

## Original Research

### Assessment of cases of extra pulmonary tuberculosis- A clinical study

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#### **ABSTRACT:**

**Background:** Tuberculosis (TB) remains a major global public health problem even today considering its treatment and side effects of its drugs. The present study was conducted to assess the cases of extra pulmonary tuberculosis in local patients.

**Materials & Methods:** The present study was conducted on 122 confirmed patients of extra pulmonary tuberculosis (EPTB) of both genders. A thorough clinical examination was done. Place, site, type of co- infection etc. was recorded. **Results:** Out of 122 patients, males were 80 and females were 42. Age group < 20 years had 10, 21-30 years had 36, 31-40 years had 54, 41-50 years had 15 and >50 years had 7 patients. The common site was abdominal in 8, lymph nodes in 32, genitourinary in 6, CNS in 4 and pleural in 62. 68 patients were from urban and 54 were from rural. The co- infection was diabetes seen in 18, HIV in 10 and multi- drug resistance TB in 12 cases. The difference was significant (P< 0.05). **Conclusion:** Authors found that most common age group for EPTB was 31-40 years and common sites were lymph nodes and pleural.

**Key words:** Extrapulmonary tuberculosis, Lymph nodes, Site.

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#### **INTRODUCTION**

Tuberculosis (TB) is a major global public health problem even today considering its treatment and side effects of its drugs.<sup>1</sup> World health organization (WHO) mentioned that nearly 13 billion individuals are infected with Mycobacterium tuberculosis, and that the number infected people have risen to 8.8 million new cases of TB and 1.7 million annual deaths. The emergence of drug-resistant strains of Mycobacterium is a common consequence of inadequate therapeutic practice. The treatment of MDR-TB is often accompanied by longstanding morbidity and disability.<sup>2</sup>

Lymph nodes, abdomen, bones, and joints including the spine, genitourinary system, and the central nervous system are the most common organs affected in EPTB.<sup>3</sup> Others may present with lung abscess, fistula, or a skin lesion. Presentation of extrapulmonary disease may be relatively insidious or atypical and tuberculosis may not

be thought initially in differential diagnosis. This is a significant phenomenon as a lag in the diagnosis may be crippling or even life threatening.<sup>4</sup>

Diagnosis is based on one culture-positive specimen from the extrapulmonary site; or histological evidence; or strong clinical evidence consistent with active EPTB disease followed by a medical officer's decision to treat with a full course of anti-TB therapy. EPTB is a significant health problem in both developing and developed countries and prevalence of disease in India accounts for 8.3% to 13.1%.<sup>5</sup> Reports have largely focused on smear positive pulmonary TB that posed greater infectivity threat and accounted for a higher morbidity and mortality than EPTB. Sparse literature is available regarding the relative contributions of extrapulmonary disease to the total number of tuberculosis cases from India as reliable epidemiological data are lacking.<sup>6</sup> The present study

was conducted to assess the cases of extrapulmonary tuberculosis in local patients.

**MATERIALS & METHODS**

The present study was conducted in the department of Chest and TB. It comprised of 122 confirmed patients of extrapulmonary tuberculosis (EPTB) of both genders. Patients with COPD, asthma, lung cancer and ILD (intestinal lung disease) were excluded. All patients were informed regarding the study and written

consent was obtained. Ethical clearance was taken before starting the study.

Demographic data such as name, age, gender etc. was recorded. A thorough clinical examination was done. Place, site, type of co- infection etc. was recorded. Results were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

Total- 122		
Gender	Males	Females
Number	80	42

Table I shows that out of 122 patients, males were 80 and females were 42.

**Table II Age wise distribution of cases**

Age groups (Years)	Number	P value
<20	10	0.01
21-30	36	
31-40	54	
41-50	15	
>50	7	

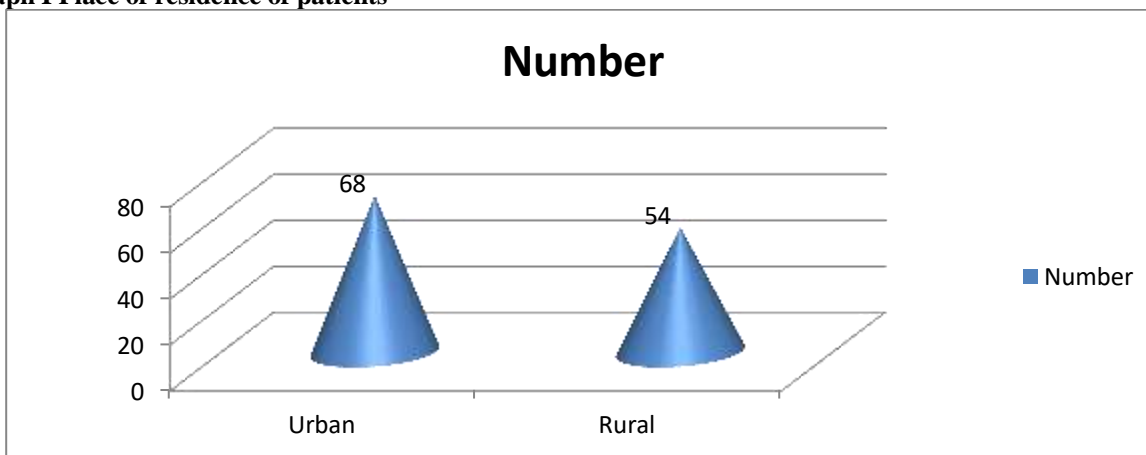
Table II shows that age group < 20 years had 10, 21-30 years had 36, 31-40 years had 54, 41-50 years had 15 and >50 years had 7 patients. The difference was significant (P< 0.05).

**Table III Sites of EPTB**

Site	Number	P value
Abdominal	8	0.01
Lymph node	32	
Genitourinary	6	
CNS	4	
Pleural	62	

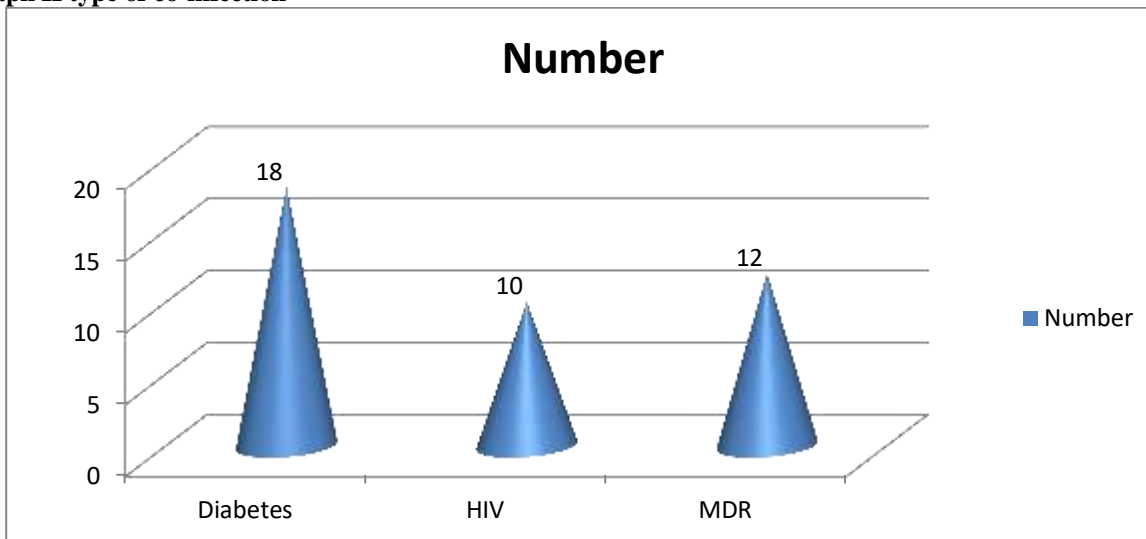
Table III shows that common site was abdominal in 8, lymph nodes in 32, genitourinary in 6, CNS in 4 and pleural in 62. The difference was significant (P< 0.05).

**Graph I Place of residence of patients**



Graph I shows that 68 patients were from urban and 54 were from rural.

**Graph II type of co-infection**



Graph II shows that co- infection was diabetes seen in 18, HIV in 10 and multi- drug resistance TB in 12 cases. The difference was significant ( $P < 0.05$ ).

**DISCUSSION**

Extra pulmonary tuberculosis (EPTB) refers to disease outside the lungs. It is sometimes confused with non respiratory disease, for example, laryngeal disease, which despite being a part of the respiratory system is considered an extra pulmonary disease. It is found that approximately, 10-15% of TB patients exhibit extra pulmonary affection in developed countries, while high-incidence countries have a much higher rate.<sup>7</sup> HIV-positive cases who are infected with TB, much more frequently develop extra pulmonary disease, up to 50%. EPTB occasionally presents with variable clinical picture misleading the diagnosis. The nonspecific symptoms include fever of unknown origin, lymphadenopathy, hepato-splenomegaly, meningitis, and infrequently a diversity of hematological diseases, for example anemia, pancytopenia, and leukemoid reaction.<sup>8</sup> The present study was conducted to assess the cases of extra pulmonary tuberculosis in local patients. In present study, out of 122 patients, males were 80 and females were 42. We found that age group < 20 years had 10, 21-30 years had 36, 31-40 years had 54, 41-50 years had 15 and >50 years had 7 patients. ElBouhy et al<sup>9</sup> recorded the prevalence of EPTB in comparison to PTB in 127cases. 64.14% are EPTB while 71 cases are PTB; 121 cases are from urban areas while 77 cases are from the rural area; 123 cases were diagnosed by biopsy, 56 cases by sputum analysis, 15 cases by chest radiograph, four cases by MRI, 29.13% had involvement of lymph nodes, 22.8% had genitourinary and bone and the vertebral column was seen in 22.62%, gastrointestinal tract, spleen, and peritoneum in 14.18% and 12.61% were unclassified EPTB.

We found that common site was abdominal in 8, lymph nodes in 32, genitourinary in 6, CNS in 4 and pleural in 62. We observed that 68 patients were from urban and 54 were from rural. Gaur et al<sup>10</sup> retrospective analyzed 552 patients having EPTB and PTB. The prevalence of EPTB was higher among females than males as compared to PTB and this was statistically significant ( $p=0.001$ ). No significant ( $p>0.05$ ) association was found between EPTB and PTB according to the place of residence. However, the tobacco habit, smoking habit, alcohol use and family history were found to be significantly. Abubakar et al<sup>11</sup> evaluated 3563 cases of tuberculosis in children. Rates in the black African ethnic group were highest at 88%. 60% of children had pulmonary disease, the commonest presentation, but only 27% had culture confirmed tuberculosis. The median time to diagnosis from onset of symptoms was 37 days. The proportion of cases with rifampicin was 2.4%, isoniazid was 9.3% and multi-drug resistant isolates was 2.3%. 88% of children completed treatment and less than 1% died. In extrapulmonary TB the inherent difficulty to obtain microbiological samples makes radiology and other imaging techniques such as CT or MRI very helpful in the diagnostic approach and in taking samples through biopsy. Isotopic techniques such as positron emission tomography (PET-CT) may early detect inflammatory activity but they are highly unspecific for the diagnosis. Definite diagnosis however requires the detection of *M. tuberculosis*. Stains to detect acid-fast bacilli such as Ziehl-Nelsen and auramine stains allow a quick diagnosis. Nevertheless quantities of between 5000 and

10,000 bacilli/ml are needed in the sample for them to be detected by these stains.<sup>12</sup>

## CONCLUSION

Authors found that most common age group for EPTB was 31-40 years and common sites were lymph nodes and pleural.

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