

Original article:

Study of demographic features of abdominal tuberculosis in Urban population in Pune

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Abstract:

Introduction: Abdominal tuberculosis is a most common type of extra-pulmonary tuberculosis, comprising of tuberculosis of gastrointestinal tract, peritoneum, omentum, mesentery and its lymph nodes and other abdominal organs such as liver, spleen and pancreas.

Methodology: It was Descriptive and Cross sectional study. The present study was done in the department of Medicine and OPD at Dr. D.Y. Patil Medical College, Hospital and Research Centre, Pimpri, Pune. Approval was taken from the Institutional Ethical Committee before commencing the study. Written and Informed Consent was obtained from all patients.

Results : Majority of the patients (33.3%) were from the age group of 21-30 years followed by 20% from the age group of 12-20 years, 16.7% from the age group of 31-40 years, 13.3% from the age group of 41-50 years, 10% from the age group of 51-60 years and 6.7% from the age group of >60 years.

Conclusion: Majority of patients were from lower socioeconomic status (63.3%) followed by middle class (30%) and upper class (6.7%).

Introduction:

Abdominal tuberculosis is a most common type of extra-pulmonary tuberculosis, comprising of tuberculosis of gastrointestinal tract, peritoneum, omentum, mesentery and its lymph nodes and other abdominal organs such as liver, spleen and pancreas.¹ The extrapulmonary tuberculosis involves 11-16% of all patients of tuberculosis out of which 3 to 4% belong to abdominal tuberculosis.¹ Extrapulmonary tuberculosis is common amongst HIV-infected patients.^{2,3} This co-existence of TB and HIV/AIDS has led to the resurgence of extrapulmonary tuberculosis (EPTB) in the developing and underdeveloped countries.² In various series, extrapulmonary tuberculosis alone or in association with pulmonary disease has been documented in 40-60% of all cases with HIV co-infected individuals. The pattern of presentation of abdominal tuberculosis has dramatically changed with increasing incidence of HIV coexistence, making the diagnosis of extrapulmonary tuberculosis in HIVinfected persons difficult.

Methodology:

It was Descriptive and Cross sectional study. The present study was done in the department of Medicine and OPD at Dr. D.Y. Patil Medical College, Hospital and Research Centre, Pimpri, Pune. Approval was taken from the Institutional Ethical Committee before commencing the study. Written and Informed Consent was obtained from all

patients. The patients were informed regarding the purpose, procedures, risks and benefits of the study in their own vernacular language. Sample size was calculated using the formula:

$$n = [z^2 p(1-p)] / d^2$$

Where: Z = table value of alpha error from Standard Normal Distribution table (1.96)

Power (p) = 80%

Precision error of estimation (d) = 0.07

$$n = [1.96 \times 1.96 \times 0.8 (0.2)] / 0.7 \times 0.7 = 29.46$$

Hence the sample size for our study was taken as 30.

Inclusion Criteria:

- Age more than 12 years.
- Patients having ascites with ADA positive.
- All diagnosed cases of various types of abdominal tuberculosis.
- Immunocompromised status due to any cause.

Exclusion Criteria:

- Age less than 12 years.
- Pregnant women.
- Liver cirrhosis.
- Sepsis.
- Critically ill.

Observations and results:

Distribution of patients according to Age

Majority of the patients (33.3%) were from the age group of 21-30 years followed by 20% from the age group of 12-20 years, 16.7% from the age group of 31-40 years, 13.3% from the age group of 41-50 years, 10% from the age group of 51-60 years and 6.7% from the age group of >60 years.

Table 1: Distribution of patients according to Age

Age (years)	N	%
12-20	6	20%
21-30	10	33.3%
31-40	5	16.7%
41-50	4	13.3%
51-60	3	10%
>60	2	6.7%
Total	30	100%

Distribution of patients according to Gender

There was female preponderance (60%) while male patients constituted 40% of the study group.

Table 2: Distribution of patients according to Gender

Gender	N	%
Male	12	40%
Female	18	60%
Total	30	100%

Age and Gender Distribution of patients

The age and gender distribution of patients is characterised in Table 3. The mean age of male and female patients was 37.2 ± 17.25 years and 31.1 ± 13.22 years respectively. This difference was statistically not significant as per Student t-test ($p < 0.05$).

Table 3: Age and Gender Distribution of patients

Age (years)	Male		Female		Total	
	N	%	N	%	N	%
12-20	2	6.7%	4	13.3%	6	20%
21-30	4	13.3%	6	20%	10	33.3%
31-40	1	3.3%	4	13.3%	5	16.7%
41-50	2	6.7%	2	6.7%	4	13.3%
51-60	2	6.7%	1	3.3%	3	10%
>60	1	3.3%	1	3.3%	2	6.7%
Total	12	40%	18	60%	30	100%
Mean \pm SD	37.2 ± 17.25		31.1 ± 13.22		33.5 ± 14.98	
p value	$p > 0.05$					

Distribution of patients according to Socioeconomic Status

Majority of patients were from lower socioeconomic status (63.3%) followed by middle class (30%) and upper class (6.7%).

Table 4: Distribution of patients according to Socioeconomic Status

Socioeconomic Status	N	%
Lower Class	19	63.3%
Middle Class	9	30%
Upper Class	2	6.7%
Total	30	100%

Discussion:

A descriptive and cross sectional study was conducted with 30 patients to assess the clinical, biochemical, pathological and radiological correlation of various types of abdominal tuberculosis. One half of the world population is infected with M. tuberculosis and it is the leading cause of infectious death, with approximately 2 million deaths annually. Up to 5 % of patients with myco tuberculosis have GI involvement, and the GI tract is reported to be the sixth most common extra pulmonary site.

In the developing countries abdominal tuberculosis is a significant cause of morbidity and mortality. It is one of the major health problems.⁴

In the present study, majority of the patients (33.3%) were from the age group of 21-30 years followed by 20% from the age group of 12-20 years, 16.7% from the age group of 31-40 years, 13.3% from the age group of 41-50 years, 10% from the age group of 51-60 years and 6.7% from the age group of >60 years.

There was female preponderance (60%) while male patients constituted 40% of the study group. The mean age of male and female patients was 37.2 ± 17.25 years and 31.1 ± 13.22 years respectively. This difference was statistically not significant as per Student t-test ($p < 0.05$). Charokar K et al⁵ in a descriptive retrospective study on Surgical management of abdominal tuberculosis reported 72 patients wherein 44 are males (61%) and 28 are females (39%), with male to female ratio of 3:2. The age of the patients ranged from 6 to 70 years with a median age of 30 year (IQR =21.5 to 45). Majority of the patients were in the age group is 21-30 years.

Khan IA et al⁶ and Baloch NA et al⁷ have reported similar to our studies of female dominance in their studies. Mohammed A et al⁸ reported that in western countries the disease is more common in the males, mainly occurring in the migrated Asian population. The mean age was found to be 37.2 ± 17.25 years and 31.1 ± 13.22 , whereas the study done by Wells AD et al⁹² with the mean age of 33 years, in their study of 30 cases. Khan SM et al⁹³ observed disease is more common at peak of the productive life.

Sharma YR⁹⁴ in a prospective observational study found 25 patients 18 male and 7 female, age ranging from 18 to 62 years (mean age 35 years) were diagnosed to have abdominal tuberculosis.

Sankpal J et al⁹ found 101 cases, 39 (38.61%) were male and 62 (61.39%) female cases were female. Female cases more observed than female. Male to female ratio was ratio found to be 1:1.6. In male as well as female maximum patients were observed in 21-30 yrs age group. Majority of patients in our study were from lower socioeconomic status (63.3%) followed by middle class (30%) and upper class (6.7%).

Charokar K et al⁸ found majority of the patients were 51 patients (70%) from the low socio-economic group. The majority of the patients were in the underweight category. 68% of the total patients were in underweight category with 78% in the female group and 61% in the male group.

Conclusion:

Majority of patients were from lower socioeconomic status (63.3%) followed by middle class (30%) and upper class (6.7%).

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