Original Article

Spectrum of extra pulmonary tubercular patients attending a tertiary care hospital

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Abstract

Background: Extra pulmonary tuberculosis is increasing day by day. Even it has reversed the epidemiological trend of pulmonary tuberculosis. Over the last several years reported EPTB was increasing in absolute numbers and in proportion of all reported cases of tuberculosis, however similar studies from high burden Etawah district with high prevalence of HIV are lacking .Therefore, we have conducted this study to investigate clinical and pathological features of EPTB.

Material & Method: The study was conducted on 925 clinically suspective tubercular patients who attended pathology department. They were compared in terms of age, sex, and site.

Result: Out of the 925 clinically suspective extra pulmonary tubercular patients, 900 was diagnosed as EPTB patients. Females had higher proportion (51.77%) of EPTB than males (48.22%). EPTB was more common in young age (20-29) years in males, where as in females common in (40-49) years age group. Most common site was lymph node (58%) followed by Abdominal (13%) urogenital (13%)osteoarticular (12%), miliary (2%), CNS (1%) and skin(1%).

Conclusion: Out data suggest that EPTB was relatively common in young age in males and in latter group in females gender. Lymph node tuberculosis was most common site in both males and females. Tuberculosis control programmed may targets these population for EPTB case finding.

Key Words: Extra pulmonary tuberculosis (EPTB), Lymph node (L.N.), Abdominal (Abd), Urogenital (Urogen), Osteoarticular (Osteo), Miliary (Mili).

Introduction:

This is estimated that about 1/3rd of world population is infected with mycobacterium tuberculosis and most of cases are in Asia (55%) and Africa (31%) rest in others[1]. About 1/5th of global TB burden is in India. Two persons die of TB every three minutes. Death in adult due to TB is more than any infectious disease and in female it kills more women than all combined causes of maternal mortility[2]. In India prevalence of tuberculosis is approx 400/10000 population[1].

Extra pulmonary tuberculosis reversed the epidemiological trend of pulmonary tuberculosis over the last several years. EPTB was has been increasing in absolute numbers and in proportion of all reported TB cases. Since very less data is available on EPTB and its distribution especially from this part of India therefore this study has been planned with the following

Objectives:

1. To assess the pattern of extra pulmonary tuberculosis cases
2. To study the different socio demographic factors associated with EPTB.

Material & Methods:

Rural Institute of Medical Sciences & Research, Saifai, Etawah is 750 bedded tertiary care teaching institute serving the population of Etawah & nearby districts.

This is a retrospective study (Jan2008-Sep2011) in which data of the clinically suspected EPTB patients, who reported to pathology department was taken.

In this duration on the suspecious tubercular patients fine needle aspiration cytology was done on the enlarged L.N and swelling. Smears were stained with Giemsa stain, which on microscopic examination showed Epitheloid cells, gaint cells (Langerhan's and foreign body type) and caseation necrosis.

Where is on the biopsy H&E stain was applied. The section on microscopic examination showed granuloma having Epitheloid cells, gaint cells (Langerhan's and foreign body type) and caseation necrosis. On the basis

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of cytology and histopathology out of total 925 EPTB suspected patients 900 were confirmed, where as 25 were found to be inconclusive.

Hence, analysis is on these 900 confirmed EPTB patients which is included in current study.

Age & Sex of these patients were also recorded and association between these variables & sites of EPTB were observed. Statistical analysis was done by percentage.

Results:

Between January2008 to September 2011 a total of 925 patients were found suspective for EPTB but 900 were confirmed positive for tuberculosis. On the basis of cytology and histopathology where as 25 patients were inconclusive. In this study it was observed that EPTB was slightly more common among female as compare to male. (Table- II)

In EPTB female patients were 466 (51.77%) where as male were 434 (48.22%). Males show high prevalence (20 to 29years).(Table- III) Increased likely hood of females with tuberculosis presenting EPTB manifestation was pronounced among (40 to 49 years). (Table-IV)

The most common site for EPTB was lymph node (58%) followed by abdominal (13%), Urogenital (13%), Osteoarticular (12%), Milliary (2%), CNS (1%) and Skin (1%). Graph-I

Lymphatic TB (58%)was most common form of EPTB in both genders; where as other forms of EPTB were more common in males. When we compared the percentage of lymphatic TB among male (52.07%)and female(63.51%) we found that it was even more prevalent among the female. (Table- II)

TABLE – 1

Age and Site wise distribution of EPTB cases

Age GP	L.N.	Abd	Urogen	Osteo	Mili	CNS	Skin	Total
0-14	20	10	5	2	0	0	0	37
15-19	88	15	15	5	2	0	0	125
20-29	150	13	18	15	3	2	3	204
30-39	110	37	22	23	5	3	1	201
40-49	100	14	25	28	2	2	1	172
50-59	20	12	21	20	2	1	2	78
60-69	15	10	6	7	2	1	1	42
70-79	15	4	3	5	2	0	1	30
>80	4	2	2	3	0	0	0	11
Total	522	117	117	108	18	9	9	900

Graph – I : Distribution of EPTB in percentage

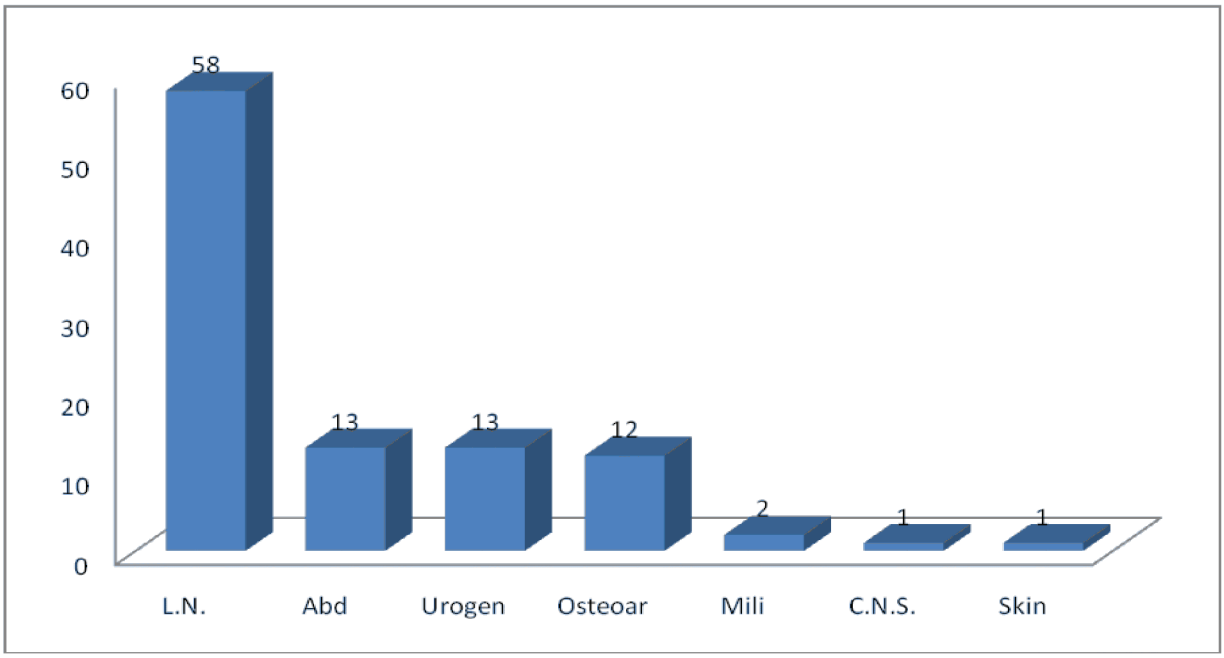

Table- 2
Sex & Site wise distribution of EPTB cases

Sex	L.N.	Abd	Urogen	Osteo	Mili	CNS	Skin	Total
Male	226 (52.07%)	61 (14.05%)	67 (15.43%)	57 (13.13%)	11 (2.53%)	7 (1.61%)	5 (1.15%)	434
Female	296 (63.51%)	56 (12.01%)	50 (10.72%)	51 (10.94%)	07 (1.50%)	02 (0.42%)	4 (0.85%)	466
Total	522	117	117	108	18	9	9	900

There was a strong association between sex and site. In females out of 466 EPTB cases (51.77%), LN was (63.5%) followed by Abd (12.0%), urogenital (10.72%),osteo (10.94%),mili(1.50%),CNS (0.42%), and skin (0.85%) [chisquare=15.063,df=6,P=0.019 and level of significance was 5%.

Table- 3 Age & site wise distribution of EPTB in males

Age GP.	L.N.	Abd	Urogen	Osteo	Mili	CNS	Skin	Total
0-14	7(43.75%)	5(31.25%)	3(18.75%)	1(6.25%)	0(00%)	0(00%)	0(00%)	**16**
15-19	38(63.33%)	9(15.00%)	9(15.00%)	3(5.00%)	1(1.66%)	0(00%)	0(00%)	**60**
20-29	70(67.96%)	7(6.79%)	12(11.65%)	8(7.70%)	2(1.94%)	2(1.94%)	2(1.94%)	**103**
30-39	50(50.15%)	19(19.99%)	12(12.12%)	12(12.12%)	3(3.00%)	2(2.00%)	1(1.00%)	**99**
40-49	35(49.29)	7(9.89%)	13(18.30%)	14(19.71%)	1(1.40%)	1(1.40%)	0(00%)	**71**
50-59	10(23.80%)	6(14.28%)	12(28.57%)	10(23.80%)	2(4.76%)	1(2.38%)	1(2.38%)	**42**
60-69	7(31.81%)	5(22.72%)	3(13.63%)	4(18.18%)	1(4.54%)	1(4.54%)	1(4.54%)	**22**
70-79	7(46.66%)	2(13.33%)	2(13.33%)	3(20.00%)	1(6.66%)	0(00%)	0(00%)	**15**
>80	2(33.33%)	1(16.66%)	1(16.66%)	2(33.33%)	0(00%)	0(00%)	0(00%)	**6**
Total	**226**	**61**	**67**	**57**	**11**	**7**	**5**	**434**

Table- 4 Age & Site wise distribution of EPTB Females

Age GP.	L.N.	Abd	Urogen	Osteo	Mili	CNS	Skin	Total
0-14	13(61.90%)	5(23.80%)	2(9.52%)	1(4.76%)	0(00%)	0(00%)	0(00%)	**21**
15-19	50(76.92%)	6(9.23%)	6(9.23%)	2(3.07%)	1(1.53%)	0(00%)	0(00%)	**65**
20-29	80(79.20%)	6(5.94%)	6(5.94%)	7(6.94%)	1(.99%)	0(00%)	1(.99%)	**101**
30-39	60(59.40%)	18(17.82%)	10(9.90%)	11(10.89%)	2(1.98%)	1(.99%)	0(00%)	**101**
40-49	65(63.77%)	7(6.86%)	12(11.76%)	14(13.72%)	1(0.98%)	1(0.98%)	1(.98%)	**102**
50-59	10(77.77%)	6(16.66%)	9(25.00%)	10(27.77%)	0(00%)	0(00%)	1(2.77%)	**36**
60-69	8(40.00%)	5(25.00%)	3(15.00%)	3(15.00%)	1(5.00%)	0(00%)	0(00%)	**20**
70-79	8(53.33%)	2(13.33%)	1(6.66%)	2(13.33%)	1(6.66%)	0(00%)	1(6.66%)	**15**
>80	2(40.0%)	1(20.00%)	1(20.00%)	1(20.00%)	0(00%)	0(00%)	0(00%)	**05**
Total	**296**	**56**	**50**	**51**	**07**	**2**	**4**	**466**

Discussion:

The differences in likelihood of EPTB have been observed in various studies among tubercular patients. In this study the proportion of EPTB among females is higher than males (Table-II). In this context the increased likelihood of females with tuberculosis presenting with an extra pulmonary disease manifestation was particularly more among the age group(40-49 years) (Table IV). In which maximum cases were from L.N. (63.77%) followed by osteoarticular(13.72%), urogenital (11.76%), abdominal (6.86%) and(0.98%)was from miliary, CNS, Skin each. Similar result was seen in study done by Al Tawfiq JA[3] and Yang Z etal[4], who also observed L.N was most common site for EPTB among female

The proportion of EPTB in female was (51.77%)and in male was(48.22%).

In this study the proportion of females was slightly higher than males similar results were seen in study done by Otaibi AL, etal[5]. Forssbohm M e tal[6], Chanyeung M e tal[8] and Reider HL e tal[7]. An explanation for this finding remains unclear but it suggests that endocrine factors might play a role. An important finding in this investigation was the predominance of EPTB among the young age group (20-29 years) (Table no 1). This is consistent with studies by Gonzaley oy e tal[8], Cailhol J etal[9] & otabi AL e tal[5], in which they have found that young age was in dependant risk factor for EPTB. A recent case controlled study from Nepal Streeramareddy CT e tal[10] has reported strong association between younger age and female gender with EPTB[10].This raises the possibility that after primary infection in the lungs the probability of reactivation at an extra pulmonary site may be higher at younger age.

In our study, lymph nodes were the most common site of EPTB (Graph no.- I) Our results are comparable to earlier studies by Streeramareddy CT et al[10], Musellim B et al[11], Il gazli A et al[12] in which they have reported that lymph nodes accounted for nearly half the cases of EPTB.

Whereas, study done by Chanyeung M etal[13], urogenital system and skin were the common sites. But in others study done by Rieder HL etal[7] in USA , bones and joint were most common sites.

On the other hand urogenital, abdominal, osteoarticular and others forms of TB were more common among males.

Other forms of EPTB such as skin, CNS, Milliary were more common in children (Table-I). This was consistent with study done by Bahemuka MA[14].

Conclusion:

Results of our study suggests that younger age and female gender may be independent risk factors for EPTB. Further studies in other high burden areas are needed. Based on our results TB control program might target young and female population for early diagnosis of EPTB.

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