Extrapulmonary Tuberculosis: A retrospective Study at a tertiary care hospital in Palpa, Nepal

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ABSTRACT

Background: Extra-pulmonary tuberculosis (EPTB) is a significant global health problem. Related studies to it in different places and different durations are indicated by many previous research findings. Findings of this study could be beneficial for its preventive and control strategies. **Methodology:** Retrospective analysis of clinical specimens submitted to Central laboratory of Lumbini Medical College and Teaching Hospital (LMCTH) for extrapulmonary tuberculosis was performed. Total 261 samples submitted from April 2011 to February 2013 were included for analysis in this study. **Results:** Total 20.7% (54/261) prevalence of EPTB was reported. Based on sites involved; lymph node 87.03%, pleural effusion7.40%, peritoneal5.55% were found. Gender-wise equal prevalence was seen among male and females. Age-wise prevalence among patients between 21-40 years was reported. **Conclusion:** Our finding indicates great necessity for further large scale study on prevalence of EPTB in this location for its prevention and control.

Keywords: Extrapulmonary tuberculosis, Nepal, Tuberculosis

INTRODUCTION

Tuberculosis is the most common fatal infectious disease in the world.[1] It ranks as the second leading cause of death from an infectious disease worldwide, after the human immunodeficiency virus (HIV). Geographically, the burden of TB is highest in Asia and Africa.[2]

Around 45% of total population of Nepal is infected with TB. Fourty thousand new cases arising every year, about half of these are infectious (sputum smear positive TB) and 5000-7000 people die each year from TB. However number of deaths in Nepal has reduced due to Introduction of Directly Observed Treatment Short Course (DOTS).[3]

Tuberculosis affects all age groups. It can virtually involve any organ system although pulmonary TB is the most common presentation of disease. Extrapulmonary Tuberculosis (EPTB) is defined as the occurrence of TB in any part of the body other than lungs. ExtraPulmonary TB is increasing all over the world. However, only limited data is available about the situation of EPTB in developing countries.[4,5,6] This study was conducted to assess the frequency of EPTB in various organ systems and to evaluate the role of demographic factors like age groups and gender in its causation.

MATERIALS AND METHODS

A retrospective study was carried out at the Central laboratory of Lumbini Medical College & Teaching Hospital from April 2011 to February 2013.

A total of 261 patients attending hospital over 2 years duration were included in this study. All samples were collected by fine needle aspiration cytology (FNAC) & Paracentesis. It was stained by Wright, Papanicolaou (Pap) and Acid fast Stain and examined microscopically. After screening 261 specimens, 54 were found to be positive for Extrapulmonary tuberculosis. Information regarding other parameters like age, sex was retrieved from the records of the Medical department. Demographic variables were compared between TB of the lymph nodes and TB involving location other than lymph nodes. Data were analyzed using Statistical Package for Social Sciences, version 16 (SPSS).

RESULTS

Out of total 261 samples examined, 54 (20.7%) revealed presence EPTB (Fig.1). EPTB was found to be equal among males and females (27/54 vs. 27/54) (Table.1). Age wise, EPTB was found to be highest among young age group of 21-40 years (32.0%), whereas the lowest number of EPTB cases was among age groups less than ten years as shown in Table.1. Findings of the study showed that, the EPTB in 47(87.03) case was Lymph node, while it affect Pleural fluid in 4(7.40%), and Peritoneal fluid 3(5.55%) respectively (Fig.2).

DISCUSSION

Despite gradual decline in prevalence of TB globally, many research reports indicate EPTB as a significant health problem particularly in developing countries.

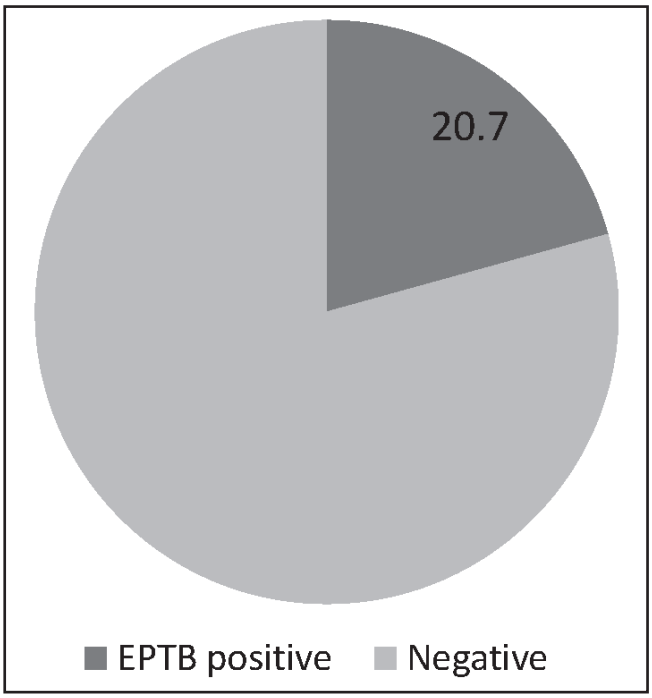

Fig.1 *Prevalence of EPTB*

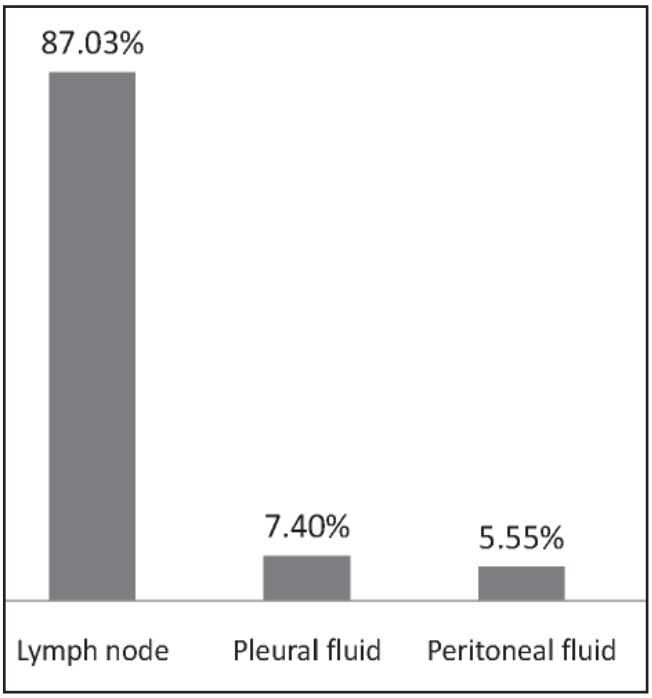

Fig.2 *Distribution of EPTB on Various Sites*

Shrestha et. al.2010 have reported declining trend of TB in Nepal during 8 years study from 2001-2008.[7] Our result, 20.7% prevalence of EPTB matches with results of above mentioned study and which might be related to health knowledge and life style of people living in this location. However, this result appears drastically different (less) than prevalence of EPTB compared to finding of study in Pokhara.[8] This again could be due to same reason in different places.

Extrapulmonary TB can affect any body parts and mostly it involves Lymph nodes, peritoneum, pleura, bone etc. Ratio of involvement of these may vary according to various previous studies in Nepal and other countries. Our findings report lymph node TB as most common EPTB (87.03%), followed by pleural effusion TB(7.40%) and peritonial TB (5.55%). This is similar to findings of previous studies by different authors.[5,9-14] This indicates that lymphoid involvement is most common in EPTB cases.

Table 1: Gender-wise and Age-wise distribution of EPTB

Characteristic	Number (n=54)			Percent
	Total	Female	Male	
Gender	54	27	27	100.0
Age(Years)				
0- 10	0	0	0	0
11-20	9	5	4	16.6
21-30	14	10	4	25.9
31-40	15	8	7	27.7
41-50	5	1	4	9.2
51-60	4	1	3	7.4
61-70	4	1	3	7.4
71-80	3	1	2	5.5

Our study showed the equal distribution of EPTB without gender difference in male and female which is contrary to finding of sreeramareddy et.al (2008) but similar to sreeramareddy et.al (2010).[8,15] Our result correlates with many reports of gender unbiasness of EPTB infection according to other previous research findings.[5]

We found that EPTB most commonly prevalent among adults (21-40 years) compared to low and high age groups which is similar to previous finding of Piryani et.al(2008) but is contrary to that of Sreeramareddy et al (2010).[9,15]

As we performed retrospective analysis, relevant socio-epidemiological information's could not be included for analysis. However, this finding has indicated the need for designing of large scale study on prevalence of EPTB and TB in general in this location. Further studies on such topics could be milestone for bringing health revolution in this western-hilly area of Nepal.

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