

Extra pulmonary Tuberculosis: An audit of cases at a tertiary care hospital in Karachi, Pakistan.

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ABSTRACT

Objectives: To carry out an audit to determine epidemiological characteristics of Extra Pulmonary Tuberculosis (EPTB) at our center.

Methodology: A retrospective study was conducted at pathology department of Dow Medical College, Dow University of health Sciences Karachi. All the cases of extra pulmonary tuberculosis diagnosed during a 2 year period: from Jan 2016 to December 2017 were included in the study. Cases were diagnosed on the basis of histopathological findings which were considered confirmatory. All the data was recorded via study proforma. Analysis of data was done via SPSS version 20.

Results: Total 34 patients were enrolled in this study; their mean age was 20.56±10.42 years. Females were found in majority 19(55.9%). Most involvement sites were cervical 20.6%, Ileum 26.5% and left Axilla 17.5% and right inguinal region 8.8%. Cervical region, left axilla, left ulna, mesentery and omentum were significantly involved in females, while jejunum, perianal, right inguinal and submandibular regions were significantly involved in males, (p=0.002).

Conclusion: In the conclusion of this study cervical, abdomen and left axilla lymphadenitis were commonly infected sites by tuberculosis. Females found to be frequently infected.

Key words: Extra pulmonary tuberculosis, infected sites.

INTRODUCTION

Globally, extra-pulmonary tuberculosis represents 15% of the advised episode tuberculosis (TB) patients.¹ Laboratory affirmation of the extra pulmonary tuberculosis is challenging because of the paucibacillary nature of the illness and restricted assets in high tuberculosis (TB) endemic settings.¹ Extra pulmonary tuberculosis incorporates tuberculosis abdomen with ascites, meningitis, tuberculosis of skeletal, scrofula (lymphadenitis), Pott's infection (spine) and tuberculosis of genitourinary tract. Spread, or miliary tuberculosis, frequently incorporates aspiratory and extra-pulmonary sites.² On other hand its prevalence estimated as extra-pulmonary tuberculosis (EPTB) represents 15–25% of all instances of tuberculosis.² Around the world, the extent of extra pulmonary tuberculosis has been expanded in the previous many years yet significant difference have been reported across countries.³ For the extra pulmonary tuberculosis patients, bacteriological assessment of the response to treatments is regularly restricted by the trouble in acquiring follow-up specimens.³ Response frequently should be decided based on clinical and radiological investigations. The frequency and sorts of assessments will rely upon the site involved, disease severity, and the straightforwardness with which specimen can be achieved. Interestingly with pulmonary tuberculosis treatment, the management of extra pulmonary tuberculosis is hard to define.³ The extent of extra pulmonary tuberculosis in all of the tuberculosis patients differs from nation to nation.⁴

The extent of cases who presents with the tuberculosis of extra-pulmonary appearances fluctuates from 8% in World Health organization (WHO) specific Western areas, 17% in areas of South East Asia and in areas of Eastern Mediterranean 24%.⁵ Pakistan is fifth in

highly tuberculosis infected nations. A consistent increment is found in extra-aspiratory tuberculosis (EPTB), which currently represents 20% of all reported tuberculosis patients.⁵ Extra pulmonary tuberculosis is frequently prompts high mortality and morbidity result because of its unclear and subclinical presentation.⁶ Consistently a huge number of peoples are contaminated with tuberculosis and a millions individuals lose their lives each year.⁷ Extra pulmonary tuberculosis diagnosis stays challenging because clinical examples acquired from generally distant locales might be paucibacillary, in this manner diminishing the affectability of the diagnostic tests.⁸ The extent of cases having extra-pulmonary tuberculosis comparative with those having pulmonary tuberculosis among nations and relies upon related illnesses, environmental, social, ethnic and financial parameters.⁹ At whatever point functional, each exertion ought to be made to get suitable specimens for both mycobacteriologic and histopathologic assessments¹⁰ as per observations and limited published data form Pakistan on treatment success rate among extra-pulmonary tuberculosis (EPTB) patients.⁹ This study has been conducted to determine the epidemiological characteristics of Extra Pulmonary Tuberculosis (EPTB) at tertiary care hospital in Karachi.

MATERIAL AND METHODS

This was a retrospective study, which was conducted at pathology department of Dow Medical College, Dow University of health Sciences Karachi. All the cases of extra pulmonary tuberculosis which were diagnosed during a 2 year period: from Jan 2016- December 2017 were studied and were selected as inclusion criteria. Patients of all age groups and either of gender were included. All the record of pulmonary tuberculosis patients was excluded. Diagnostic

findings which were done on the basis of histopathology were considered confirmatory. All the data was recorded via self-made study proforma. Analysis of data was done via SPSS version 20. Frequency and percentage were computed for categorical variables, while numerical data was computed in the form of mean and standard deviation. Chi-square test was applied and a p-value ≤ 0.05 was considered as significant.

RESULTS

Total 34 patients were enrolled in this study, their mean age was 20.56±10.42 years. Minimum age was 05 years and maximum 50 years. Females were found in majority 19(55.9%) and males were 15(44.1%). Table.1

Table.1. Descriptive statistics of age and gender n=34

Variables	Statistics	
Age	Mean±SD	20.56±10.42 years
	Minimum	05 years
	Maximum	50 years
Gender	Females	19(55.9%)
	Males	15(44.1%)
	Total	34(100.0%)

Table.2. Site of the tuberculosis n=34

Variables	Frequency	Percentage
CERVICAL	07	20.6
ILEUM	09	26.5
JEJUNUM	01	02.9
LT AXILL	06	17.6
LT HIP J	01	02.9
LT ULNA	01	02.9
MESENTER	01	02.9
OMENTUM	01	02.9
PERIANAL	01	02.9
RT AXILL	01	02.9
RT EPIDI	01	02.9
RT INGUI	03	08.8
SUBMANDI	01	02.9
Total	34	100.0

Table.3 Site involvement according to gender n=34

Site	Gender		p-value
	Female	Males	
CERVICAL	05/26.3%	02/13.3%	0.002
ILEUM	05/26.3%	04/26.7%	
JEJUNUM	00	01/6.7%	
LT AXILL	05/26.3%	01/6.7%	
LT HIP J	00	01/6.7%	
LT ULNA	01/5.3%	00	
MESENTER	01/5.3%	00	
OMENTUM	01/5.3%	0/0.0%	
PERIANAL	00	01/6.7%	
RT AXILL	00	00	
RT EPIDI	00	01/6.7%	
RT INGUI	00	03/20.0%	
SUBMANDI	00	01/6.7%	
Total	19 (100.0%)	15(100.0%)	

Most involvement sites were cervical 20.6%, Ileum 26.5% and left Axilla 17.5% and right inguinal region 8.8% while remaining site were found in one and one patient respectively. Table.2

Cervical region, left axilla, left ulna, mesentery and omentum were significantly involved in females, while jejunum, perianal, right inguinal and submandibular regions were significantly involved in males, (p=0.002). Table.3

DISCUSSION

Extra-pulmonary tuberculosis (EPTB) has been a major cause of suffering from time immemorial. Any organ system in the body can be affected by tuberculosis (TB). Females were found in majority 19(55.9%) and males were 15(44.1%). Study conducted by Shirzad Aski et al¹¹ reported that there were 26.71% cases of EPTB and out of them females were dominant and their overall mean age was 40.55±16 years. Another study conducted by Kamadore Toure et al¹² reported that most patients 68.4% were males, followed by 58.9% were married, 62.9% were unemployed and their mean age was 33.3±14.3 years. However Sandgren et al¹³ demonstrated that the out of adult study population of 167652 patients, age range of 25 to 44 years, about 36.7 % patients found with extra pulmonary tuberculosis infection and the age roll could be clarified via many factors. Youngest individuals are highly exposed to be in contact of patients having tuberculosis.¹² Youngest individuals more mobile and more at high risk to meet tuberculosis cases in work environment, at home and public transport places. Poor and jobless populations are more regular among youth exposing the youthful individuals to contract with Mycobacterium tuberculosis.¹²

In our study females had more extra pulmonary TB as compared to males while on the contrary predominance at their initial and middle age comes in concordance to what in particular has been previously revealed in the study of Saudi Arabia.¹⁴ However consistently as per a South Asian gap analysis there was a greater preponderance of the EPTB has been seen in female gender.¹⁵ In the meantime, immune system weakness, due to geographical, genetic as well as social factors, can play the role in raising risk of aging men to the infection of extra pulmonary tuberculosis. The most striking is that being female is a free danger factor for having extra-pneumonic tuberculosis, a perception that appears to be opposing to the conventional understanding that the women are more resistant to TB as compared to males.

In our study, most involvement sites were cervical 20.6%, Ileum 26.5% and left Axilla 17.5% and right inguinal region 8.8%. Study conducted by Gounden S et al¹⁶ reported that the most common involved sites in tuberculosis were lymph node, plural and abdomen and commonest symptoms were found to be fever, night sweating, weight loss, and cough. Another study conducted by Tahseen S et al⁵ reported that most common sites infected by extra pulmonary tuberculosis were lymph nodes and abdominal tuberculosis. Pleural tuberculosis was commonest clinical presentation among adults and tuberculosis of abdomen among children. Increasing prevalence in the pleural and osteoarticular and decreasing in abdomen and lymphatic tuberculosis has been observed with increasing age.⁵

In present study, Cervical region, left axilla, left ulna, mesentery and omentum were significantly involved in females, while jejunum, perianal, right inguinal and submandibular regions were significantly involved in males, ($p=0.002$). However Al ghaffi et al¹⁷ reported in their study that most common infected site was lymph node among 58.1% of the cases followed by 18.7% infected site was gastrointestinal tract, central nervous system tuberculosis was found to be 9.6%, bone and joints was observed in 5% cases and 4.5% tuberculosis was seen in urogenital. Some other studies also demonstrated comparable prevalence.^{18,19} Female urogenital tuberculosis prevalence is supposed to be highly undermined worldwide particularly in single women and who were not at their age of reproduction. In which women genital organs is linked to menstrual disorders, infertility, chronic pelvic disease and dyspareunia which clarifies why such individuals are frequently supposed during the time of evaluation of infertility in women at their age of reproduction.^{12,17}

CONCLUSION

In the conclusion of this study cervical, abdomen and left axilla lymphadenitis were commonly infected sites by tuberculosis. Females found to be frequently infected. Proper access in the diagnostic services should be improved to early and proper diagnosis of extra-pulmonary tuberculosis to improve the clinical management as well as outcome of the treatment.

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