotmail.com