

Clinico-Demographic Characteristics of Tuberculous Lymphadenitis: Experience of 50 Cases in Bangladesh

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Abstract

Background: Clinical and demographic features are important for the tuberculous lymphadenitis patients for treatment. **Objective:** The purpose of the present study was to see the clinical and demographic features of tuberculous lymphadenitis patients. **Methodology:** This cross-sectional study was done at the Department of Pathology at Banghabandhu Sheikh Mujib Medical University (BSMMU), Dhaka from January 2009 to March 2011 for a period of nearly two years. All the patients, irrespective of age and sex with the clinical features, suggestive of tuberculous lymphadenitis and later on, proved to be the same histologically, were selected for the study purposively. Relevant information was recorded in a prescribed data sheet and histomorphological findings were recorded accordingly. In cases where fresh specimen was available, caseous portion of lymph node was sent for culture. Fite Faraco staining was also done on lymph node sections in all cases. **Result:** A total number of 50 tuberculous lymphadenitis patients were recruited for this study. Among this study population, the age of cases ranged from 12 years to 65 years with a mean age of 26.22 ± 2.52 years. Male and female ratio was 1:1.38. Besides lymphadenopathy, 45 patients had low grade fever; 32 patients had weight loss and 18 patients had cough. Among 50 cases of lymph node tuberculosis cervical lymphadenopathy was 41 (82.0%) cases; 6 (12.0%) cases had supraclavicular lymphadenopathy; 2 (4.0%) cases had inguinal lymphadenopathy and 1 (2.0%) had axillary lymphadenopathy. The mean duration of presentation of lymphadenopathy with standard deviation was 7.06 ± 1.6 months.

Thirty eight patients (76.0%) had lymphadenopathy for less than 12 months. **Conclusion:** In conclusion, young age group people are most commonly affected by tuberculous lymphadenitis with the predominance of female and most of them are presented with low grade fever and weight loss.

Keywords

Tuberculous Lymphadenitis, Tuberculosis, Lymph Nodes, Clinical Features

1. Introduction

Lymph nodes are usually involved in the early stages of the pulmonary disease or as secondary TB by hematogenous spread [1]. However, tuberculous lymphadenitis may arise without a detectable preceding pulmonary involvement [2]. Tuberculous lymphadenitis affects mainly the cervical lymph node group and is an important cause of lymphadenopathy worldwide [3]. The clinical as well as the demographic characteristics are varied. To confirm the cases, histopathological examination or FNAC is needed. These help to arrive at an early diagnosis of tubercular lymphadenitis and institution of treatment before a final diagnosis is made by culture [4]. Histopathological examination is suggestive of tuberculous lymphadenitis where Langhans' giant cells, caseation necrosis, coalescing granuloma are present. The physicians treat these cases with anti-tubercular chemotherapy. In cases which are reported as "suggestive of tuberculosis", the physician needs additional features such as positive Mantoux test and clinical symptoms to start anti-tubercular chemotherapy. Therefore, the clinical as well as the demographics profiles are important for the treatment of tuberculous lymphadenitis. In this context, the present study was undertaken to see the clinico-demographic characteristics of tuberculous lymphadenitis.

2. Methodology

This cross sectional study was done at the Department of Pathology at Banghabandhu Sheikh Mujib Medical University (BSMMU), Dhaka from January 2009 to March 2011 for a period of nearly two years. All the patients irrespective of age and sex with the clinical features suggestive of tuberculous lymphadenitis and later on proved to be the same histologically were selected for the study purposively. The patients without having history of anti-tubercular drugs, malignancy and symptoms other than TB were excluded from this study. Relevant information was recorded in a prescribed data sheet and histomorphological findings were recorded accordingly. In cases where fresh specimen was available, caseous portion of lymph node was sent to ICDDRB for culture in conventional egg based Lowenstein-Jensen medium. This part was done maintaining high level of sterility. Ziehl-Neelsen stain was done in smear prepared from 20 fresh cases. Fite Faraco staining was also done on lymph node sections in all cases. Computer based statistical analysis was carried out with appropriate techniques and systems. All

data were recorded systematically in preformed data collection form (questionnaire) and quantitative data were expressed as mean and standard deviation and qualitative data were expressed as frequency distribution and percentage. Statistical analysis was performed by using window based computer software devised with Statistical Packages for Social Sciences (SPSS-22.0) (SPSS Inc, Chicago, IL, USA). 95% confidence limit was taken. The summarized data was interpreted accordingly and was then presented in the form of tables figures.

3. Results

A total number of 50 tuberculous lymphadenitis patients were recruited for this study. Among this study population the age of cases ranged from 12 years to 65 years with a mean age of 26.22 ± 2.52 years. Maximum number of patients ($n = 21$) were found in the age group of 21 - 30 (**Table 1**).

In this study there were 21 (42.0%) male and 29 (58.0%) female patients. Male female ratio was 1:1.38 (**Table 2**).

Besides lymphadenopathy 45 patients had low grade fever, 32 patients had weight loss and 18 patients had cough (**Figure 1**).

Among 50 cases of lymph node tuberculosis 41 (82.0%) cases had cervical lymphadenopathy, 6 (12.0%) cases had supraclavicular lymphadenopathy, 2 (4.0%) cases had inguinal lymphadenopathy and 1 (2.0%) had axillary lymphadenopathy. One case had both cervical and inguinal lymphadenopathy (**Figure 2**).

The mean duration of presentation of lymphadenopathy with standard deviation was 7.06 ± 1.6 months. Thirty eight patients (76.0%) had lymphadenopathy for less than 12 Months. Rest of the patients (24.0%) suffered for more than 12 Months. Duration of

Table 1. Different age groups of the study population.

Age (years)	Frequency	Percentage
11 - 20	16	32
21 - 30	21	42
31 - 40	7	14
41 - 50	4	8
51 - 60	1	2
>60	1	2
Total	50	100.0

Table 2. Gender distribution of the study population.

Gender	Frequency	Percentage
Male	21	42.0
Female	29	58.0
Total	50	100.0

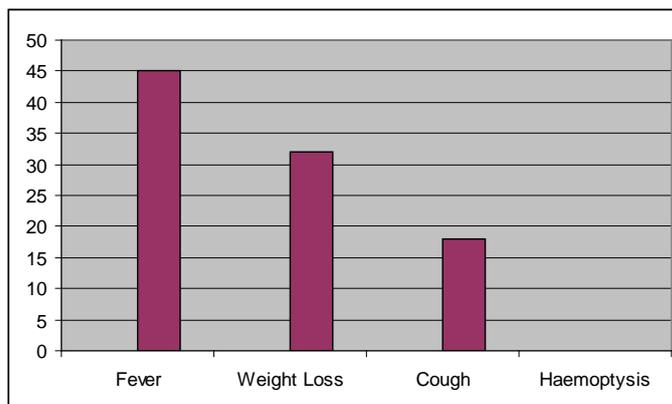


Figure 1. Showing clinical presentation of study population.

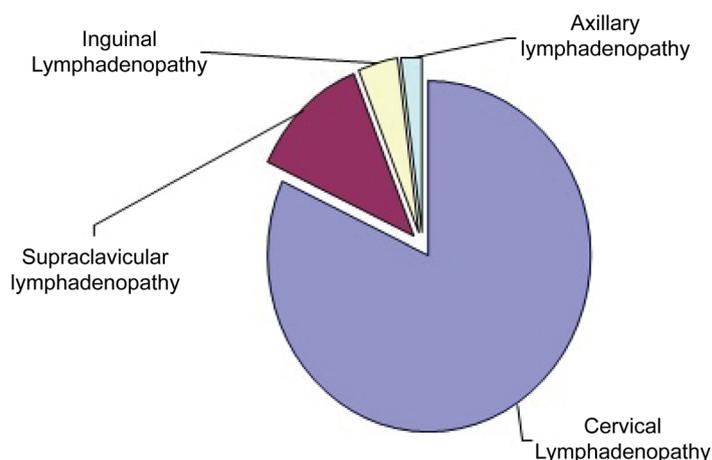


Figure 2. Distribution of lymphadenopathy among the study population.

symptoms ranges from 2 months to 13 months. Mean duration of symptoms was 7.06 months (**Table 3**).

4. Discussion

Someone in the world is newly infected with TB bacilli every second. Overall, one-third of the world's population is currently infected with the TB bacillus [5]. Among the various diagnostic tools of tubercular lymphadenitis histological diagnosis is an important one. As the morphological features are variable this descriptive study was performed in 50 cases of tubercular lymphadenitis to find out histomorphological features and correlate with clinical profile and treatment outcome. Among the 50 cases age range was 12 to 65 years with the mean age of 26.22 ± 2.52 years. Highest number of cases was found in 21 - 30 years age groups (42.0%) followed by 11 - 20 years (32.0%). Studies performed found majority of cases in adolescents and young females reflecting similar features [6] [7]. Male to female ratio in this present study is 1:1.38. Other studies found ratio close to the present study such as Dandapat *et al.* [8] 1:1.2 and Jha *et al.* [9] 1:1.3. Female have low nutritional status in a socioeconomic structure that is present in this

subcontinent and are vulnerable to clinical TB.

This study was carried on superficial lymph node TB. Of them 82.0% cases had cervical lymphadenopathy, 12.0% had supraclavicular lymphadenopathy, 4.0% had inguinal lymphadenopathy and 2.0% had axillary lymphadenopathy. In addition to the swelling, most of the patients of the present study had constitutional symptoms like 90.0% had low grade fever, 64.0% had weight loss and 36.0% had cough. Dandapat *et al.* [8] and Pahwa *et al.* [10] observed fever in 40.0% cases while in another study it has been found that fever is present in 73.0% cases which is similar to the present study. In case of weight loss Dandapat *et al.* [8] found weight loss in 85% cases while Patel and Mehta [11] observed weight loss in 77.0% cases. Pahwa *et al.* [10] observed cough in 23.0% cases. Though most of the studies [12]-[19] found high rate of cervical lymphadenopathy, it is higher in the present study. Mantoux test results are similar with other studies. Raised ESR was found in 84.0% cases in the present study whereas Jha *et al.* [9] found 92.86% in their study (Table 4).

Duration of symptoms ranged from 2 months to 13 months with mean duration of 7.06 months. Jha *et al.* [8] found mean duration of symptoms during presentation was 3 months. Probably patients of this country present to the physician at later stage of disease due to ignorance or other social stigma.

Tuberculous lymphadenitis usually presents as a slowly progressive, painless swelling of a single group of lymph nodes. The duration of symptoms at the time of presentation is typically 1 - 2 months, varying from 3 weeks to 8 months. In a series of patients, the mean duration of symptoms was significantly longer in men than in women [20].

Table 3. Duration of presentation of lymphadenopathy of the studied population.

Duration	Frequency	Percentage
Less than 12 months	38	76.0
More than 12 months	12	24.0
Total	50	100.0

*Mean \pm SD = 7.06 \pm 1.6.

Table 4. Comparison of clinical feature between different study and present study.

	M:F	Cervical LN	Axillary LN	Inguinal LN	Raised ESR	MT	Fever	Weight Loss
Patel and Mehta [11]	1:1.6	77%				80%		
Dandapat <i>et al.</i> [8]	1:1.2	85%	6.25%	8.75%		74%	40%	85%
Jha <i>et al.</i> [9]	1:1.3	87.50%	8.93%	3.57%	92.86%	94.64%	18 %	14%
Pahwa <i>et al.</i> [10]	1:1.33	89%	9%	2%			40%	
Present study	1:1.3	94%	2%	4%	84%	74%	90%	64%

5. Conclusion

In conclusion, young age group is most commonly affected by tuberculous lymphadenitis with the predominance of female. Furthermore, most of them are presented with low grade fever and weight loss. Cervical lymphadenopathy is the most common site of involvement of tuberculous lymphadenitis.

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