

Original Research Article

Spectrum of opportunistic pathogens in HIV/AIDS patients of Namakkal district of Tamil Nadu, India

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ABSTRACT

Keywords

Opportunistic pathogens;
HIV;
Blood;
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Sputum.

The present study was undertaken to characterize the various opportunistic pathogens (fungi and bacteria) which are responsible for high morbidity and mortality in 25 HIV seropositive patients, either hospitalized (5 Nos) (or) coming to antiretroviral therapy centre in Government hospital, Namakkal district, were included in the study for finding the spectrum of opportunistic pathogens. Blood serum, urine, sputum, and oral swabs were collected and processed. A total of eight pathogens were detected.

Introduction

The human immune deficiency virus infection leading to AIDS has now emerged as a major public health problem in India. The estimated number of infected persons in our country is 2.4 million. Out of the estimated number of people living with HIV /AIDS, 39% were females and 3.5 were children (Park, 2009; NACO, 2009) HIV presently account for the highest number of deaths attributable to any single infective agent. The threat to their life is not from virus alone rather opportunistic pathogens (OIs) and associated complications account for considerable proportion of mortality (NACO, 2008; Madkar *et al.*, 2012) the level of opportunistic pathogens may vary from region to region and continent to continent. The identification of such

pathogens is very common essential for HIV and AID management. As the percentage of AIDS patients increases in India, the profile of opportunistic pathogens in the HIV/AIDS patients of our country is not well known especially in Namakkal district. Hence, the present study was undertaken to study the spectrum of opportunistic pathogens in HIV/AIDS patients.

Materials and Methods

The present study was carried out on 25 HIV seropositive patients at the microbiology division of Department of Botany, St. Joseph's college, Trichy, Tamil Nadu, India. Their HIV status was confirmed by two ELISA/simple tests

performed in the ART centre itself. Necessary pre and post-test counseling of the patients was carried out and relevant data was collected. All the samples were collected taking all aseptic precautions.

Samples were inoculated on Mac conkey agar, blood agar, chocolate agar, Bismuth sulphate agar, Candida agar and Hi chrome agar. The isolates obtained were characterized by their colony characters, staining morphology and bio chemical characters as per standard techniques (Collee *et al.*, 1989) the oral swabs and sputum were also cultured on potato dextrose agar. The growth obtained was identified by standard procedures (Chakrabarti *et al.*, 1988).

Results and Discussion

Majority of the HIV patients were male heterosexual. The age and sex distribution of the cases is depicted in the Table -1, 2. Majority of them (40%) in the age group of 31-40 years followed by 28% in the age group of 41-51. 16% were in the age group of 51-60. Thus most of the HIV positive patients (84%) belonged to 31-60. It was noted that 72% were females and 28% were males. Most of the patients showed more than one symptom.

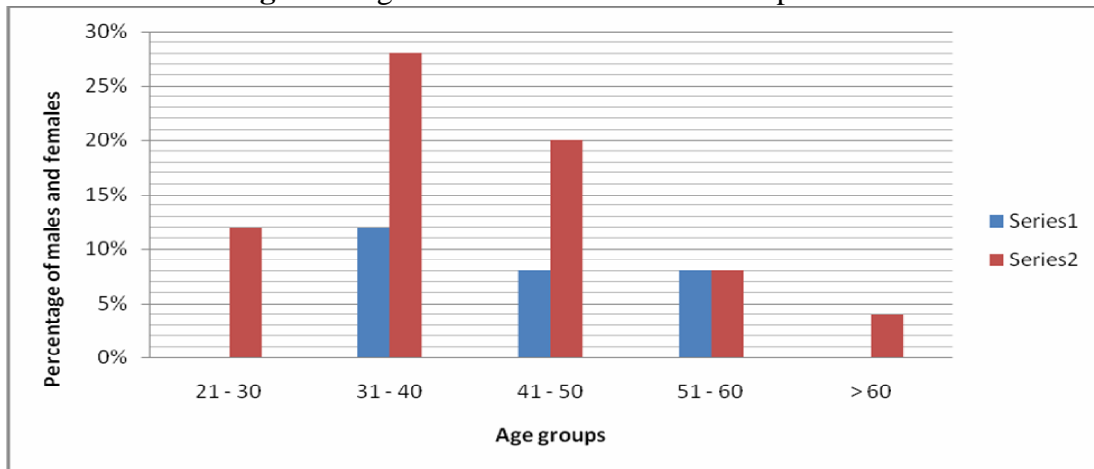
Various symptom presented by these patients were fever (49%), followed by weight loss (21%) oral thrush was seen in 30% patients.

In the present study, the majority of the patients (40%) in the reproductive age group and there was a female preponderance (72%). The present results were mismatched with the findings of work done by Talib (1998); NACO, 1999; Madkar *et al.*, (2012). In the present study, 50% patients were drawn by Stover *et al.*, 1985; Agarwal, 2005). Out of eight organisms isolated *Klebsiella pneumoniae* was the commonest organism isolated from all the patients followed by *Staphylococcus hominis*. This finding is vary from that of works of others (Ayyagari *et al.*, 1999; Chakraborty *et al.*, 1995). In the present investigation both *Candida albicans* and non- albicans *Candida (Candida tropicalis)* were detected. Similar type of findings have been reported by Baradkar and Karyakarte, 1999; Agarwal *et al.*, 2005). The respiratory pathogens (*Pseudomonas poae* and *E.coli*) in our study vary from the studies done by Afessa and Green, 2000. This variation could be due to geographic differences and also possible hospital acquired super added infections.

Table. 1 Age and Sex wise distribution patients, n = 25

Age group (Years)	Male %	Female %	Total %
21 - 30	0	3 (12%)	3 (12%)
31 - 40	3 (12%)	7 (28%)	10 (40%)
41 - 50	2 (8%)	5 (20%)	7 (28%)
51 - 60	2 (8%)	2 (8%)	4 (16%)
> 60	0	1 (4%)	1 (4%)
Total	7 (28%)	18 (72%)	25 (100%)

Figure.1 Age and sex wise distribution of patients

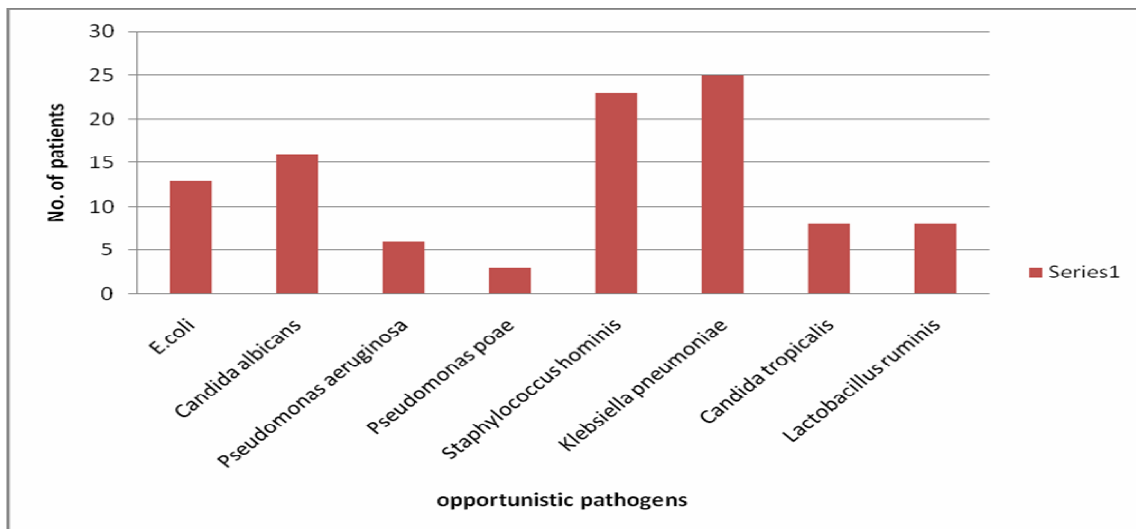


Series-1 Male, Series-2 Female

Table.2 Pathogens isolated from 25 HIV (+) Infected Patients

Opportunistic pathogens	No. of Patients (%)
<i>E.coli</i>	13(12.74%)
<i>Candida albicans</i>	16(15.68%)
<i>Pseudomonas aeruginosa</i>	06(5.88%)
<i>Pseudomonas poae</i>	03(2.94%)
<i>Staphylococcus hominis</i>	23(22.54%)
<i>Klebsiella pneumoniae</i>	25(24.5%)
<i>Candida tropicalis</i>	08(7.84%)
<i>Lactobacillus ruminis</i>	08(7.84%)

Figure.2 No. of pathogens isolated from 25 HIV Positive patients



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