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*Original Article*

# Histopathological Study of Non Neoplastic Lesions of Cervical Lymph Nodes

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**Abstract**

Cervical lymphadenopathy is one of the most common clinical presentations with a rising trend of non neoplastic lymphadenopathies. This study aims at describing our experience in a tertiary care centre of South India for a period of one year. Fine needle aspiration cytology is the investigation of choice and the most common investigating tool used for diagnosis. However, owing to its diagnostic restrictions,excision biopsy with histopathological study remains the gold standard diagnostic tool in the evaluation of cervical lymphadenopathy.

**Keywords:** Cervical lymphadenopathy; Histopathological examination.

## Introduction

Lymphadenopathy is defined as an abnormal increase in the size or character of lymph node caused by a vast array of disease processes. They can be classified under broad categories which are Malignancies, Infections, Autoimmune disorders, Miscellaneous and unusual conditions, and Iatrogenic causes.[1] Among all the lymphadenopathies, Head and neck lymphadenopathy represents 55% and has the predominant significance as it comes under clinical radar very early. The most common cause being benign and usually infections attributed to viral etiology, especially in children.[2] Lymph node enlargement restricted only to the cervical area is cervical lymphadenopathy and its involvement is more common by non-neoplastic processes as compared to the neoplastic process.[3] The gold standard investigation used for evaluating cervical lymphadenopathy is histopathological examination.[4]

Non Malignant causes of lymphadenopathy are numerous and diverse ranging from infections such as tuberculosis, brucellosis, mononucleosis syndromes and cat scratch disease; extending to connective tissue disease such as systemic lupus erythematosus, rheumatoid arthritis; or it may be iatrogenic as a result of certain drug intake such as phenytoin, carbamazepine, captopril, allopurinol and atenolol.[5]

In patients presenting with peripheral lymphadenopathy, excision biopsy of the most accessible lymph node provides material to establish an early diagnosis, and is important in the

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management of these patients.[6]

In a large number of patients, the causes of lymphadenopathy remain undiagnosed.[7] This study was undertaken with the aim of evaluating the spectrum of histopathological diagnosis of non-neoplastic lesions in cervical lymph nodebiopsies in this region.

## Materials and Methods

This was a Retrospective study undertaken in the Department of Pathology for a period of one year. Clinical data and histopathological slides of non neoplastic cervical lymph node biopsies were retrieved and included in this study. 80 patients underwent cervical lymphnode biopsy for diagnostic confirmation.

## Results

In the present study of 80 cases, 47 cases (58%) were females and 33 cases (41%) were males with male to female ratio of 1: 1.4 suggesting female preponderance. Most patients belonged to the age group of 21-30. (Table 1)

**Table 1:** Age wise Distribution of Non neoplastic lesions Cervical lymph Nodes.

| Age | Non Neoplastic lesions | Precentage |
|---|---|---|
| <10 | 5 | 6.25 |
| 11-20 | 17 | 21.25 |
| 21-30 | 25 | 31.25 |
| 31-40 | 16 | 20 |
| 41-50 | 10 | 12.5 |
| 51-60 | 4 | 5 |
| 61-70 | 2 | 1.25 |
| >71 | 1 | 1.25 |
| Total | 80 | 100 |

In this study a varied spectrum of cases were observed, with the most common being Tuberculous lymphadenitis followed by non-specific lymphadenitis. (Table 2)

**Table 2:** Incidence of Non Neoplastic Lesions of Cervical Lymph Nodes

| Name of Lesion | No. of Cases | Percentage |
|---|---|---|
| Tuberculous Lymphadenitis | 36 | 45 |
| Chronic Nonspecific Lymphadenitis | 26 | 32.5 |
| Kikuchi Lymphadenopathy | 8 | 10 |
| Kimura Lymphadenopathy | 2 | 2.5 |
| Toxoplasma Lymphadenitis | 2 | 2.5 |
| Sinus Histiocytosis with Massive Lymphadenopathy | 2 | 2.5 |
| Human Immunodeficiency Virus Lymphadenitis | 2 | 2.5 |
| Castleman Lymphadenopathy | 1 | 1.25 |
| Dermatopathic Lymphadenopathy | 1 | 1.25 |
| Total | 80 | 100 |

## Discussion

Proliferation of lymphocyte and monocyte-macrophage system cells in response to antigenic stimuli or infiltration by inflammatory cells in infections involving lymph nodes can induce lymph node enlargement or lymphadenitis. More than two thirds of patients with lymphadenopathy in primary care have non specific causes or upper respiratory diseases (viral or bacterial), and less than 1% have malignancy, according to Chabra et al.[1]

In this study we encountered a female predominance with a male to female ratio of 1:1.4. similar observations have been made by Rehman et al and Vemulapalli NK et al. However, Paliwal U K et al[10] showed a slight higher preponderance. Also majority of patients presented were in the age group of 21-30 years which is similar to other studies done by Rehman et al. While Paliwal U K et al[10] and Vemulapalli N K et al[9] reported 1stand 2nd decade as the commonest age group in theirstudies.

In present study, Tuberculous lymphadenitis was the predominant lesion, (36 cases, 46%). This observation is nearly comparable with Rehman A et al[8] and Vemulapalli N K et al[9] who reported highest incidence of tuberculous lymphadenitis in their study as 50.61 % and 68% respectively. Various studies done by several authors also reported similar incidence of tuberculosis.[11,12] While Moor J W et al[13] reported incidence of chronic nonspecific lymphadenopathy as highest being 50.83%. Non-specific lymphadenitis was found to be the second most common cause of lymphadenitis in our study and is comparable to study by Roy et al in South India.[14] In the United States, non specific reactive hyperplasia is a common cause of lymphadenopathy comprising nearly half of all cases.[15,16]

We also reported eight cases (8%) of Kikuchi lymphadenopathy. This finding is nearly comparable with Moor J W et al[13] and Rehman A et al[8] who reported 4.16% and 3.70% respectively. In our study, incidence of toxoplasma lymphadenitis was two cases (2.5%), which is nearly comparable

with study done by Moor J W et al[13] being 1.66%. Other studies did not report any cases of toxoplasmalymphadenitis.

In present study we also reported Kimura lymphadenopathy and Sinus histiocytosis with massive lymphadenopathy amounting 2% each, Human Immunodeficiency Virus Lymphadenitis, Castleman lymphadenopathy, and Dermatopathic lymphadenopathy amounting 1.2% each. These lesions were not seen in other studies. Other lesions found in their studies, which were not reported in present study, were Sarcoidosis, SLE, foreign body reaction and Cat ScratchLymphadenitis.

## Conclusion

One of the most prevalent clinical presentations of patients who visit the outpatient and inpatient departments is cervical lymphadenopathy. Spectrum of histopathological conditions including various infections caused by viruses and microbes to inflammatory conditions and malignant conditions are the common etiologies for cervical lymphadenopathy. Though, Fine needle aspiration cytology is the first choice of evaluation cervical lymphadenopathy, histopathological examination remains the "gold standard" for complete diagnosis.

To conclude, we came across various Non neoplastic cervical lymph node lesions in biopsy specimens and definitely biopsy is useful in management of various Non neoplastic diseases of cervical lymph nodes.

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