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CLINICAL AND DIAGNOSTIC PROFILE OF HOSPITALIZED TUBERCULOSIS PATIENTS IN A TERTIARY CARE HOSPITAL

Pulmonary Medicine

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ABSTRACT

Aims and Objectives: To study clinical and diagnostic profile of pulmonary and extra pulmonary tuberculosis patients in a tertiary care hospital.
Material and methods: It was a retrospective study of 100 admitted tuberculosis patients. Clinical symptomatology and diagnostic methods used were retrieved from old hospital records of the enrolled patients.
Results: 76% of the patients had fever and cough. Majority (75%) patients had history of weight loss, shortness of breath. 40% patients had extra-pulmonary,37% patients had pulmonary TB, 23% had disseminated TB. Average of hospitalization was 8.6 days.
Conclusion: Extra pulmonary TB was the most common cause of hospitalization amongst TB patients. About quarter of patients required rehospitalization which shows the importance of long-term monitoring and follow up in TB patients to prevent fatal complications.

KEYWORDS

TB, Hospitalizations, clinical profile

Introduction

TB is among the top ten causes of death worldwide. TB is the leading cause of death from a single infectious agent (above HIV/AIDS). In 2017, TB caused an estimated 1.3 million deaths (range, 1.2–1.4 million) among HIV-negative people and there were an additional 300 000 deaths from TB among HIV-positive people. [1]

The disease burden caused by TB is falling globally, in all WHO regions, and in most countries, but not fast enough to reach the first (2020) milestones of the End TB Strategy. [1]

As per the Global TB report 2017 the estimated incidence of TB in India was approximately 28,00,000 accounting for about a quarter of the world's TB cases. Mortality due to tuberculosis in non-HIV TB patient was 4,23000. [2]

Diagnosis of tuberculosis is done mostly on outpatient basis. But patients who have diagnostic dilemma are admitted for a thorough investigation to reach to a conclusive diagnosis. Treatment of tuberculosis is completed mostly at home. But few patients who are very symptomatic like high grade fever, dyspnea, or requiring intervention like chest tube insertion or bronchoscopy or intensive care treatment are admitted in hospital. Patients who develop severe drug reactions to anti tubercular drugs also require hospitalization to restart anti-TB drug in a stepwise manner. Hospitalization adds to cost of treatment.

Tuberculosis can be either pulmonary or extra pulmonary. Pulmonary form of TB is more prevalent than extrapulmonary form.

A recent study found 41.3% subjects had pulmonary TB, 51.2% had extra-pulmonary TB and the rest had both pulmonary and extra-pulmonary TB among hospitalized paients.[3]

Another study found 30.08% cases of pulmonary tuberculosis and 69.9% cases of extra- pulmonary cases in hospitalized tuberculosis patients.[4]

A study by Ronald et al. in 2016 found hospitalization rate of 51% among TB patients for diagnosis and treatment.[5]

Another study conducted in United States showed hospitalization rate of 83% among TB patients for diagnosis and treatment. The same study found local hospitalization policy and social factor for increased hospitalizations. [6]

This study was conducted to find out host related and other risk factors for hospitalization in tuberculosis patients.

Methods

Data of all confirmed cases of tuberculosis patients was collected from hospital records from year 2016 to 2018. Only admitted patients were included in the study. Tuberculosis patient who were treated on OPD basis were excluded. Demographic profiles, types of TB, details of diagnostic methods were taken.

Data were analyzed using IBM SPSS software.

Results

Demographic characteristics: Among the admitted patients 67% were male and 33% were female. Mean age of patients was 41years although the youngest patient was 14years and oldest patient was 82years. Maximum patients were in age group of 20-30years.

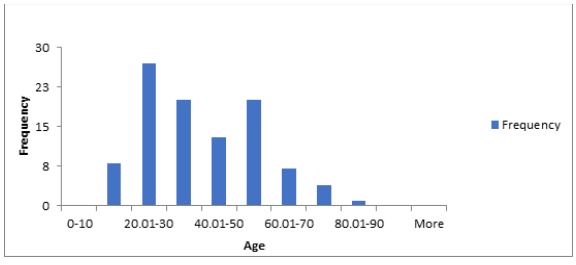

Figure.1

Clinical presentation profile

Most common presenting symptoms were fever and cough which were seen in 76% of patients. 75% patient gave history of weight loss. 39% of patients had history of shortness of breath. 28% patients had compliant of chest pain.12% patients had history of hemoptysis

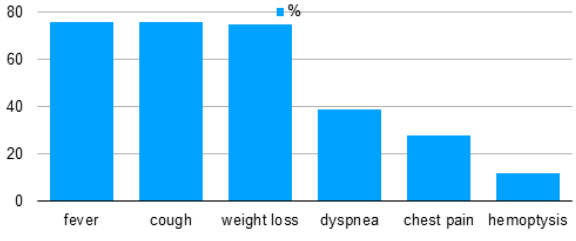

Figure 2

Associated comorbidities

24% patient had associated diabetes mellitus, 12% had hypertension, 11% had chronic kidney disease and 3% had human immune deficiency virus positive.

Distribution of types of TB

Table.1

Types	Numbers (%)
Extra Pulmonary	40(40)
Pulmonary	37(37)
Disseminated	23(23)

Distribution of extra pulmonary TB

Table. 2

Types	Numbers (%)
Pleural effusion	19(48%)
Abdomen	8(20%)
Lymph node	6(15%)
Spine	3(8%)
Breast	2(5%)
Meningitis	1(3%)
Genitourinary	1(3%)

Among three of HIV seropositive patients, one was pulmonary TB and two were extra pulmonary TB.

Methods of diagnosis

Sputum for ZN stain and CBNAAT was positive for mycobacterium TB in 35% cases. Broncho-alvelar lavage positivity for mycobacterium TB was found in fourteen patients. Three patients were diagnosed TB from lung biopsy specimens.

Radiological findings

Out of 37 pulmonary TB cases 29 patients (78%) had cavity and consolidation, one patient had pneumothorax and two patients had hydropneumothorax.

Nine patients shifted to intensive care unit in view of respiratory failure. Twenty-six patients required readmission after discharge. Mean duration of admission was 8days.

Side effects profile: gastritis and hepatotoxicity were seen in 7% of patients followed by skin rash in 3% of patients.

Discussion

A study by Bilagi RB found male predominance for admitted TB patients. They also found increased admission rate of extrapulmonary TB than pulmonary cases.[4] A study by Karir S in 2016 found 73.8% were male among admitted tuberculosis patients.[3]

Our study findings also matched with results of above two studies. Male patients are more prone for severe forms of TB that warrants hospitalization for investigations and treatment. More patients in extra pulmonary group may indicate that these groups of patients' diagnosis and management are not so straight forward. Factors associated with these group of patients may be increased severity of illness, diagnostic dilemma warranting extensive in hospital evaluation.

Fever, cough and weight loss were most common presenting symptoms which were found in three fourth of patients. Breathlessness was seen in significant proportion of patients.

Among extrapulmonary TB patient, pleural effusion was most common form followed by gastrointestinal TB. In the side effect profile gastritis and hepatotoxicity was seen in 7% of patients.

Out of three patients having HIV positive status, two had extra pulmonary TB and one had pulmonary TB. 5-7% patients developed drug reactions.

Conclusion

This was a retrospective descriptive study of clinical profiles of tuberculosis patients admitted to a private tertiary care hospital. Majority of patients were males of age group 20-30years. Extrapulmonary TB was most common followed by pulmonary TB. Disseminated TB was found in significant 23% of patients. Among the extrapulmonary TB patients, pleural effusion was most common followed by TB abdomen.

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