Original Article

ISSN (O): 2663-8290; ISSN (P): 2663-8282

A Clinical Study of Newly Diagnosed HIV Patients at ICTC Center in Shri B M Patil Medical College, Bijapur with Correlation to CD4 + at Presentation

Ashwini Patil[1], **L S Patil**[2]

[1]Senior Resident, Department of General Medicine, Khaja Banda Nawaz Medical College, Gulbarga, Karnataka, India, [2]Professor, Department of General Medicine, Shri B M Patil Medical College, BLDE University, Bijapur, Karnataka, India.

Abstract

Background: WHO estimates that with continued escalation of HIV transmission, nearly 9 million HIV-infected people will reside in South-East Asia by the turn of the century. In India, two new infections occur every minute. National Aids Control Organization (NACO) estimates that by year 2025 the majority of new HIV infections in the world will occur in Asia and India will probably have the largest number of infected persons of any single country. The objectives is to study the baseline values of CD+ count in newly diagnosed to be infected with Human Immunodeficiency Virus (HIV). **SubjectsandMethods:** The present cross sectional study was conducted at Shri B M Patil Medical College and Hospital, Bijapur form March 2017 to April 2018. A total of 100 newly Diagnosed HIV Patients of all Age Group either asymptomatic or presenting with one or other opportunity infections are included in the study. **Results:** 39% of them were in the age group of 35-45 years. Cough fever and weight loss were the most common clinical presentation on admission. The most common opportunistic infection at presentation was Pulmonary Tuberculosis (74%). followed by Candidiasis (62%). Among the population studied, majority were in the 35-45 yr. age group (39) out of which 25 individuals had a CD 4 count of< 200 cells/3. In the patients with CD 4 Count less than 200 cell extra pulmonary tuberculosis was most common. Candidiasis was also seen in the patients with CD4 count less than 200 cell/l. **Conclusion:** The most common route of transmission was the sexual route, predominantly heterosexual route.. The patients being diagnosed with HIV infection present with one or more of the opportunistic infections and frequently have a CD 4+ count < 200 cells/l. This calls for increasing awareness about HIV in the general population so as to identify the disease at the earliest.

Keywords: AIDS, CD 4, Immunodeficiency, Acquired Infection.

Corresponding Author: Ashwini Patil, Senior Resident, Department of General Medicine, Khaja Banda Nawaz Medical College, Gulbarga, Karnataka, India.
E-mail: pashwini114@gmail.com

Received: 10 March 2021 **Revised: 05 May 2021** **Accepted: 13 May 2021** **Published: 11 November 2021**

Introduction

AIDS (Acquired Immunodeficiency Virus) is a severe disease syndrome that resents the late clinical stage of infection with HIV (Human Immunodeficiency Virus). It is termed “the greatest pandemic of modern times”. The syndrome, probably existed at a low endemic level in Central Africa earlier, began to occur in several Areas of the world during the 1970s. The syndrome was first recognized in 1981.[1] Although HIV was introduced much later in Asia than the rest of the world, over 4 million people are now thought to be infected.[2]

WHO estimates that with continued escalation of HIV transmission, nearly 9 million HIV-infected people will reside in South-East Asia by the turn of the century. In India, two new infections occur every minute. National Aids Control Organization (NACO) estimates that by year 2025 the majority of new HIV infections in the world will occur in Asia and India will probably have the largest number of infected persons of any single country.[3,4]

NACO has introduced Integrated Counseling and Testing Centers (ICTCs) in India in an effort to curb the devastating impact on our society of HIV infection. It has a role in both HIV prevention and as an entry point to care.[5]

Integrated Counseling and Testing is the process by which an individual undergoes counseling enabling him or her to make an informed choice about being tested for HIV.[6]

This study is an attempt to study the baseline values of CD4+ count in patients newly diagnosed to be infected with Human

Immunodeficiency Virus (HIV) by the Integrated Counseling and Testing Centre and hence determine how early during the natural course of the disease these patients are detected by ICTC.

Objective:

To study the baseline values of CD+ count in newly diagnosed to be infected with Human Immunodeficiency Virus (HIV) in Shri B M Patil Medical College, Bijapur.

Subjects and Methods

The present cross sectional study was conducted at Shri B M Patil Medical College and Hospital, Bijapur form March 2017 to April 2018.

A total of 100 newly diagnosed HIV Patients who reported to the ICTC center at Shri B M Patil Medical College, Bijapura who met the inclusion criteria were included in the study.

Inclusion Criteria

All newly diagnosed HIV patients in Shri B M Patil Medical College, Bijapura either asymptomatic or presenting with one or other opportunity infections are included in the study.

Exclusion Criteria

- Patients with all other immunocompromised states such as malignancies, organ transplant recipients, patients on corticosteroids or immunosuppressive therapy are excluded from the study.
- Patients on ART are excluded from the study.
- HIV seropositive individuals whose CD4+ T cell count cannot be done are also excluded from the study.
- Patients who didn't give consent

Methodology

All HIV positive patients satisfying the inclusion and exclusion criteria are registered in the study group. These individuals are subsequently assessed thoroughly as per the protocol in a pre-designed semi structured preform. This includes a detailed clinical history and a complete physical examination followed by appropriate baseline and specific laboratory tests to identify the nature and extent of opportunistic process if any present. HIV infection is confirmed according to NACO and ICTC guidelines and assessment of the HIV related immune status is made by estimating the CD4+ cell counts.

All the data was collected in the excel sheet and analyzed using SPSS v 21. The data was expressed in the form of Percentage and Frequencies.

Results

Total of 100 study subjects were studied during the study period.

Table 1: Social profile of the study subjects

Social Profile		Frequency	Percentage
Age	>25	7	7
	25-35	18	18
	36-45	39	39
	46-55	15	15
	55-65	9	9
	>65	12	12
Gender	Male	68	68
	Female	32	32

The age of patients in this study ranges from 19 yrs. to 65 yrs. The majority of the patients were in the age group between 35-45 yrs. (39%). Of the 100 patients studied, 68 % were males and 32 % were females. The male to female ratio was 2.1:1.

Table 2: Distribution of study subjects based on symptoms, mode of transmission and Opportunistic infection

Mode of	Sexual	98
	Vertical	2
Symptoms	Cough	77
	Fever	74
	Weight loss	58
	Dyspnea	32
	Diarrhea	15
	Asymptomatic	3
Opportunis-	Tuberculosis	74
	Pulmonary	38
	Meningeal	10
	Lymphadenitis	8
	Disseminated	5
	Pleural effusion	7
	Candidiasis	62
	Pneumocystic pneumonia	7
	Cryptosporidium	5
	Herpes	8
	Cryptococcal meningitis	6

Heterosexual contact (mainly polygamous) was the common risk factor in all. Significantly up to 98% subjects of the study group admitted to promiscuous contact clustered in and around Gulbarga, while 2 patient acquired infection through vertical transmission. Out of 100 patients, 3 patients were asymptomatic while 97 patients were symptomatic.

Cough was hence the most common symptom (77%) at presentation followed by Fever (74 %) in the study group. The most common opportunistic infection at presentation was Pulmonary Tuberculosis (74%). followed by Candidiasis (62%). Pulmonary tuberculosis was the most common form of Tuberculosis (10%).

Table 3: shows the CD 4 of the study group

CD 4 count	Minimum CD 4 count	Maximum CD4 count	Mean CD 4 count
	20.00	524.00	181.2

Table 4: shows the distribution CD 4 count among the study population

CD 4 count	Frequency
<200	58
200-400	29
400	13

CD 4 Count in the Study Group: The minimum CD 4 count among the individuals studied was 20 cells/l whereas the maximum was 524 cells/l with a mean value of 180 cells/1. Majority of the patients had a CD 4 count of 200 cells/l (58%). Among the population studied, majority were in the 35-45 yr. age group (39) out of which 25 individuals had a CD 4 count of< 200 cells/1.

The most common opportunistic infection in the study was Tuberculosis which was seen in 74 patients. All 10 patients diagnosed to have meningeal tuberculosis had a CD 4 count of< 200. The majority of the cases of pulmonary tuberculosis occurred between a CD 4 count of 200-400 cells/extra pulmonaryl.

The second most common infection was Candidiasis seen in 62 patients of them 51 had CD 4 count less than < 200.

Discussion

In the present study majority of the patients in this study were in the age group between 35 - 45yrs (39%) with the mean age being 39.25 yrs., The mean age of presentation was 30.3 +/- 6.4 yrs. in the study done by George J et al of clinical profile of AIDS patients at a referral hospital.[7] In another study by Kothari K et al,[8] mean age at presentation was 32.76 +/- 8.14 yrs.

In this study, males accounted for 68 % while females accounted for 32 %. Male predominance was also seen in most of the studies done in India. George J et al reported male: female ratio of 5:1 in their study of AIDS patients in South India.[7]

This study showed heterosexual promiscuity as the major mode of transmission (98%). Only two case was attributed to vertical transmission. None of the patients acquired infection by homosexual relationship or by blood transfusion. Similar modes of transmission were seen in other studies done in India. Heterosexual transmission was the predominant mode of transmission (96.7%) in the study done by George J et al in South Indian.[7] Similar results were obtained in other studies also done by Kothari K et al.[8]

In this study, cough was documented in 77 % and fever was present in 74 % of patients. 58% patients had weight loss as the presenting symptom. Fever, cough and weight loss were the main symptoms in most of the studies. George J et al[7] reported that fever was the commonest presentation (98.3%), followed by weight loss (85%) and cough (36.7%). Kothari K et al,[8] reported that fever was the presenting complaint in 96% patients. Only 3% patients were asymptomatic at presentation.

In this study, Tuberculosis was most common opportunistic infection with 74 out of 100 patients having Tuberculosis of that Pulmonary tuberculosis was the most common followed by meningeal tuberculosis and tuberculous lymphadenitis which was similar to the study done by Kaur A et al, George J et al and M. Vajpayee et al.[7,9,10]

In the natural course of HIV infection, with CD 4+ T cell count> 400 cells/l majority of the patients were asymptomatic. However, as the CD 4+ T cell count falls between 200 and 400, incidence of pulmonary tuberculosis, cryptosporidium and herpes zoster increases. Infections with pneumocystis, Cryptococcus and meningeal tuberculosis were seen exclusively with CD 4+ T cell count <200 cells/l. This finding is in accordance with the data published by the Centre for Disease Control and Nagalingeswaran K et al.[11,12]

Conclusion

Despite the efforts being put by the Govt. of India for early detection of HIV infection by establishing ICTCs in every state, we are unable to trace individuals at an earlier stage in the course of HIV infection. The patients being diagnosed with HIV infection present with one or more of the opportunistic infections and frequently have a CD 4+ count < 200 cells/l. This calls for increasing awareness about HIV in the general population so as to identify the disease at the earliest.

References

1. Quinn TC. Global burden of HIV pandemic. Lancet. 1996;348(9020):99–106. Available from: https://doi.org/10.1016/s0140-6736(96)01029-x.

Table 5: showing the correlation of opportunistic infections Vs CD 4 count

Opportunistic infection	Total	CD4<200	CD4 200-4 00	CD4>400
TUBERCULOSIS	74			
Pulmonary		13	15	10
Meningeal		10	-	-
Lymphadenitis		6	2	-
Disseminated		5	-	-
Pleural effusion		5	-	2
Military		1	-	-
Abdominal		2	-	-
Endometrial		3	-	-
CANDIDA	62	51	11	-
PNUEMOCYSTIS	7	7	-	-
CRYPTOSPORIDIUM	5	3	2	-
HERPES	8	7		1
CRYPTOCOCCAL	6	6	-	-

2. Sharp PM, Hahn BH. Origins of HIV and the AIDS Pandemic. Cold Spring Harb Perspect Med. 2011;1(1):006841. Available from: https://dx.doi.org/10.1101/cshperspect.a006841.
3. Ahlgren DJ, Stein AC. Dynamic models of AIDS epidemic. Simulation. 1990;54(1):7–19. Available from: https://doi.org/10.1177/003754979005400103.
4. Roberts C, Brian D. Modelling the Epidemiological consequences of HIV infection and AIDS: A Contribution from Operational Research. J Opl Res Soc. 1990;41(4):273–289. Available from: https://doi.org/10.1057/jors.1990.49.
5. Levy JA. HIV pathogenesis and long term survival. AIDS. 1993;7(11):1401–1410. Available from: https://doi.org/10.1097/00002030-199311000-00001.
6. Berrios DC, Hearst N, Coates TJ, Stall R, Hudes ES, Turner H, et al. HIV antibody testing among those at risk for infection. The National AIDS Behavioral Surveys. JAMA. 1993;270(13):1576–1580.
7. George J, Hamide A, Das AK, Amarnath AK. Clinical and laboratory profile of sixty patients with AIDS: A South Indian study. Southeast Asian J Trop Med. 1996;27(4):686–91.
8. Kothari K, Goyal S. Clinical profile of AIDS. J Assoc Physicians India. 2001;49:435–443.
9. Kaur A, Babu PG, Jacob M, Narasimban C, Ganesh A, Saraswathi NK, et al. Clinical and laboratory profile of AIDS in India. J Acquir Immune Defic Syndr. 1992;5(9):883–892.
10. Vajpayee M, Kanswal S, Seth P, Wig N. Spectrum of Opportunistic Infections and Profile of CD4 + Counts among AIDS Patients in North India. Infection. 2003;31(5):336–340. Available from: https://doi.org/10.1007/s15010-003-3198-y.
11. Benson CA, Kaplan JE, Masur H, Pau A, Holmes KK. Treating Opportunistic Infections Among HIV-Infected Adults and Adolescents: recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association/Infectious Diseases Society of America. MMWR Recomm Rep. 2004;53(15):1–112.
12. Nagalingeswaran K, Solomon S, Madhivanan P, Yepthomi T, Venkatesan C, Amalraj E, et al. Correlation between plasma viral load and CD4+T cell count to opportunistic infections in persons with HIV in South India. Int Conf AIDS. 2000;13.

How to cite this article: Patil A, Patil LS. A Clinical Study of Newly Diagnosed HIV Patients at ICTC Center in Shri B M Patil Medical College, Bijapur with Correlation to CD4 + at Presentation. Acad. J Med. 2021;4(2):6-9.

DOI: dx.doi.org/10.47008/ajm.2021.4.2.2

Source of Support: Nil, **Conflict of Interest:** None declared.