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Profile and Outcome of Tuberculosis treatment in a Non Government tertiary centre in South India

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Abstract

Introduction: To study the Profile and Outcome of patients undergoing treatment for TB in a tertiary care hospital in South India.

Materials and Method: All patients diagnosed with Tuberculosis in the facility during the period of January of 2010 to January 2012 were included in the study after obtaining informed consent. The cases were identified retrospectively by review of the medical records. Various factors like Ethnicity, Age, Gender, site of Tb, Diagnostic methods, Treatment schedule, Duration of treatment and follow up were analyzed.

Results: A total of no of cases of tuberculosis which were obtained from the records during the study period were 72, of which 86.11% were diagnosed as pulmonary Tuberculosis and rest 13.89% was diagnosed as having Extra pulmonary Tuberculosis. Of the pulmonary TB patients 12.90% of them were sputum positives while the rest 87. 10% were diagnosed based on the physicians clinical expertise along with substantial radiological and supporting laboratory reports. Of this 72.2% cases were recorded as cured in the records and rest of them 11.11% were recorded as being referred to local primary health centre for treatment while 16.66% were not being followed up. There were no documented cases of drug resistance or failures, possibly primarily owing to the fact that no patients were followed up using sputum test.

Conclusion: The private care facility should introduce some methods for contact tracing, to track the defaulters and lost in follow up patients with tuberculosis. This will reduce the spread of Tuberculosis within the community. Sputum should be followed up from shifting from intensive phase to maintenance phase.

Keywords: Tuberculosis, Sputum test, Private sector.

Introduction

Tuberculosis (TB) is one among the most ancient disease of mankind and has evolved alongside with humans for many thousands of years.(1) The oldest known molecular evidence of TB was detected in a fossil of an extinct bison (Pleistocene bison), which was radiocarbon dated at about 17,870± 230 years.(2) TB was not identified as a single disease until 1830's but in 1839, J. L. Schönlein named the disease as "tuberculosis".(3) In 1882, the bacteria causing tuberculosis, Mycobacterium tuberculosis, was discovered by Robert Koch; and for this discovery, he was awarded with Nobel prize in physiology and medicine in 1905.(4) Tuberculosis is a multi-systemic disease with variations in the manifestations and presentations.(5) Tuberculosis is second only to HIV as the greatest killer worldwide(6) due to a single infectious agent. India accounts for 1\5 of the global Tuberculosis burden.(7) The necessity of tuberculosis control programme is to unify the diagnostic methods and treatment protocols and identify defaulters and contacts to minimise the risk of spread of TB in the community. This will be only possible if both private and public sector health care professionals join hands to control the spread of this debilitating disease. My aim here is to identify the profile of patients identified and treated as tuberculosis in a thirtiary care facility in south India and asses their follow up and outcomes.

Materials and Method

This is a retrospective observational study in patient who were diagnosed and treated as Tuberculosis in a tertiary care hospital in south India for a period of over one year ranging from January of 2010 to December 2012.All consecutive Patients who were diagnosed as tuberculosis in the facility during a period from January of 2010 to December 2012 were included in the study. All data's were collected from the medical records. Medical Record were obtained from the Medical record department. Medical records were obtained after obtaining a informed valid consent from the authorities and the subjects or their relatives of the study. All records were analyzed and the following information were gathered including the demographic profile which included ethnicity, gender, age, clinical profile, Pulmonary or Extra pulmonary TB, Treatment schedule, Complications, Follow up evaluation, Completion of treatment and outcome. Only newly detected cases during the time period were taken for the analysis. Those of who are diagnosed as tuberculosis from elsewhere before, already on treatment for Tuberculosis, or were on Tuberculosis treatment and followed up in here were excluded to reduce bias.

1. **Demographic profile of the patients:** A total of 72 cases of pulmonary and extra pulmonary tuberculosis were obtained from the records of this 86% of them were of Indian origin and 14% were Foreign nationals. 38 (63%) were males and 34(37%) were females. Among 72 patients only 8 of them were diagnosed with positive AFB smears. Most of them 62 (86.11%) were of having Pulmonary tuberculosis. However all patients were treated with AKT 4 which is a daily based regimen with 4 anti-tubercular drugs namely Rifampicin, Isoniazid, Pyrazinamide and Ethambutol. 72% of them took full course of ATT up to 6 months or more based on site of TB.12 (16.67%) of them did not complete the full course of treatment meanwhile 8.33% developed drug induced Complication namely hyperurecemia and DILI.

		Percentage
Age <60	54	75
Male Sex	38	63.88
Indian Nationality	62	86.11
Diagnosis of Tb with AFB	8	11.11
Pulmonary Tb	62	86.11
AKT4 treatment	72	100
Duration of treatment >6 months	52	72.22
Failure to follow up	12	16.67
Complications due to drugs	6	8.33

The Age distribution showed those with 15-30 years were (22.2%), 30-45 (25%), 45-60 (33.3%) and 60-80 (25%). Most of them 62 (86.11%) were diagnosed with pulmonary Tuberculosis and rest of them 13.89% was diagnosed as having Extra pulmonary Tuberculosis. Extra pulmonary sites being 2.78% each in Lymph node, pericardial, meningeal sites and unknown site in 5.6%. Of the pulmonary Tb patients 8 (12.90%) of them were sputum positives and 54 (87. 10%) were diagnosed based on the physicians clinical expertise along with substantial radiological and supporting laboratory reports. Of this 52 (72.2%) cases were recorded as cured in the records and rest of them 8 (11.11%) were recorded as being referred to local primary health centre for treatment while 12 (16.66%) were found not being followed up. Duration of treatment ranged from 6 months to 2years depending on the site of TB. The treatment regimens followed by all practitioners were the daily-based regimen during the initial phase and Rifampicin and Isoniazid during continuation phase. During the course 3 patients (8.33%) patients developed drug induced hepatitis and treatment were individualized for them. There were no documented cases of drug resistance or failures.12 (16.67%) patient failed to follow up and were lost to track.

Frequency distribution of tuberculosis cases as to age and sex of admitted patients and location of tuberculosis.

Age	**Male**	**Female**	**Total**
16-30	6	2	8
31-45	5	2	7
46-60	7	5	12
61-80	5	4	9
Total	23	13	36

Site	**Cases**
Pulmonary tuberculosis	31
Extra-pulmonary Tuberculosis	5
Site Unknown	2
Lymph node	1
Pericardial	1
Meningial	1

Discussions

Tuberculosis is a curable and treatable disease. People infected with TB bacteria have a lifetime risk of falling ill with TB of 10%.[6] Non government institutions only cater and treat a small segment of Tb patients. Since Tb being a communicable disease and pose a huge burden to our society both economically and physically, it should be mandatory to report all cases of diagnosed and suspected cases of Tb should be notified, so they can be traced for possible spread in the locality and complete course of ATT be administered. AFB examination was done in only about one-tenth of the patients during diagnosis, while rest of them were diagnosed based on clinical findings and laboratory and radiological correlations. Similarly, none of the patients were followed up using sputum examination, but rather were evaluated based on clinical and radiological methods.

There were also no documented cases of drug resistance and or failures in treatment. This might be primarily owing to the fact that none patients were followed up using sputum AFB testing. Sputum AFB is a recommended method to initiate a continuing phase of ATT since most of private doctors does not consider it as so reliable method for starting initiation phase because of low sputum positive rates, rather they prefer using clinical judgments including symptomatic improvement, gain in body weight, radiographic clearance etc.

There were no means or efforts to track the defaulters and referral cases and there were no methods for contact tracing of the household for exposures, if at all were done, they were not documented. All this findings points to the need of continuous training programs for private clinicians to emphasize the importance of sputum examination for diagnosis as well as follow up and notification of Tb authorities so that they could trace the defaulters, contact tracing of

potential exposures, manage drug resistant cases effectively and finally to asses compliance and completeness of Tb eradication.

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