

Extrapulmonary Tuberculosis and Cervical Lymphadenopathy

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ABSTRACT

Aim: To find the incidence of tuberculous lymphadenitis in patients with cervical lymphadenopathy in low socio economic group at outskirts of Lahore.

Methods: This cross-sectional study was conducted at the Department of pathology with collaboration of department of surgery at Avicenna Medical College and hospital which is situated at outskirt of Lahore cantt. The study was conducted, from June, 2012 to April 2015. One hundred and ten patients were included with swelling/mass in neck according to criteria laid down in proforma. Fine Needle Aspiration Cytology (FNAC) procedure was used to diagnose pathological lesions. All information's gathered were entered on prearranged proforma and statistical analysis was done by SPSS version 11.

Results: The study includes 110 cases with enlarged cervical lymph nodes, 68(61.81%) females and 42(38.18%) males. In this study age of patients varies from 10-65 years with a mean of 33.5±13.4 years. All of patients were from lower income strata. The main complaints of these patients were fever, weight loss and generalized weakness. Tuberculosis was the predominant diagnosis in enlarged cervical lymph nodes, in 80 patients (72.54%), while reactive hyperplastic lymphadenopathy 11(10%) was the next common finding. Non Hodgkin Lymphoma was diagnosed in 2(1.81%). Metastasis was found in 4(3.63%) patients. Rare disease diagnosed was 1(0.99%) case of Kikuchi's disease. Twelve cases were non diagnostic in FNAC.

Conclusion: Chronic granulomatous cervical lymphadenitis (Tuberculous) is a common extra pulmonary illness in Pakistan. The poor young females and children of our society are the common victims of this disease. Because of this fact any patient with cervical lymphadenopathy for long duration may be suspected for having tuberculosis and must be ruled out for this disease by FNAC.

Keywords: Chronic granulomatous lymphadenitis, extra pulmonary tuberculosis, FNAC, Lymphadenopathy.

INTRODUCTION

Tuberculosis is caused by mycobacterium tuberculosis and never by atypical mycobacteria. It is a common ailment in developing and underdeveloped world^{1,4}. People living in the Eastern Mediterranean region are common sufferers of this disease². The incidence of tuberculosis in Pakistan is estimated to be 2300 per 100000 populations (0.23%) and every year about 414000 new cases of tuberculosis are added to the present total population of about 1.8 million³. As entry of tuberculosis bacilli is most common by inhalation, pulmonary tuberculosis is common presentation; however it can involve any organ of body. In Asian and Pacific islands Twenty to forty percent of cases of tuberculosis belong to extra-pulmonary tuberculosis (EPTB) and major presentation is in form of cervical lymphadenitis⁴.

Lymph nodes being as a part of human immune system usually enlarge whenever any pathology occurs in their area of drainage¹⁰. Neck and head lumps/masses are common presentation in outpatient

clinic and in majority of cases these swellings are due to enlarged lymph nodes⁶.

There are number of etiologies that can cause cervical lymph nodes to enlarge, the frequent one is tuberculosis, other causes are reactive or inflammatory lymphadenitis and malignancy⁷. The commonest symptoms are swelling in the neck, cough, fever and anorexia^{8,9}. According to WHO report the incidence of tuberculous lymphadenitis is alarmingly high in South Asian countries, and Pakistan position is 8th out of 22 highest incidence countries¹⁰. Due to effective preventive measures pulmonary tuberculosis is in decline in the developed western world, but the incidence of tuberculosis cervical lymphadenitis is still not much under control. The tubercle bacilli usually reach the cervical lymph node by crossing barriers of tonsils. Cervical lymph nodes enlarge in regional lymphatic area as a solitary swelling or matted lymph nodes mass (Scrofula). The prevalence of tuberculosis in cervical lymphadenitis is about 76.63%²⁻⁵. Many studies of last several years has shown that Extra pulmonary tuberculosis was increasing among the total number of reported cases of tuberculosis illness¹¹.

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Cervical lymphadenitis is most commonly caused by tubercle bacilli particularly in our population but this etiology is usually underestimated, reason being the diagnostic facilities like histopathology/cytopathology are available only in tertiary care hospitals. So majority of our peoples which are living in villages and far-flung areas remain unidentified and later on they come up with progressive disease and complications¹².

This cross sectional survey was done to ascertain the frequency of tuberculous lymphadenitis in patients with cervical lymphadenopathy in low income and socially derived population mostly residing in villages.

PATIENTS AND METHODS

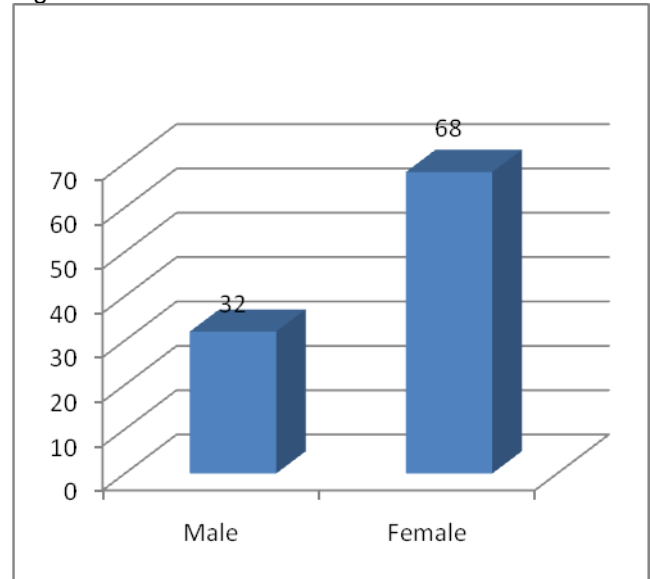
The descriptive cross-sectional study was conducted at the Department Pathology, from June 2012 to May 2015. It included all patients having cervical lymphadenopathy of more than four weeks duration, clinically suspected of tuberculous origin, regardless of age, race and gender. Patients having ulcerative cervical lymphadenopathy, and those unwilling to take part were excluded. Before examining the patients they were informed about all proceedings and written consent was taken. Patients enrolled for study was interrogated thoroughly regarding there neck swelling and underwent routine general physical examination. Baseline laboratory investigations and chest X-ray was done. Socioeconomic status was assessed for all the participants of study and they belonged to low income class having income< Rs15, 000/month.

Ten cc syringes with 21gauge needle (Becton Dickinson) was used to perform procedure of FNAC from cervical lymph nodes. Both air dried and wet smear were prepared and stained with Hematoxylin, eosin stain and Giemsa stains. Theprocedures were carried out in Histopathology section of Pathology laboratory and all cases were examined by same consultant Histopathologist. Being a trust hospital majority of patientswas not charged for FNAC procedure. The collected data was entered on proforma and analyzed with SPSS 11.

RESULTS

One hundred and ten (110) cases of cervical adenopathy were included in this study: Out of these 42(38.1%) were males and 68(61.8%) were female (Fig. 1).

Fig. 1:



The age range of patients included in this study varied from 10-65 years. Majority of patients included in study were in age group between 10 to 30 years (Table 1).

Table 1; Age distribution of patients with cervical lymphadenopathy

Age(years)	Male	Female	Total
1---10	01	01	02
11---20	08	15	23
21---30	15	30	45
31---40	05	13	18
41---50	03	07	10
51---60	03	06	09
61---70	01	02	03
Total	36	74	110

The common presenting complaints of patients were generalized weakness, neck swelling weight loss and fever. The duration of these complaints was more than two months (Table-2).

Table 2: Main presenting complaints of patients with cervical lymphadenopathy

Symptoms	n	%age
Neck swelling	110	100
Fever	58	52.7
Cough	12	10.9
Weight loss	70	63.6
Generalized weakness	88	80

The size of the lymph node ranged from 2.5 to 6.5cm. These lymph nodes were present on both sides, front of neck and supraclavicular region. Tuberculosis in cervical lymph nodes was diagnosed in 80(72.54%) on FNAC, while in 12(10.9%) cases the reports of FNAC were inconclusive. Tuberculosis was the predominant diagnosis in cervical lymph nodes; accounting for 80(72.54%). In eleven cases(10%) the diagnosis was Reactive lymphadenitis . In 04 (3.63%) cases, the lymph nodes have metastatic deposits, Non-Hodgkin's Lymphoma was present in 2(1.81%) cases and 1(0.9%) patient had Kikuchi's disease (Table 3).

Table 3: Frequency of causes of cervical lymphadenopathy

Etiology	Male	Female	Total	%
Tuberculosis	28	52	80	72.54
Reactive hyperplasia	04	07	11	10
Metastasis	01	03	04	3.63
Lymphoma(Non Hodgkin)	01	01	02	1.81
Kikuchi disease	--	01	01	0.9
Inconclusive	04	08	12	10.9

DISCUSSION

Although inguinal, axillary, mesenteric, mediastinal, and intramammary lymph nodes involvement have been described, tuberculous cervical lymph adenopathy is the most common occurrence. It was considered previously a disease of childhood, but now the peak incidence has been found in 2nd to 4th decade of life¹.

The incidence of EPTB has increased more as compared to that of pulmonary tuberculosis since 1984¹³. Our current study revealed that, tuberculosis was common in females which was in accordance with earlier results, reporting female: male ratio of 1.4:1 and 1.7:1^{15,16}. The reason for female predominance in our society is that females are neglected regarding healthcare, their other basic necessity of life and being always care taker of chronically ill patients¹⁵.

Patients between ages of 10 to 65 years were included in this study. The majority of patients were in the age range between 10 to 30 years and next group belong to the 4th decade, which is in accordance with earlier study where the age of patients varies between 3-54 years¹³. Another study also revealed age range between 10-70 years and the patients belonged to lower socioeconomic stratum of life and racial and ethnic minorities¹⁴.

In our study fever and weight loss are common complaint 52.7% and 63.6% respectively which are comparable to another study¹⁴ in which complaints of the patients with EPTB were fever (34.65%) and weight-loss (24.75%). However % of weight loss is

more in our study, reason being all the included patient belong to very low socioeconomic group. Similarly in another study, neck swelling was present in 53 (94.6%) cases which is comparable to recent study where it was present in 100% of cases¹⁸.

Tuberculosis was the predominant diagnosis (75.24%) in cervical lymphadenopathy in our current study. This is comparable to other study in which cervical lymphadenopathy was the most frequent site of involvement and tuberculous lymphadenitis was established in (41%) of cases¹⁶. Few other studies in literature revealed results of tuberculous lymphadenitis of 86.13%¹ and 90%¹⁶ which are comparable to our present result of (75.24%).

Another study reported that EPTB was the commonest observation in cervical lymphadenopathy i.e. 66.4%¹⁸. In a study by Rajakaran tuberculosis was detected in 77.3% with cervical lymphadenopathy²⁰. The study by Iqbal et al in which patients with cervical swelling, tuberculosis was the commonest 155(70.45%) finding²¹. In a study by Dogru²² tuberculosis lymphadenitis was seen in 84.8% patients.

Tuberculosis was predominant diagnosis in the enlarged cervical lymph nodes in our current study. In addition to that other diseases like reactive hyperplastic lymphadenitis were established in 11 cases (10%), metastatic carcinoma in (3.63%) and Non Hodgkin lymphoma in (1.81%). The rare disease found in this study was Kikuchi's disease (0.9%). Our results are comparable to results of Fazl-i-Wahid²⁵ who reported Tuberculosis lymphadenitis in (86.13%), Reactive lymphadenopathy in (10.89%), metastasis in 8.9% and Non Hodgkin lymphoma in (1.98%) of cases. This is also in agreement with a Jha BC study¹⁸ in which tuberculosis lymphadenitis was present in (49.5%) patients out of 200; and reactive lymphadenitis in 18%; Non-Hodgkin's lymphoma (8%); metastatic carcinoma (7%); kikuchi's lymphadenopathy in 1(0.5%) case. Tanwir et al²⁴ reported Tuberculosis in 62.8%, Reactive lymphadenopathy in 29.1%, Lymphoma in 08% and metastatic deposits in 07% of cases in total of 175 cases included in study, which are comparable with our recent study. Almost all of studies are in agreement that tuberculous lymphadenitis is predominant diagnosis.

CONCLUSION AND RECOMMENDATIONS

Diagnosis of tuberculosis needs a high index of suspicion, and application of a variety of diagnostic approaches depending on location of disease. Extra pulmonary tuberculosis especially in cervical lymph node is a common problem in Pakistan

in children and in young females. So with any case of cervical lymph adenopathy high index of suspicion should be kept in mind of tuberculosis. Fine needle aspiration cytology is simple and safe procedure with fairly good results in expert hands.

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