

**AUDIT OF CERVICAL LYMPH NODE BIOPSY AT BAHAWALPUR VICTORIA HOSPITAL****Dr. Ufra Mateen<sup>1</sup>, Dr. Sana Munir<sup>2</sup> and Dr. Bareera Khan<sup>\*3</sup>**<sup>1</sup>(Pmdc# 92043-p) Nishtar Medical University Multan.<sup>2</sup>(Pmdc#80788-p) Isra University Hyderabad Sindh.<sup>3</sup>(Pmdc#90678-p) Quaid-e-Azam Medical College Bwp.**\*Corresponding Author: Dr. Bareera Khan**

(Pmdc#90678-p) Quaid-e-Azam Medical College Bwp.

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**ABSTRACT**

**Background:** Cervical lymphadenopathy is one the most common presenting complaint in the surgical OPD. Fine needle aspiration cytology (FNAC) has emerged as an important tool in the initial diagnosis and management of patients with lymphadenopathy due to early availability of results, simplicity of the test and minimal trauma to the patient. It is a safe, quick, reliable and cost-effective test for routine diagnosis of lymphadenopathy. Cervical lymphadenopathy is a very common complication of many diseases e.g. bacterial and viral infection, tuberculosis, lymphomas, malignancy and autoimmune diseases. **Objective:** To determine useful and important clinical signs and symptoms for evaluation of lymphadenopathy with consideration of histopathological findings of biopsy. This would help doctor to get basic idea about prevalence of different clinical profiles of cervical lymphadenopathy for easier detection and better therapeutic outcomes. **Methodology:** It is a cross sectional study done at Bahawalpur Victoria Hospital. In 6 months of duration from May to October 2017. In this study total 130 cases were enrolled through non-probability consecutive sampling technique. 130 cases of both genders falling in the age group of 15 to 75 years presenting with cervical lymph node enlargement were enrolled. These cases then underwent FNAC or surgical excision at the surgical department of the same institute. The results of biopsy were collected from Pathology department and the various outcomes were noted. **Results:** In this study there were total 130 cases out of which, males were 76 (58.4%) and 54 (41.5%) females with mean age of 32±14.21 years. 54 had firm to hard consistency and 76 had soft or rubbery consistency. On lymph node biopsy, TB caseating necrosis was seen in 44 (33.8%) male patient and 34 (26%) female, 12 (9.2%) male and 8 (6.1%) female cases were found to have malignancy, chronic non-specific inflammation in 14 (10.7%) male and 10 (7.6%) female cases, Hodgkin lymphoma in 4 (3%) male and 2 (1.5%) female (3.33%) cases and non-Hodgkin lymphoma in 2 male patient. There were 22/130 patients in age group 15-35years, 32/130 cases in age group 36-55 years and 24 cases in 56-75 years diagnosed as TB. There were 8/130 patients in age group 15-35years, 10/130 cases in age group 36-55 years. 2/130 patients in age group 15-35years and 4/130 cases in age group 36-55 years were having reed-Stenberg cells on lymph node biopsy result. Non-Hodgkin lymphoma was seen in the biopsy result of a 70 years old man. The constitutional sign and symptoms including fever, weight loss, night sweats and anemia were common in patient having TB and malignancy. **Conclusion:** Tuberculosis is the commonest presentation of cervical lymphadenopathy in our hospital and soft, rubbery and ulcerated consistency is significantly associated with this. Both genders are almost equally effective.

**KEYWORDS:** Cervical lymphadenopathy, TB, Malignancy, Biopsy, FNAC, Lymphomas.**INTRODUCTION**

Lymphadenopathy is a disease of lymph node, in which they are abnormal in size, shape and consistency. It is a common problem in all age groups, mostly it occurs as a temporary response to local and general infection but sometime it may be due to malignant causes.<sup>[1]</sup> It is important to take careful history and do examination regarding duration, location, pain, tenderness, consistency, growth pattern, associated symptoms (weight loss, anorexia, night sweats, fever, chill, and

fatigue), animal bite, travel, trauma, and family history of malignancy. History and examination can give clue to underlying disease, it is usually a self-limiting reaction in young adults or a malignancy in older patients.<sup>[2]</sup> Lymphadenopathy is defined as abnormal size or structure of lymph node. It is a common problem in all age groups. It is mostly caused by benign disorders and shows transient responses to the local or general infections but sometimes it is due to malignant disorders. We usually consider age, location of lymphadenopathy,

duration of disease, being local or generalized, other signs and symptoms like fever and splenomegaly. According to the location of lymphadenopathy we can make some differential diagnosis for example, cervical lymphadenopathy is usually due to pharyngitis, otitis, dental abscess, TB, measles, rubella, infectious mononucleosis, CMV and other viral infections, Kikuchi disease, lymphomas and metastatic carcinoma from pharynx.<sup>[2,3]</sup> Moreover, granulomatous lymphadenitis was shown to be a common cause (36.3%) of childhood lymphadenitis in developing countries,<sup>[9]</sup> and tuberculous lymphadenitis was confirmed in 332 of the 484 patients exhibiting chronic granulomatous changes (25%) in that study.<sup>[9]</sup> There is a geographical variation in the incidence of *M. tuberculosis* isolated from cervical lymph node biopsies. In an early study, *M. tuberculosis* was found to be the dominant cause of mycobacterial cervical adenitis in adults, whereas other mycobacteria were the cause of most cases of cervical adenitis in children.<sup>[15]</sup> In developed regions such as Australia.

Europe, and North America, granulomatous lymphadenitis is usually caused by a mycobacterium other than tuberculosis.<sup>[15-17]</sup> Consistent with previous studies from Saudi Arabia, Hodgkin's disease accounted for 8.7% of all lymphadenopathies in our study.<sup>[12-15]</sup> Every cause of cervical lymphadenopathy has some general characteristics. In head and infections, lymph nodes are usually tender, fixed, fluctuant, overlying skin erythema and there will be sign and symptoms of infection. In children infections are the most common cause of cervical lymphadenopathy. In TB, deep cervical lymph nodes are mostly effected, they are usually non-tender, matted and if caseation has occurred it appears as ulcer or sinus. Lymphadenitis is the most common extrapulmonary manifestation of TB.<sup>[4]</sup> In malignancy they appear to be enlarged, fixed, stony hard, irregular margins and painless. There will be history of constitutional symptoms and generalized lymphadenopathy. In lymphomas (Hodgkin or non-Hodgkin), lymph nodes are usually elastic, rubbery, moveable, and rapidly growing. Risk of malignancy is usually high in patient with generalized lymphadenopathy, lymph node size > 3cm.<sup>[5]</sup> There are various causes present all over the world but in Pakistan most common cause is TB.<sup>[6-8]</sup> Western studies about etiology of cervical lymphadenopathy are not directly

relevant because what is rarity in west is most common problem in our country.<sup>[9-10]</sup>

There are many diagnostic modalities include X-ray, CBC, ESR, Montoux test, CT-scan and MRI but the gold standard is lymph node biopsy.<sup>[11]</sup> The success rate of FNAC in diagnosing cause of enlarged lymph node is 95-100% in some studies.<sup>[12]</sup> but sometimes a small piece of FNAC cannot reveal a good diagnosis and excisional biopsy is preferred.<sup>[13,14]</sup>

#### METHODOLOGY

It is a descriptive, cross-sectional study done at Bahawalpur Victoria Hospital in a duration of 7 months from May to October 2017 after getting ethical approval letter from Ethical Review Committee, Quaid-e-Azam Medical College, Bahawalpur.

#### Inclusion criteria

Age 15-75 years, irrespective of gender.  
Cervical lymph node of at least 6 weeks of duration.  
Persistent enlarged nodes without prior sign of infection.  
Increasing size of mass.  
Persistent after trial antibiotics.

#### Exclusion criteria

Lymph node size less than 1cm.  
Supra aided infection at the site of biopsy.  
Bleeding disorder.  
Patient not full filling the criteria of biopsy.  
Not giving consent.

#### Data collection

Total 130 patients were enrolled in the study. Detailed history regarding age, sex, demographic details, previous treatment, examination findings of enlarged lymph node and significant general physical examination was done. After performing lymph node biopsy, sample sent to pathology department and histo-pathological data collected from them. Necessary routine investigations e.g. CBC, ESR, X-ray chest, Ultrasound of swelling was done. All the data collected through history, examination, and lab. Investigations and pathology department was filled in the preformed questionnaire. Statistical analysis was done by using SPSS version 18.0. P-value <0.05 was significant.

**Table: Different causes of cervical lymphadenopathy among different gender.**

Causes	Male	Female	Total
Tuberculosis lymphadenitis	44	34	78
Chronic non-specific lymphadenopathy	14	10	24
Malignancy	12	8	20
Hodgkin lymphoma	4	2	6
Non-Hodgkin lymphoma	2	0	2

#### RESULTS

In this study there were total 130 cases out of which 76 (58.4%) were males and 54 (41.5%) females with mean

age of 32±14.21 years. Out of 130 cases, 54 had firm to hard consistency and 76 had soft or rubbery consistency. On lymph node biopsy, TB was seen in 44 male and 34

female cases, malignancy in 12 male and 8 female cases, chronic non-specific inflammation in 14 male and 10 female cases, Hodgkin lymphoma in 4 male and 2 female cases and non-Hodgkin lymphoma in 2 male patient. There were 22 patients in age group 15-35years, 32 cases in age group 36-55 years and 24 cases in 56-75 years diagnosed as TB. There were 8/130 patients in age group 15-35years, 10 cases in age group 36-55 years and 6 cases in 56-75 years showed chronic non-specific inflammation on biopsy. There were 2/130 patients in

age group 15-35years, 4 cases in age group 36-55 years and 4 cases in 56-75 years who were having malignant finding on lymph node biopsy. 2 patients in age group 15-35years and 4 cases in age group 36-55 years were having reed-Stenberg cells on lymph node biopsy result. Non-Hodgkin lymphoma was seen in the biopsy result of a 70 years old man. The constitutional sign and symptoms including fever, weight loss, night sweats and anemia were common in patient having TB and malignancy.

**Table: Clinical presentation observed in 130 patients with respect to their outcomes.**

Sign/symptom	TB	Chronic non-specific lymphadenopathy	Malignancy	Hodgkin lymphoma
Painless node	60	20	18	6
Painful node	18	4	2	----
Fever	62	12	16	4
Night sweats	48	---	14	4
Weight loss	20	---	20	4
> 1 cervical lymph node involved	56	----	16	2
Anemia	20	4	14	2
Hepato-splenomagaly	16	---	12	2
Generalized lymphadenopathy	8	---	14	2

**Table: Different causes of cervical lymphadenopathy among different Age groups.**

Causes	15-35 years	36-55 years	56-75 years	Total
Tuberculosis lymphadenitis	22	32	24	78
Chronic non-specific lymphadenopathy	8	10	6	24
Malignancy	2	4	14	20
Hodgkin lymphoma	2	4	0	6
Non-Hodgkin lymphoma	0	0	2	2

**Table: Outcome of biopsy with respect to consistency.**

Causes	Firm	Soft
Tuberculosis lymphadenitis	14	62
Chronic non-specific lymphadenopathy	8	12
Malignancy	20	0
Hodgkin lymphoma	6	0
Non-Hodgkin lymphoma	2	0

## DISCUSSION

In this study we have shown frequency of histopathological finding in cervical lymph node biopsies and relationship between findings with clinical sign, symptoms, age, gender and consistency of lymph node. In our study we found that most common cause of cervical lymphadenopathy was TB in 60% patients followed by chronic non-specific lymphadenitis 18.4% and metastatic malignancy 15.3%. The incidence of lymphomas was very low in our study. TB was more common in male as compared to female, but there was no significant difference among different age groups. Some studies from different part of world showed result as such, a Brazilian FNAC study on lymph nodes diagnosed 79.4% metastases and 14.2% lymphomas.<sup>[19]</sup> A study conducted in Baghdad has reported more involvement by lymphomas (58.2%) rather than metastatic disease (37.3%) and 4.4% involved by

leukemia.<sup>[20]</sup> The diagnostic accuracy of FNAC in metastatic disease varies from 87% to 97.9%,<sup>[5-6]</sup> and for lymphomas is 82%.<sup>[5]</sup> The cervical group is the most common group of lymph nodes to be involved and the primary is most often from the oral cavity,<sup>[16,21]</sup> With squamous cell carcinoma being the most common histological type.<sup>[4,5,21]</sup> In another study, the most common cause of cervical lymphadenopathy was tubercular (53.8%), followed by reactive (27.8%), metastatic deposits of squamous cell carcinoma (10.7%), metastatic deposits of adenocarcinoma (3.9%) and lastly lymphoma (3.6%). Similar findings were reported in two studies conducted previously at our institute by Rajesh Gaur *et al*<sup>[21]</sup> and Jyoti Priyadarshini *et al*.<sup>[23]</sup>

Metastatic malignancy were almost common in both genders with higher incidence in patient with age more than 55 years. Similar to study in which shown that older age is a risk factor for malignant lymphadenopathy.<sup>[15]</sup>

Among malignant finding on histo-pathology squamous cell carcinoma was most common. We found that symptoms like fever, weight loss, anorexia and anemia were more common in Tuberculosis and malignancy. Our results were similar to another study that showed these sign and symptoms are useful and important factor in approach to lymphadenopathy.<sup>[16,17,18]</sup> We could not found any significant relationship between group of cervical lymph node and pathological finding. We could not establish any useful relation between mobility of lymph node and biopsy findings. Many studies resulted that mobility of lymph node is not reliable criteria for diagnosing malignancy on clinical bases.<sup>[19,20]</sup> We found in our study that malignant node mostly firm and hard while TB lymphadenopathy on pathology report was soft, ulcerated and rubbery. In contrast, to our study, Khajuria Ruchi *et al.* reported in there study that reactive hyperplasia was most common.<sup>[21]</sup>

In our study frequency of Hodgkin lymphoma is 4.6% which is similar to other studies done in Asia 4.4-18%.<sup>[22,23]</sup> Lymphoma is relatively rare and its incidence varies worldwide. Many local studies showed similar results but not internal studies, as in western countries TB prevalence is very less. A study done in Iran revealed reactive lymphadenopathy is most common cause of effecting 62.5% and malignancy 21.6%.<sup>[24]</sup>

## OBJECTIVE

To determine useful and important clinical signs and symptoms for evaluation of lymphadenopathy with consideration of histopathological findings of biopsy. This would help doctor to get basic idea about prevalence of different clinical profiles of cervical lymphadenopathy for easier detection and better therapeutic outcomes.

## CONCLUSION

Tuberculosis is the commonest presentation of cervical lymphadenopathy in our hospital and soft, rubbery and ulcerated consistency is significantly associated with this. Both genders are almost equally effective.

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