

Original Article

Assessment of Extrapulmonary Tuberculosis Visited in Hospital: A Observational Study

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ABSTRACT:

Background: Pulmonary tuberculosis (PTB) is the most common form of tuberculosis (TB) accounting for 75-90% of all types of TB in India. Extrapulmonary tuberculosis (EPTB) constitutes 10-15% of TB cases. Hence; we planned the present study to assess various extrapulmonary tuberculosis patients who reported to the department of general medicine of R.B.M. Hospital, Bharatpur, Rajasthan, India. **Materials & methods:** The present study included assessment various extrapulmonary tuberculosis patients who attended the general medicine OPD. We retrospectively reviewed the data records of 100 patients who underwent treatment for EPTB. Complete demographic and clinical details of all the patients were retrieved from the data records. All the results were recorded in Microsoft excel sheet. All the results were analyzed by SPSS software. **Results:** In majority of the cases in the present study, EPTB occurred in the lymph nodes (42 cases). Spine and abdominal EPTB occurred in 25 and 12 cases respectively. Muco-skeletal EPTB occurred in 11 cases.

Conclusion: EPTB is a common clinical problem encountered days with a variety of clinical manifestations. Adequate diagnostic techniques should be employed for early detection of EPTB cases so that prompt treatment protocol could be initiated.

Key words: Extrapulmonary, Hospital, Tuberculosis

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INTRODUCTION

Pulmonary tuberculosis (PTB) is the most common form of tuberculosis (TB) accounting for 75-90% of all types of TB in India. Extrapulmonary tuberculosis (EPTB) constitutes 10-15% of TB cases and accounts for more than 50% of all cases of TB in HIV+ patients.^{1, 2} In developed countries, a slower annual decrease in EPTB case counts in comparison to PTB case counts has been reported. Studies from other countries have shown that TB patients follow a variety of pathways to seek care, which can lead to delayed treatment. It is also well documented that EPTB is associated with a greater patient and diagnostic delay in comparison to PTB. Such studies particularly among EPTB patients are lacking in India.³

Extra pulmonary tuberculosis has the reverse epidemiological trend of pulmonary tuberculosis (PTB). Over the last several years, reported EPTB was increasing in absolute numbers and proportion of all reported TB cases. Several studies confirmed that extra pulmonary TB is increasing from time to time.⁴

Specimens from extra-pulmonary sites chiefly consisted of body fluids, aspirates & biopsies from lymph nodes and other body sites. Of specific forms of EPTB, lymphadenitis, pleural, and bone/joint diseases are the most common. Appropriate specimens might be difficult to obtain from extra-pulmonary sites and the number of bacilli is generally low. However, concentrating the sample (body fluids) with centrifugation may increase the chance of getting the bacilli in acid fast bacilli (AFB) stain.^{5- 8}

Hence; we planned the present study to assess various extrapulmonary tuberculosis patients who reported to the department of general medicine of R.B.M. Hospital, Bharatpur, Rajasthan, India.

MATERIAL & METHODS

The present study was planned in the department of general medicine of R.B.M. Hospital, Bharatpur, Rajasthan, and included assessment various extrapulmonary tuberculosis patients who attended the general medicine OPD. We obtained ethical clearance from institutional ethical committee and written consent was obtained after

explaining in detail the entire research protocol. We retrospectively reviewed the data records of 100 patients who underwent treatment for EPTB. Exclusion criteria for the present study included:

- Patients with history of any other systemic illness,
- Patients with any known drug allergy,
- Patients with history of any other respiratory disorder

Complete demographic and clinical details of all the patients were retrieved from the data records. We defined patients as suffering from EPTB who fulfilled the criteria of being positive for presence of TB in body organs other lungs. We analyzed the culture, clinical and radiographic reports of the patients. All the results were recorded in

Microsoft excel sheet. All the results were analyzed by SPSS software. Student t test was used for assessment of level of significance. P- value of less than 0.05 was taken as significant.

RESULTS

A total of 100 patients were included in the present study. Out of 100, 65 patients were less than 40 years of age while the remaining 35 patients were more than 40 years of age. 38 patients out of 100 were males while the remaining 62 were females. In majority of the cases in the present study, EPTB occurred in the lymph nodes (42 cases). Spine and abdominal EPTB occurred in 25 and 12 cases respectively. Muco-skeletal EPTB occurred in 11 cases.

Table 1: Demographic details of patients included in the present study

Parameter		Number
Age group	Less than 40 years	65
	More than 40 years	35
Gender	Male	38
	Female	62

Graph 1: Demographic details of patients included in the present study

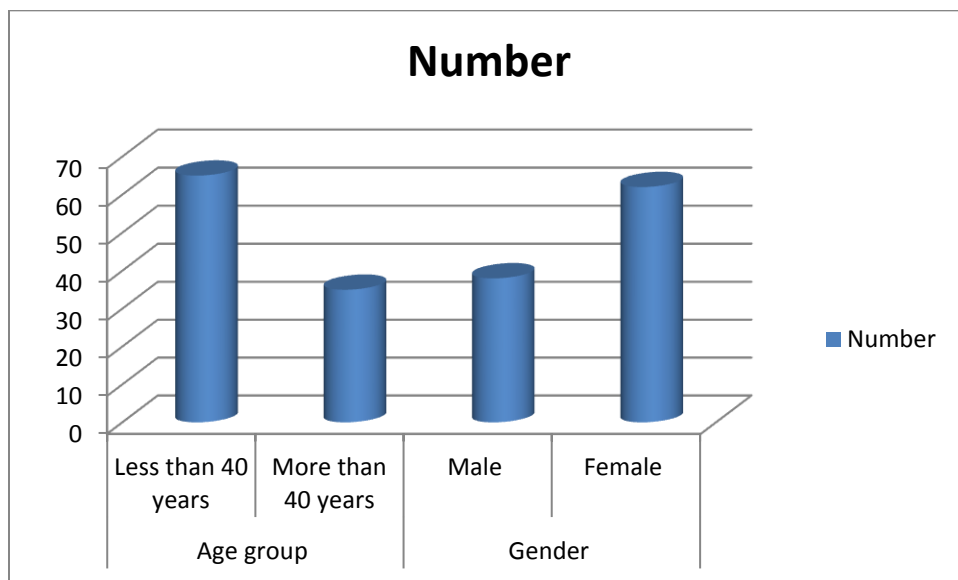
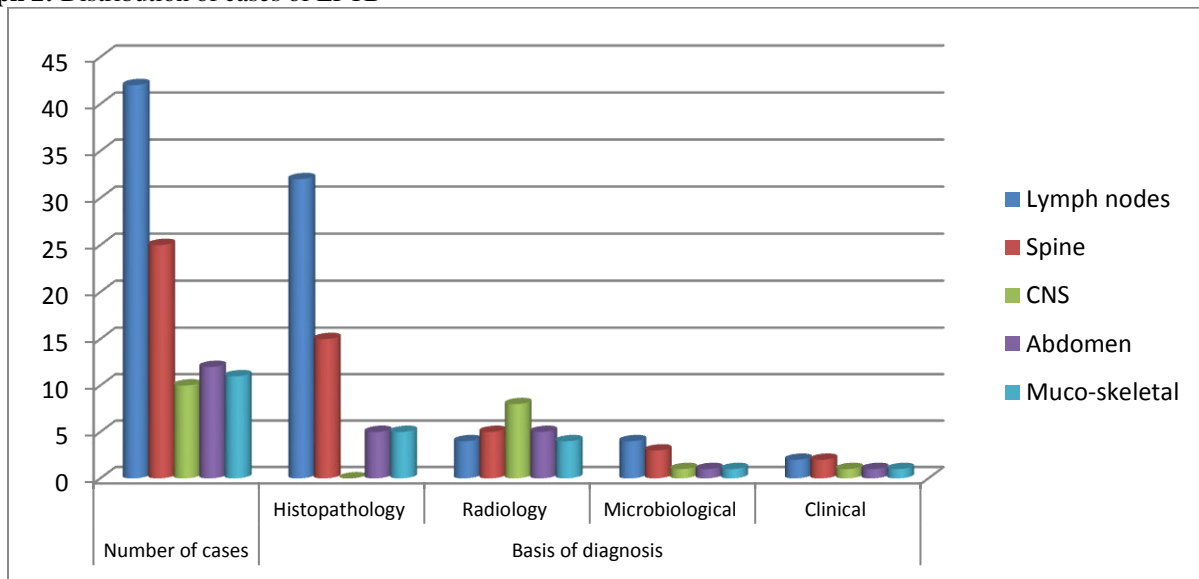


Table 2: Distribution of cases of EPTB

Site	Number of cases	Basis of diagnosis			
		Histopathology	Radiology	Microbiological	Clinical
Lymph nodes	42	32	4	4	2
Spine	25	15	5	3	2
CNS	10	0	8	1	1
Abdomen	12	5	5	1	1
Muco-skeletal	11	5	4	1	1

Graph 2: Distribution of cases of EPTB



DISCUSSION

Globally, tuberculosis (TB) is among the top five killers of women aged 20–59 years. While the proportion of pulmonary TB (PTB) notifications is higher among males worldwide, TB in females remains a major threat to control due to the impact felt by households, particularly children. It has been argued that the higher case notifications among males may reflect the barriers faced by the female population in accessing health care. Extrapulmonary tuberculosis (EPTB) accounted for 15% of the new and relapse TB cases in 2014. In contrast to PTB, preponderance for EPTB is reportedly higher among females.⁶⁻⁸ Hence; we planned the present study to assess various extrapulmonary tuberculosis patients who reported to the department of general medicine of R.B.M. Hospital, Bharatpur, Rajasthan, India.

In the present study, we observed that in majority of the cases in the present study, EPTB occurred in the lymph nodes (42 cases). Spine and abdominal EPTB occurred in 25 and 12 cases respectively. Muco-skeletal EPTB occurred in 11 cases. Weir MR et al highlighted the experience of a community hospital in relation to extrapulmonary tuberculosis. Extrapulmonary tuberculosis accounted for 37 percent of all new cases of active tuberculous infection identified at a 522-bed community hospital during an 11-year period. Forty-five foci of extrapulmonary infection were diagnosed in 38 patients. Involvement of the genitourinary system, lymphatic system, and respiratory system, other than the lung, was most common and accounted for 58 percent of all infections. Presenting symptoms were protean and often resulted in long delays between onset of symptoms and eventual diagnosis. Foreign birthplace, prior history of or exposure to tuberculosis, constitutional symptoms, febrile course, and anemia were important findings suggesting the

diagnosis. Results of tuberculin skin tests were positive in 31 of 34 patients. Chest radiography demonstrated abnormalities in 25 of 38 patients. Cultures showed growth of *Mycobacterium tuberculosis* in 27 of 39 affected sites, and caseating granulomas were identified in 31 instances. It was concluded that extrapulmonary tuberculosis remains an important infectious disease problem despite the overall decrease in the national incidence of tuberculosis.⁹

Zenebe Yet al assessed the prevalence and possible risk factors of smear positive extra pulmonary tuberculosis among suspected patients at University of Gondar Hospital. A cross-sectional study on extra pulmonary tuberculosis suspected patients was conducted at University of Gondar Hospital from January 2012 to April, 2012. Specimens of patients suspected of extra pulmonary tuberculosis were obtained from fine needle aspiration and body fluid samples collected by pathologist. Demographic characteristics and other variables were collected using a pretested semi-structured questionnaire. Smears were prepared from each sample and stained by ZiehlNeelson and Wright stain. The result of the study was analyzed with bivariate and multivariate logistic regression. A total of 344 extra pulmonary tuberculosis suspected clients were included in the study and specimens were taken from lymph node aspirates and body fluids. The overall prevalence of smear positive extra pulmonary tuberculosis was 34 (9.9%). Of these cases of extra pulmonary tuberculosis, lymph node tuberculosis constituted the largest proportion (82.4%). Among the 34 extra pulmonary tuberculosis patients, over half of them (52.9%) were positive for human immunodeficiency virus. The largest proportion of tuberculosis and human immunodeficiency virus cases occurred among persons with in the age group of 31–40 years. Previous history of tuberculosis (OR = 4.77, 95% CI 1.86-12.24), contact to a known

tuberculosis cases (OR = 6.67 95% CI 2.78-16.90), history of underlying diseases (OR = 2.79 95% CI 1.15-6.78) and income (OR = 12.9 95% CI 2.25-68.02) were significantly associated with extra pulmonary tuberculosis infection. The prevalence of smear positive extra pulmonary tuberculosis infection in Gondar is high.¹⁰ Chandir S et al described the types and treatment outcomes of the extra-pulmonary tuberculosis (EPTB) cases in a tertiary care hospital in a high burden tuberculosis country. A retrospective case series study was conducted at Liaquat National Hospital (LNH), the largest private tertiary care hospital in Karachi, Pakistan. All cases diagnosed and treated as EPTB between November 2005 and February 2007 were included. Data was retrieved from medical records on demographics, clinical, laboratory, and outcome status. A total of 194 patients treated for EPTB were identified. Mean age of patients was 34 ± 16.4 years, and 75% of patients were female. Lymph nodes and spine were the most common sites involved (60%). The cure rate was 40.7%. There was no difference in cure rate of males and females ($p=0.99$). EPTB is an important clinical problem in Pakistan. Due to lack of guidelines for diagnosis and duration of treatment in EPTB most physicians in Pakistan treat patients based on clinical symptoms and for prolonged duration of 12, to even as long as 24 months. The National TB Program, and chest and infectious disease societies must develop standardized guidelines for the diagnosis and treatment of EPTB.¹¹

CONCLUSION

From the above results, the authors concluded that EPTB is a common clinical problem encountered days with a variety of clinical manifestations. Adequate diagnostic techniques should be employed for early detection of EPTB cases so that prompt treatment protocol could be initiated.

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