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A Study of Extra Pulmonary Tuberculosis in RIMS Medical College & Hospital, Ongole, Andhra Pradesh.

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Abstract:
Backgroud : *Extra pulmonary tuberculosis (EPTB) is one of the major health problem in india. The term EPTB, which includes all forms of tuberculosis other than pulmonary tuberculosis (PTB), has a broad spectrum of clinical manifestations, hence a real diagnostic challenge.Obtaining material for Histopathological examination &culture is much more difficult for diagnosis.*
Material and methods : *This is an observational study of patients of all types of Extra pulmonary tuberculosis from January 2016 to August 2017 in all age groups, evaluated at RIMS Medical College and Hospital , Ongole ,Andhra Pradesh, India.*
Results: *Among 537 cases registered for treatment of all forms of tuberculosis, 213(39.66%) had EPTB. Most of of the patients of EPTB (n = 203, 95.30 %) were among adult age groups. lymph node TB was the commonest type of EPTB (n =91, 42.72 %), followed by pleural TB (n =61, 28.64 %), bone and joint TB(n=23, 10.80%), abdominal TB(n=17, 7.98%),central nervous system(n=11, 5.16%)cold abscess(n=8, 3.76%)others(n=2, ,0.94%).*
Conclusion: *The burden of EPTB is more among the productive age group. Increase in the trend of EPTB cases, and other rare forms of EPTB are highlighting the importance of strengthening the services towards this group and necessity of awareness of diagnosis and treatment of EPTB in public and private doctors mostly in remote areas.*
Keywords: *Extra pulmonary tuberculosis, Pleural TB, lymph node TB,CNS TB.*

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I. Introduction

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis, and rarely by other organisms of the tuberculosis complex. It is estimated that about one-third of the world's population is infected with Mycobacterium tuberculosis[1]. Tuberculosis (TB) remains a major global public health problem, despite improved living standards, the availability of free anti-tuberculosis medications, and the implementation of mass Bacillus Calmette-Guerin (BCG) vaccination at birth[2]. Extra-pulmonary organ involvement of TB is estimated as 10-34% of patients who are not infected with human immunodeficiency virus (HIV), whereas the frequency is about 50-70% in patients infected with HIV[3]. EPTB can effect the lymph nodes , pleura, bones and joints, genitourinary tracts, nervous system, intestines ect. The diagnosis of some of the severe formsof EPTB is a diagnostic challenge to physicians. EPTB hardly ever spread the disease to others. If untreated TB lead to death within two to three years in at least half the patients, about 20 to25% have natural healing and 25% remain positive and continue to spread the disease in the community. In general, the true prevalence of EPTB probably grossly under reported[3]. Recent studies suggested that sites of EPTB may vary according to geographic location, population and host factors, also literature on various forms of EPTB is scant and this lack of evidence is of particular concern in case of treatment guidelines.
With this background we conducted the present observational study to describe the basic demography, incidence and clinical presentations of extra pulmonary TB.

II. Materials And Methods

This observational study was done at RIMS Medical College & Hospital Ongole from January 2016 to August 2017. In our study the presentations of the patients with EPTB had complaints of fever and weight-loss, neck swelling, malaise, discharging sinuses, breathlessness and pain abdomen ,cough. Samples included were pus, pleural fluid, aspirates from joints, urine, CSF, tissues from lymph node. All these specimens were examined by fluorescent microscopy and Ziehl Neelsen staining ,CBNAAT and subjected to biochemical examinations[5]. Hematological examination for Erythrocyte sedimentation rate (ESR), Total leucocyte count

(TLC) and differential leucocyte count (DLC) were taken as contributing investigations. All the patients had undergone radiological examination of the chest (X-ray chest). Investigations like bone & joint x rays, USG chest& abdomen, computed tomography (CT) scan and magnetic resonance imaging (MRI) were performed in required cases.

III. Results

The total number of new diagnosed tuberculosis patients were 537 , in which Extra pulmonary TB accounted for 213 patients. The total incidence of EPTB in our study accounted for 39.66% in new TB patients. Diversified presentation included lymphadenopathy, pleural effusion , bone& joint TB, abdominal TB,CNS TB ,Breast lump, cervix Tb. The cases were divided into four age groups as 0-14years, 15-44 years, 45-64 years and more than 65 years. The distribution of the cases in the above age groups are depicted in table 1. Out of 213 patients, 110 were males and 103 were females, among them 10 were children below 14yrs of age. In our study male to female ratio was about 1: 0.93. The number and percentage of patients of different types of EPTB in different age groups was calculated. Lymph node Tb was the commonest type of presentation accounting for 42.72% (n =91), pleural effusion was the 2nd most common type of tuberculosis in all age groups accounting for 28.64% (n =61),bone& joins accounting for10.80(n=23) Abdominal TB accounted for 7.98% (n =17), CNS TB accounted for 5.16%(n=11), cold abscess accounted for 3.76% (n =8), Other presentations of EPTB were TB breast and cervix each one accounted for 0.94 (n =2), which are depicted in table 2.

IV: Discussion

This study was conducted to assess age, sex, and clinical presentations of EPTB in a large cohort of 537 tuberculosis patients diagnosed at RIMS Medical College and Hospital , Ongole ,Andhra Pradesh, India, from January 2016 to August 2017 in all age groups. Therefore, the study offered a unique opportunity for studying host factors by determining relative differences in disease patterns among different groups. This study is a single-center experience, wherein mainly patients from the neighboring districts seek medical care. In our study the age of the patients ranged from 03-64 years with mean age of 32.46±13.49 years. The most common age group affected with EPTB belonged to 15-45 yrs. which is considered to be productive age group, a major burden on family economical conditions. The complications of EPTB like bone deformities, pelvic inflammatory disease and infertility increases the morbidity and also psychological burden on this age group. In our study male to female ratio was about 1:0.93 . In this study the patients belonged to various groups of life and most of them were from lower socioeconomic group. The most common site of EPTB being lymph node(n=91, 42.72%) similar to study Proudfoot AT , AKhtar AJ , Douglas AC et al[4], followed by pleural effusin(n=61, 28.64%) Tuberculosis is the commonest cause of cervical lymphadenopathy in young age people in developing countries and should be suspected in every case of granulomatous lymphadenopathy unless proved otherwise. Therefore it is important that a high index of suspicion for tubercular lymphadenopathy should be kept in mind. Followed by pleural effusion(n=61, 28.64%) was the second common site similar to studies Aggarwal AN, Guptha D,Jindal SK et al[5] and Ferrer J et al[6].The increasing prevalence of HIV infection in some areas may be an additional factor for high frequency of pleural effusion[7,8], TB of bone and joints was the third common site in EPTB (n=23, 10.80%) in our series. Pott's disease accounts for 5% of all EPTB infections in our study.Potts disease is most common form of skeletal TB.The diagnosis of Pott's disease is principally based on classical clinical manifestations of spinal infection supplemented by CT and MRI. Osteoarticular tuberculosis is a major problem in many parts of the world with 10% of EP TB cases in immunocompetent individuals[9]. The spine is the site of bone tuberculosis in about half the cases and isolated bone involvement without spread to a joint often fails to attract attention. Because of the subtle nature of the symptoms, the diagnosis is not made until the process is well advanced.in our study Abdominal TB accounted for 7.18%(n=17) which is similar to studies Marshal JB et al [10] and Sohocky S et al [11].CNS TB accounts for 5.16%(n=11) in our study which was similar to studies [9] and Tadan PN, Bhatia R, Bhargava S. et al [12]. in our study cold abscesses seen 3.76% (n=8) which were present mostly in cervical lesions.

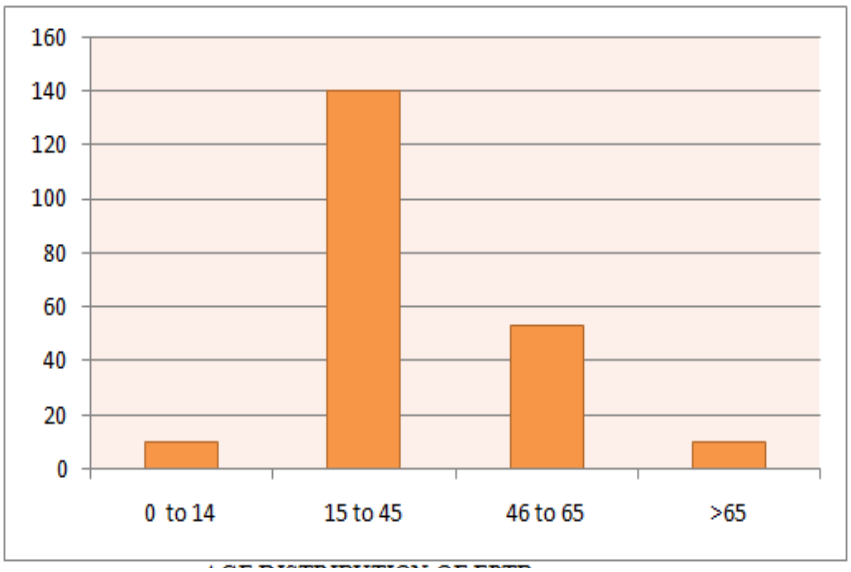
Confirmation of EPTB is challenging for a number of reasons: the difficulty to obtain an adequate sample; the processing of the sample for various diagnostic tests resulting in non-uniform distribution of micro-organisms; the pauci-bacillary nature of the specimens; the presence of inhibitors that undermine the performance of nucleic acid amplification-based techniques; and the lack of an efficient sample processing technique universally applicable on all types of extra pulmonary samples. Diagnoses of EPTB without microbiological confirmation may result in over diagnosis. To involve private practitioners recently in national tuberculosis programme, particularly in places where a proportion of tuberculosis patients visit private doctors whose management practices are suspected, there is a weak link between private practitioners and public health sectors. This implies the importance of sensitizing private doctors for management of EPTB. Intensified scale up of public private mix has shown improvement in case detection of pulmonary TB and notification rates by providers. A similar approach needs to be extended to EPTB management. There is a need for a well-defined

program with specified protocols and ongoing medical education will increase the total number of EPTB cases detected in the community. This will also help many patients in developing countries who cannot access private healthcare.

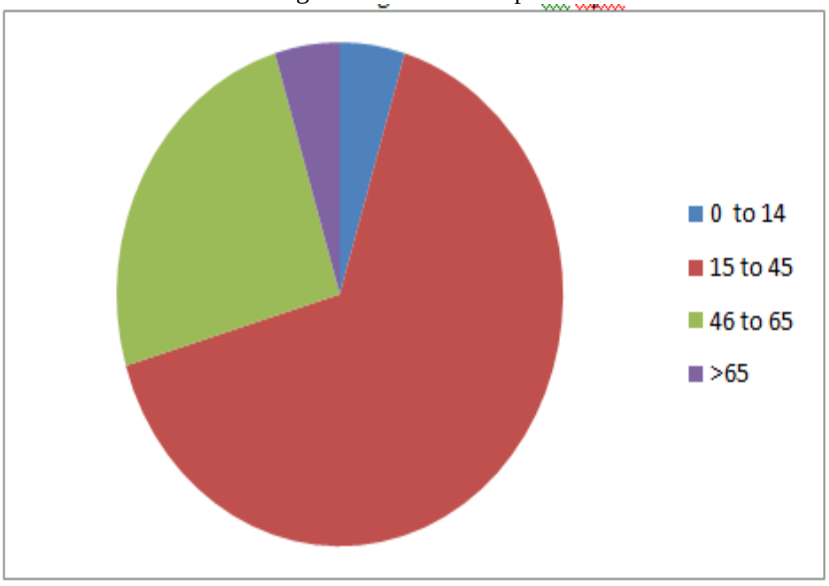
IV. Figures And Tables

Age years	Total no. of cases (n)	Percentage (%)
0 to 14	10	4.69
15 to 45	140	65.73
46 to 65	53	24.89
>65	10	4.69

Table 1: Age Distribution Of Eptb



Age Distribution Of Eptb

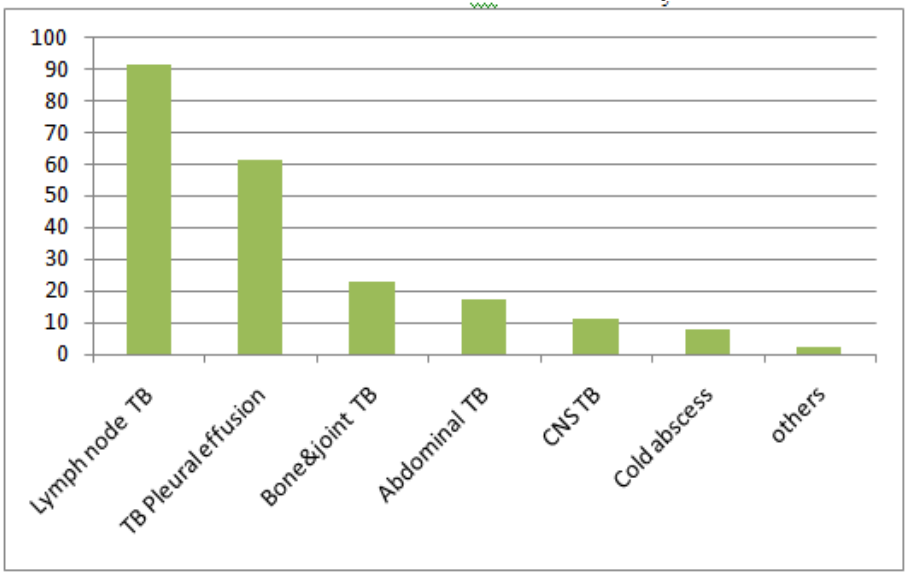


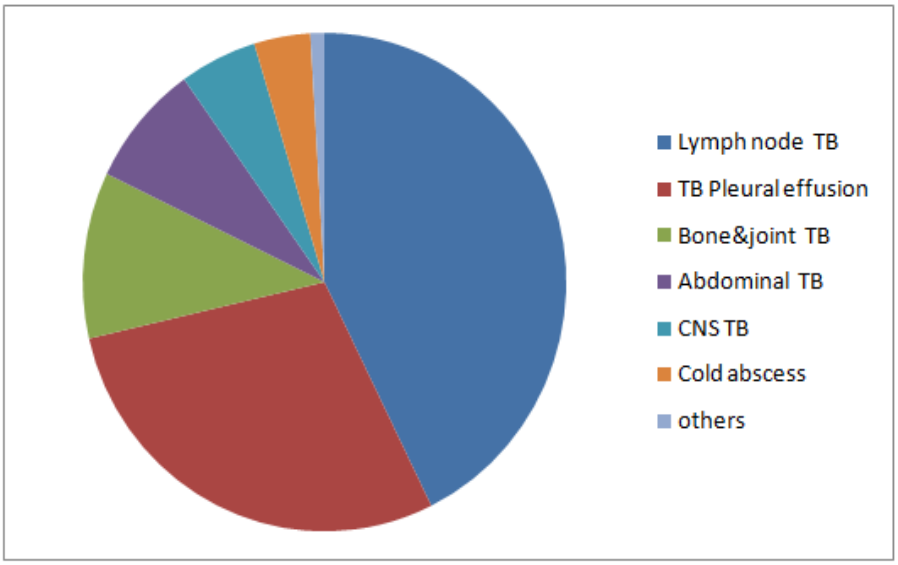
Age Distribution Of Eptb

Clinical features	Total no.of cases (n)	Percentage (%)
Lymph node TB	91	42.72
TB Pleural effusion	61	28.64
Bone&joint TB	23	10.80
Abdominal TB	17	7.98

CNS TB	11	5.16
Cold abscess	8	3.76
others	2	0.94

Table 2: Different Sites Of Extra Pulmonary TB





V. Conclusion

The burden of EPTB seen more among the productive age group. The difference in the occurrence of various types of EPTB cases in different age groups and sexes without the declining trend highlights the importance of strengthening the programme. Higher reporting of EPTB cases in tertiary centers necessitates the need for ongoing medical education and well-defined programme design for the diagnosis of extra pulmonary tuberculosis cases. Raising awareness among public and private sector doctors about EPTB for diagnosis and treatment of EPTB may result in more new case findings.

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