



## CYTOMORPHOLOGICAL PROFILE OF LYMPHOID LESIONS BY FNAC IN GOVERNMENT MEDICAL COLLEGE, KOTA, A TERTIARY CARE CENTRE OF HADOTI REGION.

### Pathology

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### ABSTRACT

Lymph nodes are one of the commonest presentation and Fine needle aspiration cytology (FNAC) is nowadays is used as prime modality to diagnose various causes of lymph node enlargement. Aims and Objective: This study is conducted in pathology department of govt medical college, Kota to find out the cytomorphological profile of lymphadenopathies at our hospital draining Hadoti region. Result and conclusion: Tubercular lymphadenitis (42%) is the most common cause followed by reactive lymphadenitis (35%). Commonest age group is 11-20 years followed by 21-30 years. Cervical group of lymph nodes are the commonest presentation (69%).

### KEYWORDS

Fine needle aspiration cytology (FNAC), Lymphadenopathy, tubercular, reactive.

### INTRODUCTION:

The easiest way to diagnose any external organ swelling is FNAC which is wide spread nowadays and the pathologists are sufficiently qualified enough to diagnose the disease without or with minimally invasive aids. Kun in 1847 had done the first time reporting on aspirated material obtained by FNAC. FNAC is a simple, safe, reliable and inexpensive method of establishing the diagnosis of lesions and masses in various sites and organs<sup>[1]</sup>. However limitations and pitfalls of procedure are there. Enlarged lymph nodes are the first organs to be diagnosed by FNAC. They are one of the most frequently sampled tissues<sup>[2,3]</sup>. Lymph node aspiration is of great value for diagnosis of lymphadenitis, lymphoma and metastatic carcinoma<sup>[4]</sup>. Pathology can be reliably diagnosed in most cases of lymphadenopathy and can be confirmed by biopsy in doubtful cases<sup>[5]</sup>.

**AIMS AND OBJECTIVE:** To study the pattern of various causes of lymphadenopathy at our centre by FNAC.

**MATERIAL AND METHODS:** A retrospective study of 100 cases

**Table 1: Diagnosis and age group distribution**

Age group	Hodgkins Lymphoma	Metastatic carcinoma	NHL	Reactive Lymph node	round cell neoplasm	Tubercular Lymphadenitis	Grand Total
1-10				12	1	3	16
11-20				8		17	25
21-30	2		1	8		14	25
31-40		1		1		4	6
41-50		6		2		2	10
51-60	2	1		4		1	8
61-70	1	1	2	2		2	8
71-80		2					2
<b>Grand Total</b>	<b>5</b>	<b>11</b>	<b>3</b>	<b>37</b>	<b>1</b>	<b>43</b>	<b>100</b>

NHL- Non-hodgkin's lymphoma

In this study, maximum cases belong to second and third decade 25 patients (25%) each followed by 16(16%) cases in first decade. Tuberculosis (43%) is the most common disease followed by reactive hyperplasia (37%). Maximum cases of tuberculosis belong to 11-20 years of age group followed by 14 cases in 21-30 years. Number of cases was lesser on both sides of these age intervals. Metastatic carcinoma showed maximum cases in 41 to 50 years age group with a total of 11 cases (11%) in 31 to 80 years age range. Reactive hyperplasia is common in children (12%), maximum incidence is in first decade followed by second and third decade (8%).

**Table: 2 Distribution of sex**

Sex	Number
Male	46
Female	54

diagnosed by FNAC at cytopathology section of Government Medical College, Kota from August 2018 to October 2018 was done. All patients presented with lymphadenopathy either localised or generalised, single or multiple, single group of lymph nodes or multiple were included in the study. All lymph nodes were examined and all the details like site, location, size, consistency, local temperature, tenderness and number of lymph nodes involved were noted. FNAC was done from superficial and deeper lymph nodes. FNAC from deeper lymph nodes was done with the aid of ultrasonography. Adequate number of smears prepared and stained with haematoxylin and eosin and Geimsa. Also AFB staining Ziehl Nelson method was done in all suspected cases of tuberculosis. Smears were screened under microscope at 4x, 10x and 40x power and diagnosed accordingly. Extra smears were kept for special stains as and when needed.

**RESULTS AND OBSERVATIONS:** 100 cases of FNAC of lymph nodes were evaluated. Only cases with satisfactory aspirate were considered for study.

Females outnumber males in our study in the ratio of 1.17:1.

**Table: 3 Distribution of location of lymph nodes**

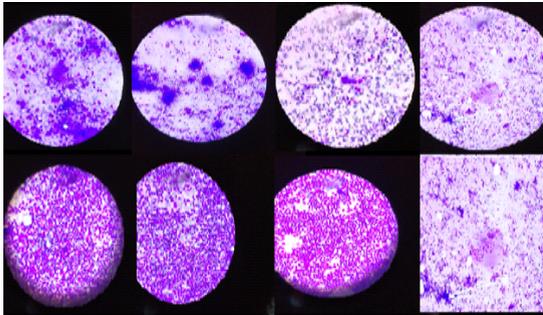
Location	Number
Abdominal	03
Axillary	10
Cervical	69
Inguinal	09
Multiple	03
Submandibular	04
Supraclavicular	02

Maximum number of lymph nodes 69% belonged to cervical region followed by 10 cases in axillary region and 3 cases of multiple group of lymph nodes also received.

**Table: 4 Type of malignancy metastatised**

Adenocarcinoma	06
Squamous cell carcinoma	04
Small cell carcinoma	01

Maximum cases metastatised to lymph nodes were of adenocarcinoma (06%) followed by squamous cell carcinoma (04%). Single case each of small cell carcinoma, large cell carcinoma and adrenocortical carcinoma detected. 1 case of NHL belonged to 21-30 years age interval and 2 cases belonged to 61-70 years age group. 2 cases each of Hodgkin's lymphoma was detected in 21-30 years age group and 61-70 years age interval. Single case of round cell neoplasm in child was also reported [figure 1].



**Fig:1** 1a.metastatic adenocarcinoma, 1b.metastatic papillary adenocarcinoma, 1c.metastatic squamous cell carcinoma, 1d.tubercular lymphadenitis, 1e.reactive hyperplasia, 1f.reactive hyperplasia, 1g.Non-hodgkin's lymphoma, 1h.high power view of Langhan's giant cell.

#### DISCUSSION:

In our study, females (54%) out number males (46%) which is in contrast to Rajiv Jadhav and Dr.Archana M. Ukey et al<sup>[2]</sup>. Most common site of lymph nodes to aspirate is the cervical region (69%) which is similar to the study done by Hirachand et al<sup>[6]</sup>, Non-neoplastic (80%) causes were dominant cause of lymphadenopathy comparable to other studies done by Shanshad et al<sup>[7]</sup> and Hirachand et al<sup>[6]</sup>.

Reactive lymphadenitis (37%) is the commonest cause of lymph node enlargement in children similar to results seen in the study done by Shruti Vimal and Aparna Dharwadkar et al<sup>[8]</sup>. Tuberculosis (43%) is the commonest cause of lymphadenopathy followed by metastatic malignancies (11%) in old age. Results are at par with the study done by Annam et al<sup>[9]</sup>.

**CONCLUSION:** Fine needle aspiration cytology is the easily available and safe diagnostic technique for the diagnosis of external as well as deeper lymph nodes. It provides results in few hours only so that patients can be managed accordingly and need of unnecessary surgery can be ruled out.

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