



A STUDY OF FNAC OF CERVICAL LYMPH AT JA HOSPITALS, GWALIOR

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(ABSTRACT) **Introduction:** Lymphadenopathy is a common clinical presentation in outpatient clinics. Fine needle aspiration cytology (FNAC) of the enlarged lymph node is an easy and simple tool for clinical management. This is because it is fast and minimally invasive with minimal complications. Fine Needle Aspiration Cytology (FNAC) is a reliable and least expensive method suitable for developing countries like India for the investigation of lymphadenopathy. Knowledge about the pattern of lymphadenopathy is useful in pathological reporting as well as in many clinical settings with diagnostic dilemma. This is a baseline study to investigate the pattern of cervical lymphadenopathy by lymph node FNAC in Indian population. **Material And Methods:** The records of patients who underwent FNAC with the indication of lymphadenopathy at this institution between 2022 and 2023 were retrieved from a scan of archive materials. Each lesion was aspirated between 1 and 3 times using a 21-G needle. Samples of the aspiration material were spread directly on slides, air-dried, and stained with May-Grünwald-Giemsa stain. This retrospective study was carried out on 50 patients with cervical lymphadenopathy. **Conclusions:** FNAC is a reliable method for diagnosis of tuberculous lymphadenitis. It shows a high specificity for malignant cervical lymphadenopathy and provides the physician with valuable information for patient management. The sensitivity of FNAC in detection of malignancy is relatively low in cases of lymphoid neoplasm owing to missing Hodgkin's cells in the aspiration of Hodgkin's lymphoma and to difficulty in cytodiagnosis of low-grade lymphoma without use of flow CYTOMETRY.

KEYWORDS :

INTRODUCTION

LYMPHADENOPATHY is one of the commonest clinical presentations in outpatient clinics. Lymphadenopathy has many underlying causes either benign or malignant. Fine needle aspiration cytology (FNAC) of lymph node is essential in the management of lymphadenopathy cases. This is because FNAC is a fast, simple and minimally invasive procedure with minimal complications [1]. FNAC has also been targeted as a useful method in comparison to more expensive surgical excision biopsies in developing countries [2]. It almost offers an accurate diagnosis for the etiology and it can avoid the use of excisional biopsy and allows rapid onset of treatment [3].

The diagnosis of metastatic tumor to the lymph node on cytological smear is crucial and highly reliable. This would be the only indication to search for the primary tumor, especially with occult carcinoma [4]. The primary tumor is clinically known in most of these cases and FNAC is used for follow-up. Most of metastatic carcinoma can be identified by their cytomorphological characteristics alone. There are some situations where features of different metastatic tumors can overlap and the accurate diagnosis of the primary tumor remains obscure [5]. In such cases, immunocytochemistry can be used to identify the primary site of metastatic tumor [6].

FNAC is useful in diagnosis of lymphoid malignancies as well as in the recognition of the residual or recurrent lymphoid malignancies [7]. The cytology is also used for the evaluation of surgically inaccessible deep lymph nodes with primary lymphoma or for patients unfit for surgery [8]. The aim of this study was to evaluate the diagnostic value of FNAC in diagnosis of cervical lymphadenopathy.

MATERIAL AND METHODS

The records of patients who underwent FNAC with the indication of lymphadenopathy at this institution between 2022 and 2023 were retrieved from a scan of archive materials. Each lesion was aspirated between 1 and 3 times using a 21-G needle. Samples of the aspiration material were spread directly on slides, air-dried, and stained with May-Grünwald-Giemsa stain. The cytology samples were reported as nondiagnostic, benign, atypia of undetermined significance, suspected malignancy, or malignant.

RESULTS

The mean age of the patients was 37.05 ± 18.03 years and the majority of the patients were females (64%). In 98.7% of cases, the material was adequate for a satisfactory cytological examination. The most common site of FNAC was a cervical lymph node and tuberculous lymphadenitis (37%), followed by reactive lymphadenitis (27.2%) was the most frequent diagnosis on FNAC. Descriptive statistics of the population under study are shown in Table 1.

Table 1: Clinicopathological feature Frequency (%)

	No.	Percentage
Gender		
Male	35	70
Female	15	30
Age groups		
< 15 years	10	20
16-35 years	20	40
36-50 years	10	20
> 50 years	10	20

Table 2: Diagnosis on FNAC

Diagnosis	No.	Percentage
Chronic granulomatous Tuberculous lymphadenitis	12	24
Chronic non specific Reactive lymphadenitis	12	24
Acute suppurative lymphadenitis	7	14
Nonhodgkins lymphoma	2	4
Hodgkins lymphoma	4	8
Keratinizing squamous cell carcinoma	5	10
Non diagnostic	4	8
Reactive hyperplasia	4	8

DISCUSSION

In this study, we found that FNAC is a highly diagnostic technique in the evaluation of superficial lymphadenopathy of cervical, axillary, and inguinal regions. We also noted that tuberculous lymphadenitis was the most common reason for lymphadenopathy. Furthermore, in the younger age group, reactive lymphadenopathy was more common, in contrast to the older age group where metastatic carcinoma was more frequent.

In our study, we observed that the categorization of the cause of lymphadenopathy into reactive, inflammatory, metastatic, and lymphoproliferative could be reliably done by FNAC.

For patients with a known histologically proven malignancy in whom a subsequent enlargement of lymph node occurs, a cytological diagnosis of metastasis helps in avoiding unwanted surgical biopsy for confirming metastasis. In patients without a previous diagnosis of malignancy, FNAC not only confirms metastasis but in most circumstances gives a clue regarding the site of the primary.

Furthermore, if cell block material is sufficient, immunohistochemical (IHC) studies can reliably identify the primary site of origin. In cases of lymphoproliferative diagnosis on FNAC, the cytological diagnosis should be followed by histological evaluation for accurate classification of lymphoma and grading.

CONCLUSIONS

FNAC is an important tool for evaluating lymphadenopathy. Categorization of the cause of lymphadenopathy into reactive, inflammatory/infectious, metastatic, and lymphoproliferative disorder can be reliably done by FNAC, avoiding the need for trucut/excisional biopsy. Furthermore, age, gender, and site of lymphadenopathy also provide useful information in predicting the cause of lymphadenopathy, as reactive lymphadenitis was more common in the younger age group, tuberculous lymphadenitis in middle age, and metastatic carcinoma in the older age group. Similarly, tuberculous lymphadenitis was more commonly noted in cervical lymph nodes, whereas metastatic carcinoma was more frequent in axillary and inguinal lymph nodes.

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