



PATTERN OF CERVICAL LYMPHADENOPATHY ON FINE NEEDLE ASPIRATION CYTOLOGY

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ABSTRACT

Background: Fine needle aspiration cytology (FNAC) of cervical lymph node lesions has an established role in diagnosis and management of patients.

Aim: The aim of the present study was to study the different cytomorphological patterns associated with cervical lymphadenopathy and to evaluate the spectrum of cervical lymph node lesions in our setting.

Material and Methods: In the present study, 331 cases were included in this study. FNA was performed from different sites of the lymph node swelling using a 10 mL disposable syringe and 23/24-gauge needle without local anaesthesia. FNA air-dried smears were stained with Giemsa stain and analysed by cytopathologists.

Results: Majority of lesions were tubercular lymphadenitis (46.8%) followed by reactive lymphadenitis (24.8%). Primary malignant lymphadenopathy accounted for about 1.8% NHL and 0.9% HL. Metastatic lymphadenopathy made up about 5.1% of the total.

Conclusion: FNAC is a useful, quick and reliable diagnostic technique, indispensable for developing countries, in evaluation of lymphadenopathy for both screening and follow-up and can be performed as an outpatient procedure.

KEYWORDS : FNAC , pattern, Cervical lymphadenopathy

INTRODUCTION

The commonest cause of peripheral lymphadenopathy is a reaction to some symptomatic or asymptomatic inflammatory process. Fine needle aspiration cytology offers the alternative of an immediate preliminary, although not always specific diagnosis with little trauma and cost.¹

In fact, it is also essential to establish that the swelling in question is a lymph node.

Lymphadenopathy may be an incidental finding and/or primary or secondary manifestation of underlying diseases which may be neoplastic or non-neoplastic.

Cervical lymphadenopathy is very commonly encountered in clinical practice in our country. The management of these various lesions is very different and hence the determination of the etiology is of utmost significance.

The knowledge of the pattern of lymphadenopathy in a given geographical region is essential for making a confident diagnosis or suspecting a disease.

The aim of the present study was to study the different cytomorphological patterns associated with cervical lymphadenopathy and to evaluate the spectrum of cervical lymph node lesions in our setting.

MATERIAL AND METHODS

The present study was carried out in the Department of Pathology, Jawahar Lal Nehru Medical College, Bhagalpur (Bihar), retrospectively and prospectively during the period August 2015 to August 2016.

In the present study, 331 cases of neck swellings presenting with superficial palpable lymph nodes, were included in which cytological studies were done. Most of the patients were referred from surgery, pediatrics, medicine, dermatology and ENT department. Six cases were excluded due to scanty, inadequate aspirate on FNAC; thus only 325 cases were included in this study.

All the patients were clinically evaluated by detailed history, clinical examination, and radiological investigations. FNA was performed from different sites of the cervical lymph node swelling using a 10 mL disposable syringe and 23/24-gauge needle without local anaesthesia. FNA air-dried smears were stained with Giemsa stain.

All the stained smears were evaluated by cytopathologists. Diagnosis was based on cytomorphological features and clinicocytological correlation. At the end of the study, data were analysed. The cytological analysis was reported in terms of frequencies and percentages.

All statistical calculations were performed using SPSS(IBM SPSS Statistics for Windows, Version 22.0,©1989,2013, SPSS Inc. an IBM Company). Chisquare test and Student t-test were performed wherever applicable. A p value of <0.05 was taken as statistically significant.

RESULTS

In the present study, tubercular lymphadenitis accounted for 46.8 % (155/331), followed by reactive lymphadenitis for 24.8% (82/331), 11.5% non-specific lymphadenitis, and 7.3% pyogenic lymphadenitis. Primary malignant lymphadenopathy accounted for about 1.8% NHL and 0.9% HL. Metastatic lymphadenopathy made up about 5.1% of the total.(Table 1).

Out of 331 patients who underwent FNAC, 6 cases (1.8 %) were non-diagnostic due to lack of adequate material. A p value of <0.05 was obtained which was found to be statistically significant.

Table 1: Frequency distribution of FNAC cases

Cytologic diagnosis	Frequency (n)	Percentage (%)
Tubercular lymphadenitis	155	46.8
Reactive lymphadenitis	82	24.8
Non-specific lymphadenitis	38	11.5
Pyogenic lymphadenitis	24	7.3
Primary malignant lymphadenopathy		
NHL	6	1.8
HL	3	0.9
Metastatic lymphadenopathy	7	5.1
Unsatisfactory	6	1.8

DISCUSSION

Patients presenting with superficial enlarged palpable lymph nodes are now subjected to routine FNAC as a first line investigation. It provides the clinician with a quick correlation clinically. In developing countries where facilities for biopsy are not readily available, FNAC has proved to be a boon with results comparable to histopathology.

In the present study, an attempt has been made to study the cytomorphological spectrum of lymph node lesions. For determination of the diagnostic accuracy of FNAC it is usual practice to correlate cytodiagnosis with subsequent histological reports of excised biopsy specimens. In the present study, diagnosis was based on definite cytomorphological findings with clinicocytological correlation. Our primary aim was to help the clinician in arriving at an early diagnosis in cases presenting with lymphadenopathy.

The rate of unsatisfactory samples on FNAC is varied. In present study it was 1.8%. This difference may be due to inexperience of the pathologist and sampling errors. Adequate material was obtained in 98.2% which correlated with the study by Hemalatha *et al*⁶ (98%) and Gupta *et al*¹¹ (85.2%).

In the present study, tubercular lymphadenitis (46.8%, 155 cases) was the most common diagnosis. This result was quite close to the study by Patra *et al*⁴ which showed 37.8% cases of tuberculosis while Kochhar *et al*⁶ showed 35.71% cases. A similar study was done by Khajuria *et al*², which showed Tubercular lymphadenitis as 52.3% and Bhaskran *et al*⁵ found 67.57%. All these authors' studies, including our study, suggest that Tubercular lymphadenitis is the most common cause of lymphadenopathies. All the cases presenting with granulomatous lesions were also included in this category as they are found to be most commonly due to tuberculosis.

Reactive hyperplasia constituted the second largest group in the present study with 24.8%. The highest incidence of reactive hyperplasia was seen in first two decades of life (73%) with a male preponderance. These findings are in agreement with experience of Gupta *et al*⁷ and Lochan *et al*⁸.

Squamous cell carcinoma was the most common metastatic lesion with metastatic lymphadenopathy accounting for 5.1% cases. Metastatic carcinoma was observed in 14.5% of cases by Patra *et al*⁴, 3.8% cases by Khajuria *et al*² and 5.6% cases by Bhaskran *et al*⁵, which is comparable to our studies.

Lymphomas constituted only 2.7% cases in our study. This was in accordance with the study by Khan *et al*¹⁰ (2%). Although their prevalence is low, they pose a great diagnostic challenge.

CONCLUSION

FNAC is a reliable diagnostic tool in evaluation of lymphadenopathy for both screening and follow-up and can be performed as an outpatient procedure. FNAC is an economical and convenient alternative to open biopsy of lymph nodes. Problems and pitfalls in diagnosis may be avoided if reported with caution. Multiple sampling helps to avoid misinterpretation. Moreover a word between the pathologist and the clinician aid in diagnosis as in any other case.

DECLARATIONS

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