

Original Article**The Incidence of Tuberculous Cervical Lymphadenitis- Three Year Study of Sixty Cases**MM Rahman¹, MN Haque², MA Kadir³, MR Kallol⁴, Wanaiza⁵**Abstract:**

Tuberculous cervical lymphadenitis (TCL) is not very uncommon in our country. A series of 60 cases was studied from 204 non- thyroid neck swelling which were selected from 20,558 patients attending in ENT department in Central Police Hospital and Mitford Hospital, Dhaka in 3 years. The incidence of TCL was 29.41% among the non- thyroid neck swelling and 0.3% from total number of patients attending in ENT department. The most vulnerable age group was the second decade 38.33% with female preponderance (Female male ratio was 2: 1). The common presentations were neck swelling (100%), fever (66.67%), night sweat (50%). 50% cases were associated with pulmonary tuberculosis. Tuberculin test was positive in 73.34%. Maximum number of patients were from low socioeconomic class and BCG vaccination had a significant protective role (31.67% were vaccinated and 68.33% were one- vaccinated). On histopathology of cervical lymph nodes caseation necrosis was found in 85% of cases.

Key words: Tuberculosis, Lymphadenitis, Lymphadenopathy, Cervical.

Introduction:

Tuberculosis is a world wide disease in all age group. Most prevalent in Asia and Africa, but its incidence is recently increasing in Europe and America.

Tuberculosis of peripheral lymph nodes is the commonest form of extra pulmonary tuberculosis and frequently involves the lymph nodes draining the head and neck.¹

Lymph nodes tuberculosis has affected mankind for more than 3000 years.²

Tuberculous cervical lymphadenitis (TCL) mainly presents with the neck swelling more prevalent in the younger groups with female preponderance.

In india it causes a major public health problem with sociological and economic complications. The diagnosis and management remain a problem owing to illiteracy, ignorance, lack of awareness of the complications of the disease.³

Tuberculous cervical lymphadenitis (TCL) is never a life threatening problem but it is a problem that merits attention from surgeons and physicians. A majority of patients tend to be younger healthy working adults without any other constitutional symptoms, left untreated the lymphadenopathy can progress to abscess formation and ultimately discharging sinuses which are disabling and socially unacceptable.⁴

In Bangladesh a lot of patients have been suffering from tuberculous cervical lymphadenitis (TCL) which are very often encountered in our clinical practice. But very few studies are done on the various aspects of tuberculous cervical lymphadenitis (TCL).

Aims and objectives of this study are:

1. To determine the incidence of TCL in ENT Department, Central Police Hospital & Mitford Hospital, Dhaka in Three years duration.
2. To find out the common modes to presentation.
3. To find out the association of pulmonary tuberculosis.
4. To determine the common vulnerable age groups.
5. To evaluate the effects of BCG vaccination.

Materials and methods:

For the purpose of the study, patients were collected from both out- patient and in- patient wings of ENT Department, Central Police Hospital & Mitford Hospital, Dhaka from January 2005 to December 2007. Out of 204 patients of non- thyroid neck swelling 60 patients were diagnosed as TCL. Patients were diagnosed as having neck swelling from history and clinical examination and by some other laboratory investigations like blood profile, X-ray chest, tuberculin test and histopathological examination of cervical lymph nodes.

Facts from collected data have been tabulated, analyzed and compared with some other studies at home and abroad.

Results :

The incidence TCL was 29.41% (60 out of 204 non thyroid neck swelling) Table-I Out of 60 patients 40 were female and 20 were male and female male ratio was 2: 1 (Table-II). The most vulnerable age group was the 2nd decade 23(38.33%) Table-III. The incidence of pulmonary tuberculosis associated with TCL was 5%, (Table-iv). The BCG vaccination had a significant protective role; 19 (31.67%) were vaccinated and 41 (68.33%), Table-VI. Tuberculin test was positive in 44(73.34%) and negative in 2 (3.33%) and doubtful in 14 (23.33%) table-VII, Sixty patients were found out of 20,558 ENT patients in three

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year. The incidence of TCL among the ENT patients is 0.1% i.e. one in one thousand (Table-VIII), The common presentations were neck swelling 60 (100%), fever 40 (66.67%) and night sweat in 30(50%) table-IX. On histopathology of cervical lymphnode 51(85%) had caseation necrosis table-X

Table-I : Incidence of cervical neck swelling n = 204 (excluding thyroid swelling).

Nature of lesion	No. of patients	Percentage
1. Neoplastic	131	64.22
Benign	6	4.58
Malignant	125	59.63
Metastatic	206	84.80
Lymphoma	12	9.60
Salivary gland malignancy	7	5.60
2. Inflammatory	65	31.86
Specific	60	29.41
3. Congenital	6	3.92

Table-II : Sex distribution (n = 60).

Sex	No. of patients	percentage	Male: Female Ratio
Male	20	33.33	1: 2
Female	40	66.67	

Table-III : Age incidence (n-60).

Age(years)	No. of patients	Percentage
0 - 10	7	11.66
11 - 20	29	38.33
21 - 30	18	30.00
31 - 40	5	6.66
41 - 50	7	11.66
51 and above	0	0

Table-IV : Association with pulmonary tubercular lesions (n-60)

Active lung lesion	No. of patients	Percentage
Negative	57	95.00
Positive	3	5.00

Table-V : Role of BCG vaccination among the TCL

Sate of vaccinated	No. of patients	percentage	V: N
Vaccinated (v)	19	31.67	
Non - Vaccinated(n)	41	68.33	1: 2.16

Table-VI : Socio- economic condition (n = 60)

Socio – economic condition	No. of patients	Percentage
Poor	35	58.30
Average	19	31.66
High	6	10.00

Table-VII : Results of tuberculin test (n = 60)

Test result	No. of patients	Percentage
Positive	44	73.34
Doubtful	14	23.33
Negative	2	3.33

Table-VIII : Incidence of tuberculous cervical lymphadenitis (n = 20558)

Total number of patients	No. of tuberculous cervical lymphadenitis	Percentage
20558	60	0.3%

Table-IX : Clinical presentation of tuberculous cervical lymphadenitis (n = 60)

Clinical presentation	No. of patients	Percentage
Neck swelling	60	100.00
Fever	40	66.67
Night sweating	30	50.00
Weight loss	21	35.00
Anaemia	23	38.33
Cold abscess	6	10.00
Discharging sinus	4	6.67

Table-X : Character of lymph nodes presented (n = 60)

Character of glands	No. of patients	Percentage
Granuloma with caseation necrosis (microscopic)	51	85.00
Matted	40	66.66
Non adherent	28	46.66
Adherent with skin	27	45.00
Discrete	20	33.33

Discussion :

Before going to discuss the subject, we would like to say that as this study was carried out over a limited period and comprised of a limited number of cases, the present series may not be considered sufficient to reach a precise conclusion inspite of most sincere effort in focusing the overall situation (concerning the subject) prevailing in a country with vast population like us.

All the figures and facts presented here may considerably vary with any large series, but still then, as the cases were collected for a period of one year from a hospital of national reference level, the study must be of some credential in reflecting certain facts.

Cervical tuberculous lymphadenitis is very common in our country and the incidence is 29.41% among the non thyroid neck swelling.

This study provides the incidence of tuberculous cervical lymphadenitis among the non thyroid neck swelling and different aspects to this clinical entity.

In this series 60 out of 204 (29.41) were the patients of tuberculous cervical lymphadenitis. According to Yuh min chin the incidence of TCL is 30-60% in Taiwan⁵. In a study by Adedeji et al in Nigeria the incidence is 37.6%¹⁴. In a selective study for TCL by SP Parma et al the incidence was 70.6% (214 out of total 363 patients)⁶. In a study by Bishwash TCL was 30% (30 cases out of 100 patients).

The present study 29.41% is consistent with that of Bishwash⁷ 30%, Adedeji at all⁸ 39.6%, Yuh Min 30.40% but no consistent with the series of Pamra⁹ 70.60% which may be due to selective study to find the patients of TCL.

The present series show that female patients were more affected than the male patients. 40 (66.67%) out of 60 patients were female and 20(33.33%) were male in a ratio of 2: 1. This result is consistent with many studies like Dandapat et al⁵. (2:1), Parma and Mathure⁹ (1.7:1), Bishwash(1.8:1), Dan J. Castro et al³ (2.12:1) and Chen YM et al⁶ (3.2). The female preponderance was also found by Chee Yuh.² This higher incidence in female may be due to the fact that female in this age group of 11-30 years are more conscious about their appearance and parents are also more aware of their female wards.

The present study shows that the peak age incidence is 2nd decade of life (38.3%) and the 2nd highest incidence is the 3rd decade (30.00%). This is consistent with Parma and Mathur⁷ (3rd Decade), J Castro et al³ (23 years), Bishwash (2nd & 3rd decade), Dandapat et al.⁵ 3rd decade but inconsistent with Zawdsky¹⁰ (2 to 5 years).

In the present series the incidence of active pulmonary tubercular lesion was only 3 (5%) out of 60 patients. All the 60 patients were investigated with X-ray chest postero-anterior view and among them 57 (95%) showed no active lesion in the lung and 3(5%) showed active lung lesions. Law SK et al¹ showed association of 20%, Dandapat et al⁵ 7.14%, Parma et al⁷ 6.07%, Chowdhury¹¹ 7.14%, Bishwash 3.3%, Chen YM et al¹² 42%, Kents 61%, Wongs 68% & Dictels 28%. The present series is consistent with the studies of this subcontinent but not consistent with the

western studies. This difference between Indian subcontinent and western countries may be because of high immunity due to wide environmental exposure.

In this series 19 patients (31.67%) were vaccinated with BCG vaccine and 41 (68.33%) were non vaccinated. This gives an idea that there was a significant change in the incidence of TCL between those two groups. This view was consistent with the view of an editorial¹⁶ where it was stated that BCG vaccine had been proved to be effective in reducing the incidence of tuberculosis by 80% compared with non-vaccinated in developed countries. This study is also consistent with Zinsser¹³ (60.80%) decrease in incidence of tuberculosis, Bishwash¹⁴ 30% were vaccinated and 70% were non-vaccinated among the affected but no consistent with a study where trials were given in India and Peurtorica where they indicated that there was no protection from BCG.¹⁵ In UK 79% decrease by vaccine and there was substantial protection for 7-10 years after vaccination.¹⁶

The present study shows the highest incidences of TCL was in a poor class people (58.34%). This study is consistent with chowdhury's study where the low socio economic class (62.86%) was affected more.

Dandapat¹⁷ showed that 58% were from low socioeconomic condition, 23% from middle class and 8% from higher class. In this study among 60 patients 44 (73.34%) were tuberculin positive (more than 10 mm induration), 14 (23.33%) were doubtful (between 1-10 mm) and 2 (3.33%) were negative (no induration seen). This study is consistent with Dandapat et al⁵ 74% positive Law SK et al¹ 96% positive, MM thompson et al 74% positive.

In this study 60 patients of TCL were found from 20558 patients attending in ENT department Central Police Hospital & Mitford Hospital, Dhaka in three year. The incidence of TCL among the ENT patients was 1% (one in one Thousand). Such type of studies among the total population are not available to compare.

In this study among the 60 patients all (100%) presented with neck swelling, 40 with fever (66.67%), 30 with night sweat (50.00%), 21 with weight loss (35%), 23 anaemia (38.33%), 6 with cold abscess (10%) and 4 with discharging sinus (6.67%). This study is consistent with many other studies.^{3,4,9,10,15}

Among the 60 patients of tuberculous cervical lymphadenitis 51 (85%) had caseation, 40 (66.66%) were seen matted and 28 (46.66%) were found adherent to the skin. This study is consistent with the studies of Dandapat¹⁸ and Parma who showed the caseation in 80% and 92.5% cases respectively. The non caseating or lymphadenoid type of change is found in the earlier phase of the disease.¹⁹

Conclusion :

Tuberculosis is as old as mankind. Tuberculous cervical lymphadenitis is not very uncommon in our country. Very few studies are done on this important clinical entity to focus the different aspects. This study is carried out to find out the incidence, the most vulnerable age group affected, commonest presentation, association of pulmonary tuberculosis and the role of BCG vaccine in tuberculous

cervical lymphadenitis. Further study should be done on this important subject of find out the source of infection & type of tubercle bacilli.

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