Original Research Paper

Volume-8 | Issue-3 | March-2018 | PRINT ISSN No 2249-555X

General Medicine

TO STUDY THE SOCIOCLINICAL PROFILE OF TUBERCULOSIS IN HIV PATIENTS AT TERTIARY CENTRE, JABALPUR, MADHYA PRADESH

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ABSTRACT

INTRODUCTION:-Tuberculosis remains the most common opportunistic infection. HIV promotes the progression to active TB disease, both in people with recently acquired TB infection and with latent M. tuberculosis infection.

MATERIALAND METHODS:- It was an observational study including 70 Tuberculosis with HIV Coinfected patients who were willing to be a part of the study. Tuberculosis With HIV coinfected individuals not willing to undergo above study exclude from our study. Aim of our study is to study the socioclinical profile of Tuberculosis in HIV patients at tertiary centre, Jabalpur, Madhya Pradesh.

RESULTS:- In our study, out of the 70 Tuberculosis with HIV coinfected patients, majority 39 (55.7%) were belonging to less than 40 years of age, male 52 (74.3%), married patients 62 (88.6%), Pulmonary TB 57 (81.4%), less educated group with majority among the group educated till 12th standard (70.0%), majority (64.3%) of Tuberculosis with HIV infected individuals were in <836 percapita group.

CONCLUSION:- Tuberculosis with HIV Coinfection was common among male, married, middle aged adult, low socioeconomic class and those with low education. Provision of free antitubercular & antiretroviral treatment by the government of India is a step in the right direction and it should be extended to the entire country.

KEYWORDS : Tuberculosis, HIV

INTRODUCTION:-

India has the third largest HIV afflicted population in the world. Tuberculosis remains the most common opportunistic infection (OI) and is the commonest cause of death in HIV infected patients.[1]National TB programmes in the high HIV burden countries are reporting increasing case fatality rates of up to 25 percent in the smear- positive and 40-50 percent in smear-negative pulmonary TB patients.[2] In India, 56% of AIDS patients have been reported to be suffering from tuberculosis.[3] Thus, because of the very frequent association between tuberculosis and HIV, it has become necessary to look for tuberculosis in HIV infected individuals and vice versa. Clinical presentation of TB in early HIV infection resembles that observed in immunocompetent persons. In late HIV infection, the clinical presentation of TB can be atypical. Diagnosis of TB in HIV infected patients may be delayed because of atypical clinical presentation and involvement of inaccessible sites and low sputum smear positivity.[4] In individuals coinfected with HIV and tuberculosis, the lifetime risk of developing tuberculosis is 50%-70% as compared to a 10% risk in HIV negative individuals.[5,6,7] Due to this relationship there has been a dramatic increase in the incidence of tuberculosis in countries with high prevalence of HIV and tuberculosis.[8] Tuberculosis infection with HIV weakens the immune system and activates latent tuberculosis infection.[9] HIV infects and destroys CD4+ T lymphocytes. CD4+ T lymphocytes are essential for effective cell mediated immune response to Mycobacterium tuberculosis. Activated T lymphocytes can induce the production of gamma interferon, which can bring about the activation of macrophages. These activated macrophages will limit the further active multiplication of TB bacilli. As the CD4+ function and count declines in HIV, there is a strong predisposition to tuberculosis.[10]

MATERIALAND METHODS:-

STUDY CENTRE:- ART Centre, Netaji Subhash Chandra Bose Medical College & Hospital, Jabalpur (M.P.), INDIA.

DURATION OF STUDY: 18 MONTHS

STUDY DESIGN: Hospital based Observational Study.

SAMPLE SIZE : 70 diagnosed patients of Tuberculosis With HIV coinfection.

INCLUSION CRITERIA:- Patients of Tuberculosis With HIV coinfection registered under ART centre, Jabalpur and who are willing to be a part of the study.

EXCLUSION CRITERIA:- Tuberculosis With HIV coinfection individuals not willing to undergo above study. All the subjects were informed about the study protocol and written informed consent was obtained. The study was approved by the Ethics Committee of Madhya Pradesh Medical Science University (MPMSU).

RESULTS:-

TABLE NO:– 1 TYPE OF TUBERCULOSIS IN HIV PATIENTS:-

Type of Tuberculosis	Number (N)	Percentages (%)
PTB	57	81.4 %
Extra PTB	13	18.6 %
TOTAL	70	100.0 %

TABLE NO:- 2 MEAN AGE V/S SEX

Sex	Mean Age (In years)
Male	39.36 ± 7.65
Female	37.28 ± 9.94
Total	38.83 ± 8.27

t=0.92; P>0.05

TABLE NO:-3 SOCIOCLINICAL PROFILE OF TUBERCULOSIS IN HIV PATIENTS:-

Character	Group	Number (N)	Percentages (%)
Age (In years)	<40	39	55.7 %
	40-60	30	42.9 %
	>60	1	1.4 %
Sex	Male	52	74.3 %
	Female	18	25.7 %
Marital Status	Married	62	88.6 %
	Unmarried	8	11.4 %
Education	Illiterate	13	18.6 %
	Up to 12th STD	49	70.0 %
	College & Above	8	11.5 %
Family income (Per Capita Per Month In Rs):	<836	45	64.3 %
	836-1670	12	17.1 %
	1671-2785	3	4.3 %
	2786-5570	5	7.1 %
	>5570	5	7.1 %

DISCUSSION:-

It was observed that out of 70 tuberculosis with HIV coinfected patients, 57 (81.4%) HIV patients have Pulmonary TB and 13 (18.6%) HIV patients have extrapulmonary TB (Table NO.-1). Shilpa B Sultariya[11] et al observed that out of 100 tuberculosis with HIV coinfected patients, 54 (54%) HIV patients had Pulmonary TB and 46 (46%) HIV patients had extrapulmonary TB and 6 (6%) HIV patients having both Pulmonary TB and extrapulmonary TB. Ako A Agbor[12] et al observed that out of 337 tuberculosis with HIV coinfected patients, 200 (59.4%) HIV patients had Pulmonary TB and 119 (35.3%) HIV patients had extrapulmonary TB and 18 (5.3%) HIV patients having both Pulmonary TB and extrapulmonary TB. Dr. Harapriya Kar[13] et al

observe that out of 49 tuberculosis with HIV coinfected patients, 19 (39%) HIV patients had Pulmonary TB and 30 (61%) HIV patients had extrapulmonary TB. Holla R[14] et al observe that out of 88 tuberculosis with HIV coinfected patients, 41 (46.60%) HIV patients had Pulmonary TB and 44 (50%) HIV patients had extrapulmonary TB. Ragini[15] et al study observed that extrapulmonary TB was more common in HIV coinfected patients. Sharma[16] et al study observed that extrapulmonary TB was more common in HIV coinfected patients.

It was observed that mean age of tuberculosis with HIV coinfected patients was 38.83 ± 8.27. The mean age of male patients was 39.36 ± 7.65 and mean age of female patients was 37.28 ± 9.94 (statistically insignificant) (Table NO.-2). Ako A Agbor[12] et al observed that mean age of tuberculosis with HIV coinfected patients was 39.3 ± 10.3. The mean age of male patients was 41.8 ± 9.2 and mean age of female patients was 37.1 ± 10.7.

In our study, out of the 70 tuberculosis with HIV coinfected patients, majority 39 (55.7%) were belonging to less than 40 years of age, followed by 30 (42.9%) belonging to 40-60 years age group and 1 (1.4%) belonging to more than 60 years age group (Table NO.-3). Tuberculosis with HIV coinfection was more common in reproductive age group patients. Our findings are consistent with a study conducted by Anand K. Patel[17] et al over 50 tuberculosis with HIV coinfected patients who found that majority 38 (76%) were belonging to 21-40 years age group. Holla R[14] et al. also found that out of 88 tuberculosis with HIV coinfected patients taken, majority 50 (56.80%) belong to less than 40 years age group, followed by 36 (40.90%) belonging to 41-60 years age group and 02 (2.30%) belonging to more than 60 years age group.

It was found that out of the 70 tuberculosis with HIV coinfected patients, 52 (74.3%) were males and 18 (25.7%) were females (Table NO.-3). Anand K. Patel[17] et al in their study found that out of 50 tuberculosis with HIV coinfected patients, 41 (82%) were males as compare to 9 (18%) females. Holla R[14] al conducted a study over 88 patients found that tuberculosis with HIV coinfection was more common in male patients i.e 61 (69.30%) as compared to the female patients 27 (30.70%). Praveen kumar[18] et al in their study found that out of 42 tuberculosis with HIV coinfected patients, 38 (90.5%) were males as compare to 4 (9.5%) females. Dr. Harapriya Kar[13] et al in their study found that out of 49 tuberculosis with HIV coinfected patients, 30 (61%) were males as compare to 19 (39%) females. Shilpa B Sutariya[11] et al in their study found that out of 100 tuberculosis with HIV coinfected patients were males to female ratio 4:1.

It was observed that tuberculosis with HIV coinfection was more common in married patients 62 (88.6%) as compared to the unmarried patients 8 (11.4%) (Table NO.-3). Anand K. Patel[17] et al in their study found that out of 50 tuberculosis with HIV coinfected patients 38 (76%) were married, 8 (16%) were unmarried, 2 (4%) were widow, 1 (2%) was widower and 1 (2%) was divorced. In another study, Holla R[14] et al also found that tuberculosis with HIV coinfection was more common in married patients i.e. (90.90%) as compared to the single (5.70%) and widowed patients (3.40%). Iliyasu z.[19] et al study also found that tuberculosis with HIV coinfection more common in married patients (67%) as compare to other patients.

It was observed that tuberculosis with HIV coinfection was more common in less educated group with majority among the group educated till 12th standard (70%) followed by the illiterate groups (18.6%). tuberculosis with HIV coinfection was less common among the higher educated group (college & above) (11.5%) (Table NO.- 3). Holla R[14] et al observed that tuberculosis with HIV coinfection was more common in individuals with primary level of education 64 (72.70%) followed by individuals with secondary level of education 21 (23.90%).

According to the Modified Prasad Classification, majority (64.3%) of tuberculosis with HIV coinfection individuals were in <836 percapita group followed by 17.1% in 836-1670 percapita group (Table no 3).

CONCLUSION:-

Male tuberculosis with HIV infected patients were older as compared to female tuberculosis with HIV infected patients.

Pulmonary TB was more common as compared to extrapulmonary TB in HIV infected patients. So screening for pulmonary TB at the time of diagnosis of HIV infection and regular screening important in HIV infected patients for prevention and treatment of tuberculosis in HIV infected patients.

The present study found that most of the Tuberculosis with HIV infected patients were from sexually active age group. The majority of the Tuberculosis with HIV coinfected population in this study was from lower socioeconomic class and age less than 40 years of group. As this is the major part of reproductive age group, it significantly affects the development of the community. It increases the financial burden of the family and affects the overall progress of the country.

There was high rate of Tuberculosis with HIV coinfection in male as compared to female, which may be due to over exposure of male patients to environmental risk factors.

Tuberculosis with HIV coinfected patients should be educated that the timely initiation and continuous intake of Antitubercular drugs & antiretroviral therapy will not only prolong their survival but will also decrease the viral load and transmission of the disease. This diseases results not only in the income loss, but the additional burden of treatment, completely devastates the affected families, therefore, the entire family needs support and care from both the community and the government. Provision of free antitubercular & antiretroviral treatment by the government of India is a step in the right direction, and it should be extended to the entire country.

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