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Research Article

**INCIDENCE OF TUBERCULOUS LYMPHADENITIS IN
CERVICAL LYMPHADENOPATHY AMONG PATIENTS OF
EXTRAPULMONARY TUBERCULOSIS**¹Dr Zeeshan Ahmad, ²Dr Rizwan Rabbani, ³Dr Anam¹Saidu Medical College Swat, Khyber Medical University, Peshawar²Senior Registrar, Services Hospital Lahore³Independent Medical College Faisalabad**Article Received:** April 2020**Accepted:** May 2020**Published:** June 2020**Abstract:**

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

Methods: This cross-sectional study was conducted at Pathology and Medicine Unit II department of Services hospital Lahore for one year duration from March 2019 to March 2020. Ten patients were admitted with neck edema / mass in accordance with criteria established on the basis of proforma. A thin needle cytology (FNAC) procedure was used to diagnose pathological changes. All collected information was entered into a previously agreed form, and statistical analysis was performed using the SPSS 18 version.

Results: 110 patients with cervical lymph nodes, 68 (61.81%) women and 42 (38.18%) men were included in the study. In this study, the patients' age ranged from 10 to 65 years, with an average of 33.5 ± 13.4 years. All patients had low income levels. The main complaints of these patients were fever, weight loss and general weakness. While tuberculosis was the dominant diagnosis in enlarged cervical lymph nodes in 80 patients (72.54%), 11 (10%) reactive hyperplastic lymphadenopathy was another common finding. Two patients (1.81%) were diagnosed with non-Hodgkin's lymphoma and 4 patients (3.63%) had metastases. Kikuchi disease in 1 (0.99%) case was a rare diagnosed disease. Twelve cases were not diagnostic in FNAC.

Conclusion: Chronic granulomatous cervical lymphadenitis (tuberculosis) is a common lung disease in Pakistan. Poor young women and children in our society are frequent victims of this disease. For this reason, it can be thought that tuberculosis in any patient with cervical lymphadenopathy for a long time and that FNAC should exclude this disease.

Key words: chronic granulomatous lymphadenitis, pulmonary tuberculosis, FNAC, lymphadenopathy.

Corresponding author:**Dr Zeeshan Ahmad,**

Saidu Medical College Swat,

Khyber Medical University, Peshawar

QR code



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INTRODUCTION:

Tuberculosis is caused by *Mycobacterium tuberculosis* and never unusual *Mycobacterium*. It is a common disease in a developing and underdeveloped world. People living in the Eastern Mediterranean are frequent patients of this disease. The incidence of tuberculosis in Pakistan is estimated to be 2,300 (0.23%) in 1,000,000, with approximately 1.8 million new 414,000 new tuberculosis cases added to the total population available each year. Pulmonary tuberculosis is a common symptom because the introduction of *Bacillus tuberculosis* occurs more often during inhalation; however, it can affect any organ in the body. Twenty-four percent of tuberculosis cases in Asia and the Pacific Islands belong to extrapulmonary tuberculosis (EPTB) and its main symptom is cervical lymphadenitis. Lymph nodes, which are part of the human immune system, often grow whenever pathology appears in areas of drainage. Nodules and masses of the neck and head are a common symptom in the clinic, and in most cases these swellings are caused by swollen lymph nodes. There are several etiologies that can cause an increase in cervical lymph nodes, tuberculosis is the most common, other causes are reactive or inflammatory lymphadenitis and malignancy. The most common symptoms are neck swelling, coughing, fever and anorexia. According to the WHO report, the incidence of tuberculosis lymphadenitis is alarmingly high in South Asian countries, and Pakistan ranks eighth among 22 countries with the highest incidence. Due to effective preventive measures, pulmonary tuberculosis is decreasing in the developed western world, but the incidence of cervical lymphadenitis due to tuberculosis is not yet controlled. *Mycobacterium tuberculosis* usually cross the tonsil barriers and reach the cervical lymph node. Cervical lymph nodes are enlarged as swelling alone or a mixed mass of lymph nodes (scrofula) in the regional lymph region. The incidence of tuberculosis in cervical lymphadenitis is about 76.63%. Many studies in recent years have shown that additional pulmonary tuberculosis has increased among the total number of tuberculosis cases reported. Cervical lymphadenitis most often causes *Bacillus tuberculosis*, especially in our population, but this etiology is often

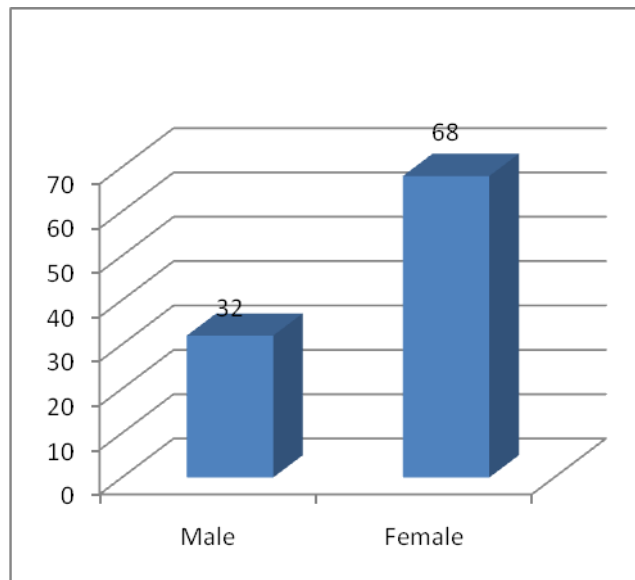
underestimated, so diagnostic devices such as histopathology / cytopathology can only be used in tertiary hospitals. That is why most of our villages and cities living in remote areas are undefined, and then progressive diseases and complications develop. This cross-sectional study was conducted to determine the incidence of tuberculosis lymphadenitis in patients with cervical lymphadenopathy primarily in low-income populations living in cities.

PATIENTS AND METHODS:

This cross-sectional study was conducted at Pathology and Medicine Unit II department of Services hospital Lahore for one year duration from March 2019 to March 2020. It covered all patients with cervical lymphadenopathy lasting more than four weeks and with clinical suspicion of tuberculosis irrespective of age, race and gender. Patients with ulcerative cervical lymphadenopathy and those who did not want to participate were excluded from the study. Patients were informed of all procedures and written consent was obtained prior to the study. Patients enrolled in the study were thoroughly examined for neck swelling and a routine general physical examination was performed. Basic laboratory tests and chest radiographs were performed. Socio-economic status was assessed for all participants in the study and belonged to the low-income class with an income of <15,000 rupees / month. Ten DC syringes with a 21 Gauge needle (Becton Dickinson) were used to perform the FNAC procedure in the cervical lymph node. Both air-dried and wet smears were prepared and stained with hematoxylin, eosin and Giemsa. The procedures were carried out at the histopathological ward of the pathological laboratory, and all cases were examined by the same histopathological consultant. Since this is a reliable hospital, most patients have not been charged for the FNAC procedure. The collected data were entered into the proforma and analyzed using SPSS 18.

RESULTS:

One hundred ten (110) cases of cervical adenopathy were included in the study: 42 of them (38.1%) were men and 68 (61.8%) were women (Fig. 1).



The age range of patients in this study was between 10 and 65 years old. Most of the patients included in the study were between 10 and 30 years old (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

Common complaints of patients were general weakness, neck swelling, weight loss and fever. The duration of these complaints was over 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 was between 2.5 and 6.5 cm. These lymph nodes were present on both sides, before the neck and in the supraclavicular region. Tuberculosis in the cervical lymph nodes, 80 (72.54%) in FNAC, 12 (10.9%) FNAC reports were diagnosed without any results. Tuberculosis was the dominant diagnosis in the cervical lymph nodes; It accounts for 80 (72.54%). In 11 cases (10%) the diagnosis was reactive lymphadenitis. Lymph node metastases occurred in 04 (3.63%) cases, non-Hodgkin's lymphoma in 2 (1.81%) and Kikuchi disease in 1 (0.9%) of the patient (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 involvement of inguinal, axillary, mesenteric, mediastinal and mediastinal lymph nodes has been defined, cervical tuberculosis adenopathy is the most common event. Earlier it was considered a childhood disease, but now the highest incidence was found in the second to fourth decade of life. The incidence of EPTB has increased more than since 1984. Than with pulmonary tuberculosis. Our current study has revealed that tuberculosis is common in women who are in line with previous results, and gives a female-to-male ratio of 1.4: 1 and 1.7: 1. The reason women dominate in our society is care medical women, other basic needs of life and patients with chronic diseases all the time. Patients from 10 to 65 years of age were enrolled in the study. Most of the patients were between 10 and 30 years old, and the following group belongs to the fourth decade, which is in line with the previous study in which patients were between 3 and 54 years old. In another study, age was between 10 and 70 years, and patients belonged to a lower level of socioeconomic life and racial and ethnic minorities. In our study, fever and weight loss were 52.7% and 63.6%, respectively, comparable to another study in which patients with EPTB had fever (34.65%) and weight loss (24.75%). However, in our study, the% weight loss is higher, so all patients included belong to a very low socioeconomic group. Similarly, in another study, 53 (94.6%) cases had neck inflammation; this is comparable to the last study in which 100% of cases occur. In our study, tuberculosis was the dominant diagnosis (75.24%) in cervical lymphadenopathy. This can be compared to another study in which cervical lymphadenopathy was the most common site of attachment and in cases (41%) tuberculosis lymphadenitis was found. Several other studies in the literature revealed TB TB results at 86.13% and 90%, which is comparable to our current results (75.24%). Another study found that EPTB was the most common cervical lymphadenopathy follow-up, or 66.4%. In the Rajaskaran study, tuberculosis was found in 77.3% with cervical lymphadenopathy. The study was the most common finding of patients with cervical edema and tuberculosis in İkbāl et al. 155 (70.45%). In the True study, tuberculosis lymphadenitis was observed in 84.8% of patients. In this study, tuberculosis was the dominant diagnosis in enlarged cervical lymph nodes. In addition, 11 diseases (10%) had other diseases such as reactive hypertrophic lymphadenitis, 3.63%, metastatic cancer and (1.81%) non-Hodgkin's lymphoma. Kikuchi disease (0.9%) is a rare disease found in this study. Our results can be compared with those of tuberculous lymphadenitis (86.13%), reactive

lymphadenopathy (10.89%), 8.9% of metastases and the results of Fazl-i-Wahid in 1.98% of cases. This is also consistent with the Jha BC study with tuberculous lymphadenitis in 200 patients (49.5%); and 18% reactive lymphadenitis; Non-Hodgkin's lymphoma (8%); metastatic cancer (7%); Kikuchi lymphadenopathy in 1 (0.5%) case. Tanwir et al. It was reported that 07% of the 175 cases included in our study had tuberculosis, 29.1% had reactive lymphadenopathy, 08% had lymphoma, and 07% had metastatic accumulation. Almost all studies agree that tuberculous lymphadenitis is the predominant diagnosis.

CONCLUSION:

Diagnosis of tuberculosis requires a high rate of suspicion and the use of different diagnostic approaches depending on the location of the disease. Extra pulmonary tuberculosis is a common problem, especially in the cervical lymph node, in children and young women in Pakistan. Therefore, in all cases of cervical lymphadenopathy, a high suspicion rate of tuberculosis should be taken into account. Fine-needle aspiration cytology is a simple and safe procedure that gives very good results in the hands of experts.

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