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A RETROSPECTIVE STUDY ON DIFFERENT ANATOMICAL SITE INVOLVEMENT OF EXTRA-PULMONARY TUBERCULOSIS PATIENTS ATTENDING VARIOUS OPD IN TERTIARY CARE CENTER

General Medicine

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ABSTRACT

Tuberculosis remains a major global public health problem with one-third of the world's population being infected with the Mycobacterium Tuberculosis. The burden of tuberculosis in India is the highest accounting for one fifth (21%) of the global incidence. Tuberculosis infection of any part of body other than lung parenchyma is defined as extra-pulmonary tuberculosis. In this study of 796 EPTB patients over 3 years, prevalence of EPTB was found to be higher in females than in males. involvement of pleural cavity and lymph nodes were commonest manifestation among the 20-39 yrs age group. In the youngest age group (< 9 years), lymph node TB was the most frequently observed, (n-26/62). In contrast, in the adolescent and in geriatric age group (>60 yrs.) the most common type of EPTB was pleural cavity. Whereas in the remaining adult population (20-39, 40-60 yrs.), the most common types was pleural cavity and lymph-nodes

KEYWORDS

INTRODUCTION:

Tuberculosis (TB) remains a major global public health problem with one-third of the world's population being infected with the Mycobacterium Tuberculosis [1]. Recently identified TDR (total drug resistant) tuberculosis is biggest threat for human being. According to WHO 6.1 million TB cases were reported in 2013,out of which 5.7 million were people newly diagnosed and another 0.4 million were already on treatment. [2].The burden of tuberculosis (TB) in India is the highest accounting for one fifth (21%) of the global incidence. [3]

Tuberculosis infection of any part of body other than lung parenchyma is defined as extra-pulmonary tuberculosis [EPTB].Diagnosis of EPTB is done as per RNTCP guidelines which is based on one culture-positive specimen from the extra-pulmonary 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 under DOTS[4].The timely detection & accurate diagnosis of any form of EPTB is necessary for the proper treatment of EPTB[5].Atypical presentation, lack of diagnostic resources for procurement of tissue or fluid for diagnosis from inaccessible sites and a poor yield of conventional diagnostic methods lead to considerable delay in making the diagnosis or diagnosis is even missed. Furthermore guidelines regarding diagnosis of EPTB are not covered by RNTCP but all patients are given treatment as per DOTS regimen. Although there is a rising trend in EPTB in recent decade, still EPTB has never been a priority in the campaigns undertaken by Revised National TB Control Programme (RNTCP) for its control [4,6,7]

It was found that the percentage of patients with EPTB was more in tertiary care centres of India, ranging from 30% to 53% [4].This implies that, tertiary care centres such as medical colleges, caters a large and varied type of population and provides an excellent place for economical and advanced diagnostic facilities for early diagnosis and treatment of EPTB cases, backed up by research facilities.

MATERIALAND METHODS:

AIM: To categorised EPTB patients according to anatomical site involvement.

STUDY DESIGN: This is a retrospective, descriptive,record-based study of diagnosed patients of EPTB of all age groups.

STUDY AREA: The study was conducted in the MGM Medical College & Hospital a tertiary care centre, so patients from nearby villages and adjoining districts were referred for diagnosis and treatment.

STUDY PERIOD: Data for this study has been obtained from 1st April 2014 to 30th april 2017. The population includes all patients attending various OPD of Hospital who were suspected for extra pulmonary tuberculosis infection during the study period.

SOURCE OF INFORMATION: For this study data has been obtained from Patient Record Sheets of Hospital, Lab register, treatment Cards or Referral Registers of RNTCP and utilized for analysis.

INCLUSION CRITERIA:

All patients suspected of tuberculosis attending OPD of various departments of MGM Medical College and Hospital, aurangabad.

EPTB - a patient with active tuberculosis of any part of body other than lung parenchyma.

EXCLUSION CRITERIA:

Patients with PTB.
Patients of EPTB with PTB.

METHOD:

The diagnosis of Pulmonary and Extra pulmonary Tuberculosis cases were established, following the RNTCP programme guidelines, which required one culture positive specimen from an extra-pulmonary site or histological evidence or strong clinical evidence consistent with active EPTB followed by concerned Medical Officer's decision to treat with a full course of anti-TB therapy. Whenever needed, investigative procedures such as X-Ray, FNAC, Pleural fluid aspiration, ultrasonography, computed tomography, MRI were performed for diagnosis and specimen collection. The specimen was then subjected to a culture or histopathology for evidence of TB. After diagnosis of EPTB, patients were registered at DOTS Centre, whereas patients belonging to other villages or districts were referred to DOTS centres of their respective area. Data analysis has been done using Microsoft Office Excel 2010 and expressed in percentages. At the first step, all the records pertaining to EPTB cases diagnosed during the study period were collected and analysed. Total 796 cases diagnosed as EPTB were included in the study.

Table no 1:Demographic characteristics of EPTB CASES

Age group (in years)	Sex distribution			
	Male (%)		Female(%)	
0-9 years	13	1.63%	14	1.75%
10-19 years	50	6.28%	66	8.29%
20-39 years	191	23.99%	234	29.39%
40-60 years	104	13.06%	71	8.91%
>60 years	32	4.02%	21	2.63%
Total	390	48.99%	406	51.00%

Table No-01 shows that women and men each accounted for

approximated half of the cases. Out of 796 EPTB patients, 390 (48.99%) were males, 406 (51.00%) were females. Among the 5 age groups studied, the age group of 20-39 years had the highest proportion of EPTB 425 (53.39%) both in males and females which is the economically productive population of society. Next most affected was 40-60 years age group (n-175, 21.98%). geriatric age group has 6.65% contribution (n-53 ,>60 years old). The lowest proportion (n-27, 3.39%%) was observed in the paediatric age group (0-9 years old).

TABLE NO 02: FREQUENCY DISTRIBUTION OF DIFFERENT SITES OF EPTB

SR. NO	SITE OF TUBERCULOSIS	TOTAL NO. OF CASES (%)	
1	PLEURAL CAVITY	293	36.80%
2	LYMPH NODES AND PERIPHERAL LYMPHATICS	259	32.53%
3	ABDOMEN	90	11.30%
4	BONES & JOINTS	72	9.04%
5	GENITOURINARY	7	0.87%
6	SKIN AND MUSCLE	32	4.02%
7	OTHER	43	5.40%

Table No-02 shows that maximum number of cases belongs to pleural cavity (36.80%), lymph nodes and lymphatic is second most common site with 32.53%. Rest of the cases were found in decreasing order in abdomen 11.30%, bones & joints 9.04%,other 5.40%, skin & muscles 4.02% and, Genitourinary tuberculosis 0.87%.

TABLE NO-03: AGE, SEX AND SITE SPECIFIC DISTRIBUTION OF EPTB

SR. NO	SITE OF EPTB	AGE GROUP (IN YEARS)																	
		0-9			10-19			20-39			40-60			>60			TOTAL		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1	PLEURAL CAVITY	3	1	4	19	16	35	94	62	156	53	24	77	15	6	21	184	109	293
2	LYMPHAT- ICS	3	10	13	11	26	37	43	96	139	22	21	43	4	8	12	83	176	259
3	ABDOMEN	1	1	2	7	12	19	25	29	54	7	5	12	2	1	3	42	48	90
4	BONES& JOINTS	2	0	2	3	4	7	13	17	30	12	11	23	7	3	10	37	35	72
5	SKIN& MUSCLE	0	1	1	6	0	6	8	10	18	4	3	7	0	0	0	18	14	32
6	GENITO- URINARY	0	0	0	0	0	0	0	3	3	1	2	3	0	1	1	1	6	7
7	OTHERS	3	0	3	4	4	8	9	11	20	5	2	7	4	1	5	25	18	43
	TOTAL	12	13	25	50	62	112	192	228	420	104	68	172	32	20	52	390	406	796

Table No. 03 shows that involvement of pleural cavity and lymph nodes were the commonest manifestation among the 20-39 yrs age group (n-293, 36.80% & n-259, 32.53% respectively). In the youngest age group (< 9 years), lymph node TB was the most frequently observed, (n-26/62). In contrast, in the adolescent and in geriatric age group (>60 yrs.) the most common type of EPTB was pleural cavity. Whereas in the remaining adult population (20-39, 40-60 yrs.), the most common types was pleural cavity (n-156, 19.59%), lymph-nodes (n-139, 17.46%) and abdomen (n-54, 6.78%).

DISCUSSION:

Globally, women were found to be more at risk of developing EPTB [7,8,9]. Prevalence of EPTB was found to be higher in female than male (51.00% Vs 48.99%).

Although EPTB cases were found in all age groups but majority of cases (53.39%) belonged to the age group of 20-39 years, which constitutes of young adult and working individuals. This is the reproductive and working group in both males and females and is economically productive population. Our study shows that young adult is itself an independent risk factor for EPTB. The possible explanation of this may be because of reactivation and spread of TB from primary infection from the lungs to extra-pulmonary sites, delayed diagnosis of primary tuberculosis because of lack of time and decreased immunity to due life style changes and improper nutrition.

Although lymph node tuberculosis being the most common site, in our study the most common form of EPTB is pleural cavity. Rest of the EPTB cases distributed in decreasing order of sites were abdomen, bones & joints, skin & muscles and genitourinary tuberculosis, which is similar to studies from India and world [10,11,12,13].

The difference in the occurrence of EPTB by site in different age groups and sexes shows the difference in predilection to involve one site over the other depending on the host factors such as immunity status. Tubercular lymphadenitis is more frequent in female whereas tubercular pleural effusion is more common in male. Genitourinary tuberculosis was most common in young females (20-39yrs).

Our study had several limitations .The main limitation of the study is that the being a retrospective, hospital-based study, the findings cannot be generalized to the community, but it gives valuable information regarding trend of EPTB cases.

CONCLUSION:

Extra pulmonary tuberculosis remains a significant health problem in developing countries. In conclusion, our study expands the knowledge regarding the epidemiology of EPTB. The frequency of EPTB in this study was higher with the highest proportion in pleural cavity. Moreover, being female patient was at higher rate of positivity for EPTB than male. Young adults between age 20-39 yrs, and associated diabetes mellitus were significant risk factors for patient being EPTB positive. Based on the above conclusions the following recommendations are forwarded:

Newer diagnostic tests like molecular characterization, PCR etc which are sensitive and specific and easy to use for early detection and confirmation of diagnosis of EPTB, should be made available through government programmes in rural resource-poor settings.

Large scale, community based studies and well-defined programme-specified protocols for education and prevention of EPTB are needed for decreasing its burden as it is a curable disease.

Young adult males of 20-39 yrs. is the target population, who should be examined and investigated thoroughly to rule out EPTB, so that burden of EPTB cases on society decreases and hence improve the nation's economy.

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