

Role of FNAC as Sensitive Tool for Diagnosis of Lymph Node Malignancies At Tertiary Care Centre In Kolhan Region, Jharkhand

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Abstract: *Fine needle aspiration cytology [FNAC] of lymph nodes is a simple, easy, painless diagnostic tool to diagnose suspected and unsuspected primary and secondary lymph node malignancy. In Kolhan region of Jharkhand, tobacco chewing is rampant and people usually present quite late with secondary metastatic lesions in cervical lymph nodes. As tuberculosis is also quite common problem, FNAC is a good tool for differentiation. Our aim was to study utility of FNAC in diagnosis of clinically suspected and unsuspected lymph node malignancy. This is a cross sectional study on 40 patients diagnosed to have lymph node malignancy by cytology and confirmed with histopathology. For this lymph node aspirate smears reported as malignant were correlated with histopathology. The data was tabulated as per types of primary and secondary malignancies involved. In our study 36 cases of metastatic malignancy and 4 cases of primary lymphomas were diagnosed by FNAC of lymph nodes, Histopathological correlates were available in all cases. Malignancy was clinically not suspected in six cases [15%]. Hence, it can be concluded that FNAC of lymph nodes is a very useful, simple, easy and sometimes the only tool in the diagnosis of lymph node malignancies.*

Date of Submission: 20-07-2018

Date of acceptance: 04-08-2018

I. Introduction

Enlarged lymph nodes are easily accessible for FNAC. The procedure is out door, cheap and hence fine needle aspiration cytology is a very important tool for lymph node lesions. Malignancies in our country are predominantly metastatic in nature with an incidence varying from 65.7% [1] to 80.4% [2] and lymphomas range from 2% [3] to 15% [2] among lymph node aspirated from all sites. Although Histopathological examination is the most important tool for lymphomas, FNAC is sometimes the only tool available for diagnosis and management of metastatic malignancies. The study was undertaken to highlight role of FNAC of lymph nodes in diagnosis of suspected and unsuspected lymph node malignancies.

II. Material And Methods

This study was conducted over a period of 4years from January, 2014 to December, 2017 on patients attending cytology clinic of MGM Medical College, mango, Jamshedpur

Study design: - Cross sectional study

Study duration: - 4years.

Sample size: - 104patients.

Inclusion criteria:-

Age- from 6 to 72years

Sex – Either

Lymph node groups :- all

:-

Procedure methodology

Subjects and selection methods: - Out of a total of 890 aspirates from lymph nodes, during January, 2014-december, 2017 104 malignant lymph node aspirates [11.68%] were taken as study material. Inadequate smears were excluded from the study. From 104 cytologically diagnosed cases Only 40 cases with histopathological correlation were considered in this study. A detailed history, clinical examination and relevant possible investigations were documented. FNAC of enlarged lymph nodes were performed by taking aseptic precautions. The smears were stained with Papanicolau and LeishmanGiemsa [LG] stains. Immunohistochemistry was done in four cases of lymphomas. In cases where unsuspected metastasis was seen primary was searched and biopsied. The cytological diagnosis was correlated with tumour biopsy and histopathology.

III. Results

Out of 40 cases studied 36 cases [90%] were metastatic tumours and four were lymphomas Age group varied from 6 to 72years,with males 30cases[75%] being more involved than females 10 cases[25%]. Lymph nodes were more than 2.0cm in size and malignancy was not suspected in six cases [15%]

Table 1 shows the cytological diagnosis and site made on lymph node aspirates. Squamous cell carcinoma was the most common metastatic tumour the cases where a diagnostic differentiation between squamous cell and adenocarcinoma was not possible these were put under epithelial malignancy. Papillary and large cell anaplastic carcinoma of thyroid were categorized. Large cell carcinoma of thyroid was a previously operated case. Hence metastatic lesion could be identified

Table1. Showing percentage of Malignancy detected. [Primary & Secondary].

Cases aspirated	890	Percentage%
Malignancies	104	11.68%
Histopathological correlative available	40	38.46%
Primary lymphomas	04	10%
Secondary malignancies	36	90%

Table2. Showing typing of Primary and Secondary malignancies with percentage.

Morphology	cervical	axiliary	inguinal	Total	Percentage%
Suamous cell carcinoma	26	-	-	26	65%
Adenocarcinoma	04	-	-	04	10%
Epithelial	01	01	-	02	05%
Ductal carcinoma[breast]	-	03	-	03	7.5%
Small round cell tumour	-	-	01	01	2.5%
Hodgkin's lymphoma	01	-	-	01	2.5%
Small cell lymphoma	03	-	-	03	7.5%

Histopathological correlates were available in all cases. Hodgkin's lymphoma was nodular sclerosis variant.

IV. Discussion

Enlarged lymph nodes are accessible for FNAC and are easy sites to diagnose malignancy. FNAC plays a significant role in developing countries like India and especially in tribal and poor regions of India who cannot afford high medical costs. As it has almost negligible cost, is easy to perform, is painless, and has nil complications [1-3]. In some advanced malignancies it often is the only procedure acceptable sometimes it also gives clues to occult malignancies. In our institution 11.68% yielded malignant diagnosis. Other studies vary from 5.8% [3] to 25.03% [4-6]. Our study showed more cases of metastatic involvement of the lymph node (90%) than primary lymphomas [10%]. This is similar to other Indian studies [2,3]. A Brazilian FNAC study on lymph nodes diagnosed 79.4% metastases and 14.2% lymphomas [8] and earlier Indian study [7] had documented 102 cases [68%] of metastases and 42 cases [32%] involved by lymphomas. Among 150 cases of malignancies diagnosed by lymph node FNAC. A study conducted in Baghdad has reported more involvement by lymphomas [58.2%] than metastatic disease [37.7%] and 4.4% involved by leukemia's. The sensitivity has varied from 97.9% to 100%. The primary sites identified in each lymph node groups in our study was similar to other studies [2,10,11]

The cervical lymph node group is the most common site to be involved and the primary is most often in oral cavity [4, 12]. Squamous cell carcinoma being the most common histological types [1,2,12]. Because of tobacco chewing habits upper aerodigestive tract is the most common primary site [13]

The better diagnostic ability of FNAC is probably due to combination of increased use, easy availability of reference material, and increased experience of the trained team over years.

V. Conclusion

FNAC of lymph nodes is a very useful tool which also is very simple, and cost effective in the diagnosis of malignant lesions in lymph nodes. It can help to detect occult metastasis. It can help to categorize and classify metastatic tumour. For the lymphomas it can suggest a preliminary diagnosis which can be followed by histopathology and immunohistochemistry for confirmation. Hence, the FNAC plays a vital role in diagnosis of lymph node malignancies.

Acknowledgement

None

Conflict Of Interest

None

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Dr. Uma Shanker Singh " Role of FNAC As Sensitive Tool For Diagnosis of Lymph Node Malignancies At Tertiary Care Centre In Kolhan Region, Jharkhand." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 17, no. 7, 2018, pp 56-58.