

# Role of FNAC in the Diagnosis of Cervical Node Enlargement.

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## ABSTRACT

**Background:** Cervical lymphadenopathy is relatively common clinical observation. Cervical lymphadenopathy is a diagnostic dilemma to the surgeon. The various avenues available for the analysis of cervical node enlargement are clinical evaluation, aspiration cytology, and open biopsy. **Aim:** To study the role of the FNAC in diagnosis of cervical node enlargement after correlating with a lymph node biopsy. **Methods:** Detailed history will be taken followed by physical examination in all the patient with cervical lymphadenopathy. After making a clinical diagnosis, all the patients attending surgical OPD with cervical node enlargement were sent for FNAC and the results are analyzed. **Results:** Majority of the cases in this study had non-neoplastic causes for cervical lymphadenopathy in which tuberculosis is most common. Male to female ratio of 1.3:1. Maximum incidence was found to be tuberculosis. Maximum number of cases was in the age group of 21 to 30 years. The diagnostic accuracy of FNAC for tuberculous lymphadenopathy is 91.66%. The diagnostic accuracy of FNAC for nonspecific lymphadenitis was 87.50%. For secondary's neck and lymphoma were 100%, 100% respectively. **Conclusion:** FNAC is a simple and safe procedure, which can be employed on outpatient basis. FNAC is found to be a frontline investigation of choice with biopsy and histopathological examination done for confirmation.

**Keywords:** Cervical lymphadenopathy, FNAC, Histopathological examination.

## INTRODUCTION

Lymphadenopathy is one of the commonest clinical manifestations of many diseases. It is defined as an abnormality in the size and character of the lymph nodes caused by the invasion or propagation of either inflammatory cells or neoplastic cells into the lymph node.<sup>[1]</sup> Enlarged lymph nodes are easily accessible for fine needle aspiration and hence fine needle aspiration cytology (FNAC) is a very simple and important diagnostic tool for lymph node lesions.<sup>[2]</sup> Cervical lymphadenopathy is relatively common clinical observation. Cervical lymphadenopathy is a diagnostic dilemma to the surgeon. The various avenues available for the analysis of cervical node enlargement are clinical evaluation, aspiration cytology, and open biopsy.<sup>[3]</sup> each method of diagnosis has its own merits and demerits. Traditionally, open biopsy and its histopathological study are the main stay for diagnosis of cervical lymphadenopathy. FNAC is a simple and safe procedure, which can be employed on outpatient basis. Surgical biopsy needs anaesthesia and it is time consuming to get the report.<sup>[4]</sup> Fine needle aspiration cytology (FNAC) of lymph node has become an integral part of the initial diagnosis and management of patients with lymphadenopathy due to early availability of results,

simplicity, and, minimal trauma with less complication.

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### Aim

To study the role of the FNAC in diagnosis of cervical node enlargement after correlating with a lymph node biopsy.

## MATERIALS AND METHODS

This prospective study was conducted in the Department of General Surgery, Tirunelveli Medical College. Informed consent and Institutional Ethics Committee approval was obtained. Patients with age group above 12 years and both genders presenting to general surgery outpatients department with neck swelling were screened. Data will be collected by detailed history followed by physical examination, FNAC, biopsy in all patients with cervical lymphadenopathy. After making a clinical diagnosis, further relevant investigations were done to confirm the diagnosis.

## RESULTS

In the present study of 50 cases the maximum number of case was in the age group 21-30 years. Male to female ratio was 1.3:1. In the present study out of 50 patient's biopsy report shows 22 patients have tuberculous lymphadenopathy, 16 cases having nonspecific lymphadenopathy, 8 cases having secondary's neck and 4 cases having lymphoma. The present study diagnosis 24 cases of tuberculous lymphadenopathy by FNAC in with 22 cases were proven by biopsy. The diagnostic accuracy of FNAC for tuberculous lymphadenopathy is 91.66%. The diagnostic accuracy of FNAC for nonspecific lymphadenitis were 87.50% for secondary's neck and lymphoma were 100% respectively.

**Table 1: Age and Gender wise distribution of cervical node enlargement.**

| Age Group (years) | Male | Female | Total |
|-------------------|------|--------|-------|
| 12 – 20           | 6    | 7      | 13    |
| 21 – 30           | 10   | 8      | 18    |
| 31 – 40           | 3    | 3      | 6     |
| 41 – 50           | 3    | 1      | 4     |
| >50               | 6    | 3      | 9     |
| Total             | 28   | 22     | 50    |

**Table 2 Histopathological diagnosis.**

| Diagnosis                | Number of cases |
|--------------------------|-----------------|
| Tuberculosis             | 24              |
| Reactive lymphadenopathy | 14              |
| Secondaries              | 8               |
| Lymphoma                 | 4               |

**Table 3 Diagnostic accuracy of FNAC with respect to Biopsy.**

| Lymphadenopathy             | As per biopsy report | FNAC report | Diagnostic accuracy |
|-----------------------------|----------------------|-------------|---------------------|
| Tuberculous lymphadenopathy | 22                   | 24          | 91.66%              |
| Non-specific lymphadenitis  | 16                   | 14          | 87.50%              |
| Secondaries neck            | 8                    | 8           | 100%                |
| Lymphoma                    | 4                    | 4           | 100%                |
| average                     | 50                   | 50          | 94.79%              |

## DISCUSSION

Lymphatic system development begins at the 5th week of gestation. During fifth week of gestation 2 paired and 2 unpaired endothelial sacs arises, these sacs which form the primordia of the lymphatic system.<sup>[5]</sup> Body contains approximately 800 lymph nodes out of these 300 lymph nodes are located in the neck.<sup>[6]</sup> Main cause of lymph node enlargement in neck are inflammatory mainly tuberculosis, Neoplastic (lymphomas), secondary's from head and neck cancers, nonspecific lymphadenitis.<sup>[7-10]</sup> Spreading ante grade infection and chronic recurrence were found to be the characteristics of mixed type of cervical lymph node tuberculosis.<sup>[11]</sup> The constitutional symptoms were fever, pain cough, sinus, loss of appetite. FNAC is the study of cells obtained by a small gauge needle, usually with

vaccum system provided by air tight syringe. Fine needle aspiration cytology (FNAC) is widely accepted as the accurate, sensitive, specific and cost-effective procedure in the diagnosis of lymphadenopathy. FNAC may be a helpful procedure in the diagnosis of both neoplastic and non-neoplastic lesion of lymph nodes.<sup>[12]</sup> Advantages are, day care procedure,<sup>[13]</sup> eliminates the lengthy periods of watchful waiting, safe procedure<sup>[10]</sup>, cost effective and less painful procedure.<sup>[14]</sup>

## CONCLUSION

In this present study, fine needle aspiration cytology was found to be reliable and cheapest method of diagnosis without any significant morbidity and good patient compliance.

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