



## CERVICAL LYMPHADENOPATHY : A MANIFOLD OF DIAGNOSIS

## Otorhinolaryngology

**Dr. Disha R** Junior Resident

**Dr. Udayabhanu H N** Professor & Hod

**Dr. Nagarathna H K** Associate Professor

**Dr. Saritha H M** Assistant Professor

## ABSTRACT

**Background:** Cervical lymphadenopathy indeed presents a complex challenge given its broad differential diagnosis that encompasses infectious, inflammatory, and neoplastic processes. A thorough clinical evaluation is crucial. Fine needle aspiration Cytology or FNAC is a minimally invasive technique for cytological analysis of the lymph node tissue. Open biopsy for histopathological examination gives a more accurate diagnosis. The time of presentation can be confounding relative to its diagnosis. Overall, the management of cervical lymphadenopathy requires systematic multidisciplinary approach. **Aim:** To Assess the prevalence of cervical lymphadenopathy by age, sex and time of presentation. Analyze the different clinical presentations linked to cervical lymphadenopathy. Correlate pathological findings from Fine Needle Aspiration Cytology (FNAC) with clinical diagnoses. **Materials And Methods:** The study involved 60 patients with cervical lymphadenopathy who presented to the ENT outpatient department at Akash Medical College. After a comprehensive history and clinical examination, the patients underwent Fine Needle Aspiration Cytology (FNAC) and excision biopsy of the lymph nodes. The results were then tabulated and analyzed for further evaluation. **Results:** The study found that the most common diagnosis for cervical lymphadenopathy was Tubercular lymphadenitis (45%), secondaries from oral and upper aerodigestive tract malignancy (35%), Reactive lymphadenitis (16.67%), lymphoproliferative disorders including lymphoma (3.3%). There was a slight predominance among females (55%). The most frequently affected age group was 10-30 years. The primary presenting symptom was neck swelling (76.6%) fever (13.3%) cough (5%), dysphonia (3.3%) and dysphagia (1.6%). The mean time of presentation from the onset of symptoms was 2-4 weeks. On open Biopsy histopathological examination, FNAC showed specificity of 95.5%. **Conclusion:** Tubercular lymphadenitis is often a cause for cervical lymphadenopathy. Nevertheless Non specific reactive lymphadenitis is as frequent as any other cause for Cervical lymphadenopathy. Fine Needle Aspiration Cytology (FNAC) is an effective diagnostic tool for evaluating cervical lymphadenopathy.

## KEYWORDS

Cervical Lymphadenopathy, FNAC, Malignancy, Tubercular lymphadenitis

## INTRODUCTION

Lymphadenopathy is indeed a common clinical entity, often presenting a diagnostic challenge in surgical practice, especially when localized to the cervical region. The broad differential diagnosis for cervical lymphadenopathy includes both inflammatory and neoplastic processes, making accurate evaluation essential. In clinical practice, the initial assessment typically involves a thorough history and physical examination, which can provide valuable clues regarding the underlying etiology. Following this, various diagnostic modalities are employed.

Fine Needle Aspiration Cytology (FNAC), a minimally invasive technique is widely used due to its ability to provide rapid results. FNAC can help differentiate between benign and malignant conditions and is often performed first to guide further management. While more invasive, open biopsy with histopathological examination remains the gold standard for diagnosing cervical lymphadenopathy. It allows for a more comprehensive evaluation of lymph node architecture and can reveal subtle changes that FNAC might miss.

Our study aims to clarify the diverse pathological conditions associated with cervical lymphadenopathy along with their clinical manifestations. Overall, the combination of clinical evaluation, FNAC, and open biopsy allows for a thorough investigation of cervical lymphadenopathy, ensuring that both benign and malignant conditions are accurately diagnosed and managed.

## MATERIALS AND METHODS

In this study, 60 patients with cervical lymphadenopathy were randomly selected from the outpatient department (OPD) of the Department of ENT at Akash Medical College Hospital. The clinical data was collected during the study period from August 2022 to August 2024.

Patients fulfilling the inclusion criteria underwent complete Clinical Evaluation. A detailed case history was taken, including demographic information, duration of lymphadenopathy, associated symptoms, and relevant medical history. Comprehensive clinical examinations were

performed to assess lymph node characteristics (size, tenderness, mobility, etc.). Investigations included Complete Blood Count (CBC), USG Neck, Fine Needle Aspiration Cytology

(FNAC), Chest X-Ray, Contrast-Enhanced Computed Tomography (CECT) Used in selected cases for detailed imaging when further anatomical clarification was necessary.

All collected data were analyzed to correlate clinical findings with FNAC and open biopsy results, helping to determine the diagnostic accuracy and efficacy of different investigative modalities. This structured approach aimed to provide a comprehensive evaluation of cervical lymphadenopathy in the studied population, facilitating accurate diagnosis and appropriate management.

## Inclusion Criteria

Patients aged above 10 years and older presenting to the ENT OPD with neck swelling. Patients with a diagnosis confirmed by ultrasonography (USG) or CT scan of the neck, included for comprehensive clinical evaluation and FNAC/biopsy of the lymph nodes.

## Exclusion Criteria

Patients with prior diagnosed or treated head and neck malignancy, patients in Cardiorespiratory failure.

## RESULTS

In this study, 60 patients were evaluated for cervical lymphadenopathy, with each patient undergoing both FNAC and open biopsy in necessary. The findings were as follows:

## Histopathological Diagnoses

Tubercular lymphadenitis (45%), secondaries from oral and upper aerodigestive tract malignancy (35%), Reactive lymphadenitis (16.67%), lymphoproliferative disorders including lymphoma (3.3%).

Thus, Tubercular lymphadenitis was identified as the most prevalent cause of cervical lymphadenopathy (Table 1).

**Table 1: Histopathological diagnosis**

Histopathological diagnosis	Number of cases	percentage
Tubercular lymphadenitis	27	45%
Secondaries from malignancy	21	35%
Reactive lymphadenitis	10	16.67%
Lymphoproliferative disorders	2s	3.3%

**Sex Distribution:** Female (55%) and Male (45%). This reflects a female preponderance with a ratio of 3:4 (Table 2).

**Table 2: Sex Distribution**

Sex	Number	Percentage
Female	33	55%
Male	27	45%

The majority of patients fell into the age groups of 10-30 years 27 cases (45%), 31-50 years 22 cases (36.6%) and above 50 years 11 cases (18.35%). (Table 3)

**Table 3: Age Distribution**

Age group	Total Number	Percentage
10-30 years	27	45%
31-50 years	22	36.6%
>50 years	11	18.35%

Most of the patients had Neck swelling (76.6%) as the presenting complaint.

**Table 4: Presenting Symptoms**

Presenting symptoms	Number	percentage
Neck swelling	46	76.6%
Fever	8	13.3%
Cough	3	5%
Dysphonia	2	3.3%
Dysphagia	1	1.6%

**Table 5: Symptom duration at the time of consultation**

Symptom duration	Number	percentage
3weeks – 4 weeks	47	78%
>4 weeks	13	22%

Majority of the patients presented 3-4 weeks from the onset of the symptoms

**Table 6: Lymph Node Involvement**

Site of lymph node involvement	Number	Percentage
Level 1 (submental and submandibular group)	24	40%
Level 2 (upper jugular group)	5	8.3%
Level 3 (middle jugular group)	4	6.6%
Level 4 (lower jugular group)	3	5%
Level 5 (Posterior triangle group)	4	6.6%
Level 6 (anterior compartment group)	2	3.3%
More than one group of lymph nodes	18	30%

Majority of the cases showed level 1 (submental and submandibular group) of lymph nodes (40%) and multiple group of lymph nodes involved in 30% of the patients.

**Table 7 Sensitivity and specificity FNAC for various pathologies of cervical lymphadenopathy confirmed by open biopsy Histopathological examination.**

FNAC of various pathologies	Number
True positive (a)	13
False positive (b)	2
False negative (c)	2
True negative (d)	43

Sensitivity: 86.6%

Specificity: 95.5%

## DISCUSSION

Our study showed Tubercular lymphadenitis to be the most common cause of Cervical lymphadenopathy. Kadah et al (1) in a study of 251 patients with cervical lymphadenopathy found that Tubercular lymphadenitis was one among the common causes for cervical lymphadenopathy and opined that Patients with ongoing cervical

lymphadenopathy who have not improved after more than three weeks of antibiotic treatment should be evaluated for an early biopsy. The results of the current study are consistent with these earlier findings. Females had slightly more preponderance compared to males in our study with mean age group of 10-30 years. The female gender preponderance in our study could be due to self awareness of the symptoms like appearance. Saeed et al (2) in a study Cervical Lymphadenopathy-A Clue to Systemic Diseases mentioned that Common causes of lymphadenopathy vary by age and duration. Most common presenting complaint in our study was swelling in the neck. Mabedi et al (3) in a study on Causes of cervical lymphadenopathy found that Common Presentation of reactive lymphadenitis is isolated bilateral, mobile, small lymph nodes (sub-centimetre) due to self-limiting viral infections. The mean Symptom duration from the onset to the time of consultation in our study was 2 weeks. Jeong et al (4) in a study on Initial work-up for cervical lymphadenopathy opined that for isolated lymph nodes measuring 1–2 cm with no concerning symptoms, follow-up is recommended at 2 weeks to ensure no significant increase in size. Most cases of acute lymphadenitis are due to infections and typically resolve within two weeks. In contrast, chronic lymphadenopathy lasts over six weeks and often indicates underlying issues such as malignancy, metabolic diseases, or opportunistic infections (5). Fine needle aspiration (FNA) is crucial for patients over 20. It is fundamental in the initial assessment of cervical lymphadenopathy. In adults, an increasing duration of lymphadenopathy and bilateral involvement typically suggest that the lymph nodes are more likely to be benign. Additionally, no significant correlation was identified between the location of the lymph nodes in the neck and the likelihood of malignancy across all age groups. (6) In cases of unexplained lymphadenopathy, a three- to four-week observation period is generally recommended if the clinical context suggests a high likelihood of benign conditions. This allows for monitoring the lymph nodes before pursuing further diagnostic interventions. (7)

## CONCLUSION

Cervical lymphadenopathy, the swelling of lymph nodes in the neck, is frequently encountered in both general and specialized medical practices. In acute cases, it is often caused by infections, while in chronic cases, it is typically associated with metastatic disease from head and neck cancers. The patient demographics like age may hint the diagnosis in a broader sense if infectious, benign or malignant. The causes of cervical lymphadenopathy are diverse, and a definitive diagnosis typically requires investigations such as Fine Needle Aspiration Cytology (FNAC), with excisional biopsy being necessary in some cases. Treatment approach should prevent unnecessary delays in diagnosis while also avoiding premature or overly invasive treatments.

## REFERENCES

- Al Kadah, B., Popov, H. H., Schick, B., & Knöbber, D. (2015). Cervical lymphadenopathy: study of 251 patients. *European Archives of Oto-Rhino-Laryngology*, 272(3), 745-752.
- Saeed, S., Hasan, S., & Panigrahi, R. (2020). Cervical Lymphadenopathy-A Clue to Systemic Diseases: A Recent Update. *Medico-legal Update*, 20(4), 3521.
- Mabedi, C., Kendig, C., Liomba, G., Shores, C., Chimzimu, F., Kampani, C.,...& Gopal, S. (2014). Causes of cervical lymphadenopathy at Kamuzu Central Hospital. *Malawi Medical Journal*, 26(1), 16-19.
- Jeong, W. J., Park, M. W., Park, S. J., & Ahn, S. H. (2012). Initial work-up for cervical lymphadenopathy: back to basics. *European Archives of Oto-Rhino-Laryngology*, 269, 2255-2263.
- Verma, R., & Khera, S. (2020). Cervical lymphadenopathy: a review. *Int J Health Sci Res*, 10, 292-8.
- Celenk, F., Gulsen, S., Baysal, E., Aytac, I., Kul, S., & Kanlikama, M. (2016). Predictive factors for malignancy in patients with persistent cervical lymphadenopathy. *European Archives of Oto-Rhino-Laryngology*, 273, 251-256.
- Ghate, G. A., Thomas, J., & Bhat, N. (2018). A clinico-etiological study of cervical lymphadenopathy in otorhinolaryngology practice. *Int J Otorhinolaryngol*, 4(2), 51-54.
- Zeppa, P., & Cozzolino, I. (2018). Lymphadenitis and lymphadenopathy. *Lymph Node FNC*, 23, 19-33.
- Ferrer, R. (1998). Lymphadenopathy: differential diagnosis and evaluation. *American family physician*, 58(6), 1313-1320.