

Clinical profile of pulmonary tuberculosis in HIV patients

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Abstract

Background: Mycobacterium tuberculosis infection is very common in HIV patients. 120 cases of HIV-positive cases were screened for TB who were clinically diagnosed as Pulmonary Tuberculosis during the study period from January 2017 to June 2017. **Objectives:** 1. To study the clinical profile of pulmonary tuberculosis in HIV patients. 2. To study the outcome of these patients. Special emphasis was given on age, sex, clinical symptoms and signs, sputum results, response to treatment and outcome. **Result and Conclusion:** In present study the prevalence of HIV-Pulmonary TB co-infection was 7.28%. Out of total 120 cases 68.33% were males while 31.66% were female. Maximum i.e. 38.33% of cases were seen in age group 31-40 yrs. Male: female ratio is 2.15:1. Out of 120 patients 51 (42.5%) of cases were sputum positive and 69(57.5%) of cases were found to be sputum negative. In present study overall mortality was 13.33%.

Key Words: Anti-koch's treatment, HIV infection, Tuberculosis.

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government health programmes is necessary in order to improve the outcome of HIV-infected TB patients and also to control the burden of TB in India.

MATERIALS AND METHODS

The present study is prospective study, carried out from January 2017 to June 2017 in Department of Medicine in Govt. Medical College, Miraj and PVP Govt. Hospital, Sangli. Total 120 HIV-positive cases were screened for TB who were clinically diagnosed as Pulmonary Tuberculosis during the study period. Data was collected in detailed proforma. Clinical examination and all necessary investigations were done. The data was analysed and interpreted as per laid down protocol. 7 patients were dead by the end of study period.

Inclusion Criteria: All the patients with age more than 12 were enrolled. Other inclusion criteria were as follows:

1. HIV-positive cases already known to have TB.
2. HIV-positive cases screened for TB and recently detected as having TB.
3. HIV-positive cases not initially presenting with demonstrable TB who, subsequently, during the monitoring period, developed the disease.

Exclusion Criteria: HIV-positive patients having extra-pulmonary tuberculosis have been excluded from study.

OBSERVATIONS AND RESULTS

Table 1: Age and sex wise distribution

Age group	Female	Male	Total	Percentage
<20	2	10	12	10.01%
21-30	13	19	32	26.66%
31-40	14	32	46	38.33%
41-50	6	15	21	17.5%
>50	3	6	9	7.5%
Total	38(31.66%)	82(68.33%)	120	100%

This table shows out of 120 cases, 82 were male while 38 were female with higher incidence in age group of 31-40 years.

Table 2: Prevalence of P.TB in HIV patients

Total cases of HIV	P.TB with HIV			
	No	%	No	%
1648	529	32.10	120	7.28

This table shows out of 1648 cases of HIV 7.28% cases were having HIV-TB coinfection.

Table 3: Clinical Presentation of Pulmonary Tuberculosis in HIV cases

Symptoms	No of cases	Percentage
Fever	96	80%
Weight loss	113	94.16%
Cough with expectoration	117	97.5
Dyspnea	82	68.33%
Chest pain	57	47.5%
Hemoptysis	22	18.33%

This table shows that maximum number of patients (97.5%) were having cough with expectoration as main presenting symptom.

Table 4: Clinical Presentation of Pulmonary Tuberculosis in HIV cases

Signs	No. of patients	Percentages
Muscle wasting	56	46.67%
Lymphadenopathy	38	31.67%
Clubbing	21	17.5%
Crepitations	67	55.83%
Rhonchi	17	14.16%
Bronchial breathing	19	15.83%

This table shows that crepitations was most common finding in 67 (55.83%) patients followed by muscle wasting in 56 (46.67%) patients.

Table 5: Sputum examination

Sputum examination	On 1 st visit (n=120)	After DOTS (n=113)
Positive	51 (42.5%)	1 (0.88%)
Negative	69 (57.5%)	112 (99.11%)

This table shows that 112 (99.11%) out of 113 patients were sputum -ve by the end of study.

Table 6: Sexwise distribution of mortality

Sex	No of deaths	Percentage
Male(n=82)	13	15.85%
Female(n=38)	3	7.89%
Total(n=120)	16	13.33%

Overall mortality rate was 13.33% during study period.

DISCUSSION

TB is one of the most important AIDS associated infectious diseases worldwide. With the increasing prevalence of HIV infection in India, physicians need to be aware of the different manifestations of tuberculosis in HIV positive patients⁴⁸. In present study the prevalence of HIV-Pulmonary TB co-infection in medicine ward was 7.28% during study period. Our prevalence in present study is low; this is because pulmonary tuberculosis being the most common presentation in HIV negative subjects. In present study, out of total 120 cases there were 82 i.e. 68.33% males while 38 i.e. 31.66% were female, maximum 46 i.e. 38.33% of cases were seen in age group 31-40 yrs, of which there were 32 males and 14 females. Male: female ratio is 2.15:1. This might be due to existing social milieu, females do not seek medical care, social stigma and neglect attached to disease which decreased the number of females attending HIV clinic in our area therefore low number of females may not be the true representation of proportion of females. In present study, cough with expectoration and weight loss were prominent symptoms seen in 117 i.e. 97.5% and 113 i.e. 94.16% of cases respectively, followed by fever in 96 i.e. 80% and dyspnoea in 82 i.e. 68.33% of cases while hemoptysis was seen in 22 i.e. 18.33% of cases. In present study muscle wasting and lymphadenopathy were prominent signs seen in 56 i.e. 46.67% and 38 i.e. 31.67% of cases respectively. On chest auscultation crepitation was the most common finding seen in 67 i.e. 55.83% of cases while rhonchi and bronchial breathing were seen in 17 i.e. 14.16% and 19 i.e. 15.83% of cases respectively. In present study before starting DOTS, out of 120 patients 51 i.e. 42.5% of cases were found to be sputum positive and 69 i.e. 57.5% of cases were found to be sputum negative, while after DOTS out of 113 cases only 1 i.e. 0.88% of cases was found to be sputum positive (sputum conversion after DOTS was 98.03%) and 112 i.e. 99.11% of cases were found to be sputum negative, as rest of 7 case were expired before completion of DOTS. This might be due to fact that sputum smear is often positive in the early stage of HIV infection and our cases were almost in late stage of HIV so we have most of 57.5% of negative sputum in these patients. This can also be explained as all these studies had being carried out in different environmental and geographic conditions other than India and differences in study population and study

duration makes the real change in result. Present study shows mortality rate of 13.33%. Decreased survival was observed in HIV-infected patients with pulmonary tuberculosis and with both negative sputum smear and normal chest X-ray presentation. This may primarily be a result of delayed tuberculosis diagnosis and initiation of antituberculous therapy. The latter delay may also lead to a faster progression of HIV infection in patients with negative sputum smear and normal chest x-ray. There could be many reasons for the higher mortality associated with tuberculosis in HIV: firstly, tuberculosis could be a marker of severe immunosuppression and therefore be associated with, but not a cause of, death. Another possible explanation is that tuberculosis contributes directly to excess mortality because of poor response to therapy. However, the majority of HIV-TB patients respond well to standard chemotherapy regimens if they are compliant and do not have drug-resistant organisms. Lastly, tuberculosis may act as a cofactor to accelerate the clinical course of HIV infection.

CONCLUSION

Prevalence of HIV-Pulmonary TB co-infection in medicine ward was 7.28% during study period. From this study of 120 patients, it was concluded that this short course regimen (DOTS) has high efficacy with significant clinical improvement in 53.98% of cases. Sputum conversion to negativity was observed in 98.03% of cases by end of 6 months. DOTS regimen which is cost effective, tolerable with minimal side effect and good compliance if used in appropriate individual is one of the best short course regimen in treatment of pulmonary TB with HIV co-infection in region where medical care is sparse.

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