

# FREQUENCY OF TUBERCULOSIS IN CERVICAL LYMPHADENOPATHY

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## ABSTRACT

*Objective* To find out the frequency of tuberculosis in cervical lymphadenopathy and patients' characteristics.

*Study design* Descriptive study.

*Place & Duration of study* Surgical Unit-I, Ward-3 Jinnah Postgraduate Medical Centre Karachi, from March 2007 to March 2010.

*Methodology* Patients of cervical lymphadenopathy above 12 years of age of both sexes were included in the study. Fine needle aspiration cytology (FNAC) of lymphnode was done in all patients. Whenever necessary lymph node excision biopsy was also performed.

*Results* A total of 220 patients with enlarged neck lymph nodes were included. Predominantly adult males were involved. Most (n 155 - 70.45%) of the patients had tuberculous lymphadenitis. In 30 patients (13.63%) reactive hyperplasia found while 25 (11.3%) had metastatic lymph nodes and 10 (4.54%) had lymphoma. Chronic non-specific lymphadenitis was seen in five (2.27%) patients. Constitutional symptoms and family history was absent in most of the patients with tuberculosis and posterior triangle of the neck was predominantly involved.

*Conclusions* Tuberculosis was the most common clinical condition affecting the cervical lymph nodes. Laboratory findings were inconclusive in majority of the patients. Yield of diagnosis with FNAC is high.

*Key words* Tuberculous cervical lymphadenopathy, Reactive hyperplasia, Lymphoma.

## INTRODUCTION:

Lymphadenitis is the most common extrapulmonary manifestation of pulmonary tuberculosis. It remains both diagnostic and therapeutic challenge because it mimicks other pathological processes and yield inconsistent physical and laboratory findings. Diagnosis is difficult, often requiring biopsy. A complete history and physical examination, staining for acid-fast bacilli (AFB), FNAC and polymerase chain reaction (PCR) are helpful in obtaining early

diagnosis.<sup>1</sup> Commonest presentation may be neck swelling (92%), followed by fever, cold abscess, non-healing ulcer, discharging sinus, anorexia and weight loss.<sup>2</sup>

FNAC of cervical lymph nodes carries a high diagnostic accuracy. It provides important clues in guiding subsequent clinical management. However for detailed subtyping of certain disease entities such as lymphoma, surgical biopsy for histological and immunohistochemical studies are required.<sup>3</sup>

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It is recommended that there should be access for all patients with cervical lymphadenopathy to weekly neck lump clinic with standardized protocols for lymphoma diagnosis.<sup>4</sup> FNAC and PCR for detecting

**Table I: Frequency of Tuberculosis In Cervical Lymphadenopathy (n=220)**

Diseases in patients	No. of patients	Percentage	95% Confidence interval
Tuberculous cervical lymphadenopathy	155	70.45%	64.1 – 76.2
Reactive hyperplasia	30	13.63%	9.56 – 18.65
Metastasis to cervical lymph nodes	25	11.36%	7.65 – 16.08
Lymphoma	10	4.54%	2.33 – 7.95
Chronic non-specific lymphadenitis	5	2.27%	0.83 – 4.96
P=0.001 Chi-square=434.41			

the Mycobacterium tuberculosis should be employed for differential diagnosis of tuberculous lymphadenitis.<sup>5</sup> Hodgkin's lymphoma, squamous cell carcinoma and metastasis from papillary thyroid cancer (PTC) can co-exist in cervical lymph nodes.<sup>6</sup>

Objective of this study was to find out the frequency of tuberculosis in cervical lymphadenopathy and to find out other variables like age and sex distribution, role of clinical assessment and investigation for the diagnosis.

**METHODOLOGY:**

This was a descriptive study conducted at ward 3 Jinnah Postgraduate Medical Center, Karachi from March 2007 to March 2010. Variables studied were age, gender distribution and frequency of tuberculosis in cervical lymphadenopathy. Clinical presentation and family history were recorded. Related investigations were carried out in all cases including complete blood picture, erythrocyte sedimentation rate (ESR) and chest x-ray. FNAC was done for tissue diagnosis. Specific investigations like pus for AFB / culture and excision biopsy employed where FNAC was inconclusive.

Statistical analysis was done using SPSS version 13.0. Proportions of different patients of each disease group were compared using Chi-square test. A p-value of less than 0.05 was considered significant.

**RESULTS:**

A total of 220 patients were included in the study. There were 150 (68.2%) females and 70 (31.8%) males. Most of the patients were between 13 - 40 years. Tuberculous cervical lymphadenopathy was the most common histological diagnosis (70.45%). Majority of the patients were otherwise healthy adults and constitutional symptoms were present in 10% only. Posterior triangle of the neck was commonly involved in tuberculous lymphadenopathy. In two patients preauricular lymph nodes were affected.

They also had accompanying dysphagia due to enlargement of mediastinal lymph nodes (Table-I).

FNAC was most effective diagnostic tool (90%). ESR was raised in 15 patients out of 155 (9.67%) with tuberculous cervical lymphadenopathy. X-ray chest with positive lesions was found in only 5 patients (3.22%). Family history was uncommon.

**DISCUSSION:**

Tuberculosis is an important public health problem and it is commonest cause of infectious disease affecting the lymphoid tissue of the body.<sup>7</sup> In a study conducted in Kathmandu, causes of cervical lymphadenopathy were tuberculous lymphadenitis (54%), reactive hyperplasia (33%) and metastatic lesion in lymph nodes (11.1%). FNAC was found to be highly effective (94%) in diagnosis and lymph nodes in the posterior triangle of neck were mostly involved.<sup>8</sup> In this study tuberculosis was also the main cause of cervical lymphadenopathy but is relatively high as compared to study cited above.

In this study family history was not present in most of the patients. Thus source of organisms must be looked for. In one study the commonest age group affected was 11 – 20 years and constitutional symptoms were not present in most of the patients. The upper deep jugular nodes were most commonly involved. Discharging sinus and abscess formation were uncommon. Chest lesions in radiography were evident in 10% of the patients.<sup>9</sup> As compared to that study the age group mostly involved was 13 –40 years and posterior triangle of the neck was most commonly involved. Other findings are almost the same. Males were predominantly involved with tuberculosis in this study while more females were reported in a study from India.<sup>10</sup>

Tuberculous cervical lymphadenopathy usually presents with multiple lymph node enlargement without constitutional signs. The diagnosis is based

on high index of suspicion with pathological and laboratory investigations. Disease can be diagnosed with FNAC and PCR. An incorrect diagnosis can be made on FNAC. Thus if patient does not improve on drug therapy an excision biopsy is warranted. This was experienced in this study. ESR, chest x-ray were not reliable in most of the patients. FNAC and surgical biopsy of lymph nodes should not be delayed in cases of doubt.

#### CONCLUSIONS:

Frequency of tuberculosis in cervical lymphadenopathy was high. Constitutional symptoms were absent in most of the patients. Clinical examination, ESR and x-ray chest have limited role in diagnosis of tuberculous cervical lymphadenopathy. FNAC was investigation of choice though excision biopsy of lymph nodes was required occasionally.

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