Original Research Article

A study of opportunistic infections in HIV positive patients at a tertiary care hospital at Sangli

Harshad Adhav[1], Jayshree Awalekar[2*], Rahul Surve[3], Ajinkya Nashte[4], Bala Koteswara Rao[5]

[1,5]Junior Resident, [2]Professor, [3]Assitant Professor, [4]Senior Resident, Department of Medicine, Bharati Vidyapeeth Deemed University Medical College And Hospital, Sangli, Maharashtra, INDIA.
Email: dradhavharhad@gmail.com

Abstract

Background: HIV has been a public health problem for last three decades and has caused a significant loss of life and resources to the country. Opportunistic infections is the main cause of morbidity and mortality in HIV due to dysfunctional immune system. In our study we have examined 200 cases of HIV positive patients and determined which is the most common opportunistic infection. **Method:** 200 patients of HIV patients were studied and opportunistic infections in them were documented. Statistical analysis was performed with SPSS 22.0 software. **Results:** In our study the most common OI was the pulmonary tuberculosis with 73(36.5%) of the patients suffering from it. Next OI which was common was AGE with 40(20%) cases to its account. 35(17.5%) patients suffered from oral candidiasis and 20(10%) from herpes zoster. Abdominal TB accounted for 9(4.5 %) of the total cases. 6(3%) of the cases suffered from Cryptococcal meningitis. 3(1.5%) of the patient population suffered from tubercular meningitis and Toxoplasmosis each. Bacterial meningitis and PCP Pneumonia accounted for 2(1%) each. **Conclusion:** In our study the most common OI was the pulmonary tuberculosis with 73(36.5%) of the patients suffering from it. Next OI which was common was AGE with 40(20%) cases to its account. 35(17.5%) patients suffered from oral candidiasis and 20(10%) from herpes zoster. Abdominal TB accounted for 9(4.5 %) of the total cases. 6(3%) of the cases suffered from Cryptococcal meningitis. 3(1.5%) of the patient population suffered from tubercular meningitis and Toxoplasmosis each. Bacterial meningitis and PCP Pneumonia accounted for 2(1%) each.
Key Word: HIV, Tuberculosis, Opportunistic infection.

***Address for Correspondence:**
Dr. Jayshree C Awalekar, Professor, Department of General Medicine, Bharati Vidyapeeth Deemed University Medical College and Hospital, Sangli, Maharashtra, INDIA.
Email: dradhavharhad@gmail.com
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INTRODUCTION

Acquired immunodeficiency syndrome (AIDS) was first identified in United States of America in 1981[1,2,8]. In India it was diagnosed in the commercial sex workers in Tamil Nadu in 1986[2]. AIDS can lead to infection by microbes which do not usually cause any symptoms in healthy individual[1,5,7]. This is commonest presenting features in lot of AIDS patients in initial stages[2]. The clinical presentation can vary from absolutely asymptomatic to life threatening opportunistic infection[1,6]. Since the beginning of HIV epidemic, opportunistic infection have been recognized as common complication of HIV infection[1]. Opportunistic infection cause substantial morbidity and hospitalization, that necessitates toxic and expensive therapies. It also shortened the survival of people with HIV infection[1,8]. A decrease in CD4 count is at least partially responsible for the profound immune deficiency that leads to various opportunistic infection in HIV infected persons[1,3].

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AIMS AND OBJECTIVES

1. To study the clinical profile of HIV positive patients.
2. To find out opportunistic infections in HIV positive patients.

MATERIAL AND METHODS

- The study is a cross-sectional study.
- This study was undertaken in Bharati Vidyapeeth Deemed University Medical College And Hospital for a study period of 1 year and 3 months.
- It was conducted at ART center and medicine wards of Bharati Hospital.
- The study was approved by the ethical committee of Bharati Medical college.
- Permission was also taken from the National AIDS Control Organization for conduction of the study.
- Permission of the ART center of the hospital was also taken and the nodal officer was informed.
- Subjects for the study were selected from the ART center and patient admitted under the Medicine department of Bharati Hospital according to the Inclusion and Exclusion criterion as follows-

Inclusion criteria

1. Diagnosed HIV positive patients admitted in Bharati hospital under medicine department with some infection.
2. Age more than 18 years of age.

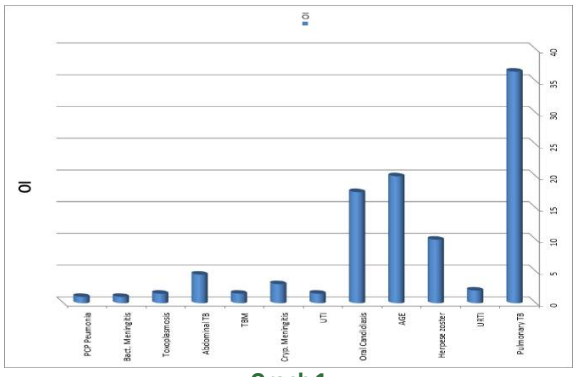
Exclusion criteria

1. Patient not willing to participate in the study.
2. Patients less than 18 years of age.
3. At the ART center every patient was provided with an consent form. After obtaining an informed consent of the patient the needed data was procured.
4. The data was recorded on a predesigned Performa. History of the patient was recorded and general and systemic examination of the patient was done. The opportunistic infection was identified.
5. The data thus procured was transferred to SPSS 22.0 version of windows software for analysis and was analyses with the help of a statistician.

OBSERVATION AND RESULTS

Table 1: Opportunistic Infections N = 200

	Male	Female	Total	Percentage
Pulmonary T.B.	17	56	73	36.5%
U.R.T.I.	2	2	4	2%
Herpes Zoster	9	11	20	10%
AGE	13	27	40	20%
Oral candidiasis	16	19	35	17.5%
UTI	0	3	3	1.5%
Cryp. Meningitis	3	3	6	3%
TBM	2	1	3	1.5%
Abdominal TB	6	3	9	4.5%
Toxoplasmosis	2	1	3	1.5%
Bacterial Meningitis	0	2	2	1%
PCP Pneumonia	0	2	2	1%



Graph 1

In our study the most common OI was the pulmonary tuberculosis with 73(36.5%) of the patients suffering from it. Next OI which was common was AGE with 40(20%) cases to its account. 35(17.5%) patients suffered from oral candidiasis and 20(10%) from herpes zoster. Abdominal TB accounted for 9(4.5 %) of the total cases. 6(3%) of the cases suffered from Cryptococcal meningitis. 3(1.5%) of the patient population suffered from tubercular meningitis and Toxoplasmosis each. Bacterial meningitis and PCP Pneumonia accounted for 2(1%) each.

Table 2: Comparison of different parameters in our study and reference study.

Parameters	Our study	(3) Tejas M *et al* 2018	(5) Wan L *et al* 2010	(7) Anant A *et al* 2012	(9) K Ramesh *et al* 2015	(11) Kashinath B *et al* 2014	(12) J Chakravarty *et al* 2006
Opportunistic infections	Pul – T.B.- 36.5%	47%	30.9%	52.3%	50%	50%	38.8%
	Oral candidiasis 17.5%	19.7%	24%	39%	49%	49%	20.3%
	Herpes zoster 10%	28.5%	-	4.7%	6%	6%	3.8%
	CNS toxoplasmosis 1.5%	-	-	-	4%	4%	0.7%
	Cryptococcal Meningitis 3%	-	1%	-	9%	9%	1.4%
	PCP Pneumonia 1%	-	2%	14.2%	16%	16%	3.2%
	Bacterial meningitis 1%	-	-	-	-	-	-

DISCUSSION

Tuberculosis was the most common opportunistic infection in our study, affecting 41% of the total patient population. 36.5% of the patients had pulmonary tuberculosis while 4.5% had abdominal tuberculosis, these findings are similar to the study no 3,5,7. 17.5% of the patients had oral candidiasis which is comparable to study no.3,5,7,9. About 20% of the cases were of acute gastroenteritis and 10% of the cases had herpes zoster. CNS toxoplasmosis was found in 1.5% of patients in our study, while in study conducted by K Ramesh *et al* and Kashinath had 4% each. Cryptococcal meningitis was found in 3% in our study. Study conducted by K Ramesh *et al*, Kashinath *et al*, J. Chakravarty *et al* had 9 %, 9%, and 1.4% respectively. PCP Pneumonia in our study was found in 1% of the patients, while in study conducted by Wan L *et al*, Anant *et al*, K Ramesh, Kashinath B had 2%, 14.2%, 16%, 16%, respectively.

CONCLUSION

In our study the most common OI was the pulmonary tuberculosis with 73(36.5%) of the patients suffering from it. Next OI which was common was AGE with 40(20%) cases to its account. 35(17.5%) patients suffered from oral candidiasis and 20(10%) from herpes zoster. Abdominal TB accounted for 9(4.5 %) of the total cases. 6(3%) of the cases suffered from Cryptococcal meningitis. 3(1.5%) of the patient population suffered from tubercular meningitis and Toxoplasmosis each. Bacterial meningitis and PCP Pneumonia accounted for 2(1%) each.

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