



A PROFILE OF FINE NEEDLE ASPIRATION CYTOLOGY IN PATIENTS WITH LYMPHADENOPATHY AT RIMS, RANCHI

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ABSTRACT Lymphadenopathy (LAP) describes the conditions in which lymph nodes become abnormal in size, consistency, and it may be one of the symptoms of many diseases. Fine needle aspiration cytology (FNAC) is one of the earliest investigations ordered to patient with lymphadenopathy. This study would help in understanding the pattern of diseases and their epidemiological characteristics in local population. Material & Methods: A retrospective study of 198 cases of lymphadenopathy patients who underwent fine needle aspiration cytology at RIMS, Ranchi from January 2019 to September 2019 was undertaken. Results: Out of total 198 patients 102 cases were male and 96 were female, most patients aged between 11-35 years (67%), cervical lymphadenopathy was the commonest presentation (64%) and reactive lymphadenitis made a bulk of cases (37%). Conclusion: Majority of lymphadenopathy cases belonged to 11-35 years of age with near equal incidence in male and female. While cervical lymphadenopathy is the commonest among peripheral lymph-nodes, reactive lymphadenitis is the commonest finding followed by granulomatous lymphadenitis in this region.

KEYWORDS :- FNAC, lymphadenopathy, granulomatous, lymphoreticular malignancy, benign

INTRODUCTION

The human body has about 600 lymph nodes¹ Peripheral lymph nodes are those which are located deep in the subcutaneous tissue and can be palpated if any process causes them to enlarge. Lymphadenopathy (LAP) describes the conditions in which lymph nodes become abnormal in size, consistency, and it may be one of the symptoms of many diseases^[2,3].

In general, if diameter of the lymph nodes exceeds one cm or more it is considered to be abnormal. Of course, there are exceptions in different regions and lymph nodes have different sizes at different ages. The cervical region is most commonly involved area among peripheral LAP at any age³ It is considered that palpable supraclavicular, iliac, popliteal, epitrochlear nodes greater than 0.5 cm, and inguinal nodes larger than 1.5 cm are abnormal¹.

As a rule, cytological examination of FNB smears can determine whether lymphadenopathy is due to reactive hyperplasia, infection, metastatic malignancy or malignant lymphoma⁵. The commonest cause of peripheral lymphadenopathy is a non-specific reactive hyperplasia in which the underlying etiology is infrequently found¹. In India and some other developing countries, tuberculosis (TB) is the first differential diagnosis for a patient who presents with chronic lymph node enlargement^[2,6,7].

Non-Hodgkin's Lymphomas are a heterogeneous group of lymphoproliferative disorders originating from B-, T-, or natural killer (NK) lymphocytes. In the United States, B-cell lymphomas constitute 80% to 85% of all cases, 15-20% of is T-cell lymphomas; but NK lymphomas are very rare⁸.

Fine needle aspiration cytology is minimally invasive technique that produces a speedy result and is inexpensive. The method is applicable to superficial lesions that are easily palpable, in the skin, subcutis and soft tissues, thyroid, breast, salivary glands and superficial lymph nodes. Fine needle biopsy (FNB) is less demanding technologically than surgical biopsy, has a low risk of complications and can be performed as an office procedure, in outpatient departments and in radiology theaters, saving expensive days in hospital¹.

MATERIALS AND METHODS

This was a retrospective study, performed in the Department of Pathology, RIMS, Ranchi. Study Population included 192 cases of lymphadenopathy from January 2019 to September 2019 who were subjected to fine needle aspiration cytology.

The technique involved puncturing the mass with a 22/23 gauge needle attached to 10 cc syringe with full negative pressure, moving it in quick strokes in various directions till aspirate appeared in the hub of the

needle when it was withdrawn after equalizing the negative pressure.

Air dried smears were stained with Leishman-Giemsa stain and alcohol fixed smears were stained with Hematoxylin and Eosin. Then the slides were observed under the light microscope.

Study procedure involved case reports having patient age, sex, site, clinical history with diagnosis based on cytological findings of the smears.

RESULT

In the present study a total 198 cases were included having age group of 1.5-75 years, out of which 102 (51.5%) were male and 96 (48.5%) were female amounting to a male-female ratio of approximately 1.06:1. In a study conducted by Chamyal et al. in cervical lymphadenopathy patients male to female ratio was 1.3:1.0^[10].

Median age of patient in our study was 25 years. Most of the patients(16.1%) belonged to the age group of 16 to 20 years followed by 30 cases(15.6%) age group of 21-25 years. 67% of cases belonged to 11-35 years age group.

TABLE – 1 AGE-WISE INCIDENCE

Age group (years)	Number of Males	Number of Females	Total
0-5	4	3	7
6-10	3	8	11
11-15	16	8	24
16-20	13	18	31
21-25	15	15	30
26-30	13	13	26
31-35	12	9	21
36-40	5	6	11
41-45	4	6	10
46-50	2	3	5
>50	15	7	22
Total	102	96	198

It was found that 126(63.6%) patients presented with cervical lymphadenopathy followed by 21 cases(11%) of inguinal lymphadenopathy. Shrivastav A et al also showed in their study that cervical lymphadenopathy is the most common cause of lymphadenopathy^[11].

TABLE – 2 SITE-WISE INCIDENCE

Clinical Feature	No. of Patient
Cervical region	126
Inguinal	21

Supraclavicular	18
Axillary	14
Submandibular	17
Submental	7
Parotid	1

Most of the cases were diagnosed as reactive lymphadenopathy (37%) followed by granulomatous lymphadenitis (26%) and necrotizing lymphadenitis (24%). Malhotra AS et al also showed in their study that tuberculous lymphadenitis (granulomatous) is most common followed by reactive lymphadenopathy^[12]. Miliauskas J et al mentions reactive lymphadenopathy to be the most common cause of lymphadenopathy^[8].

TABLE – 3 DIAGNOSIS-WISE INCIDENCE

Diagnosis	Total
Reactive	74
Granulomatous	52
Necrotising	48
LRM	14
Hodgkin's lymphoma	4
Metastatic	6
Total	198

CONCLUSION

Majority of lymphadenopathy cases belonged to 11-35 years of age with near equal incidence in male and female. While cervical lymphadenopathy is the commonest among peripheral lymph nodes, reactive lymphadenitis is the commonest finding followed by granulomatous and necrotising lymphadenitis in this region.

REFERENCES:

- [1] Ferrer R. Lymphadenopathy: differential diagnosis and evaluation. *Am Fam Physician*. 1998;58:1313-20.
- [2] Mohseni S, Shojaiepard A, Khorgami Z, Alinejad S, Ghorbani A, Ghafouri A (2014) Lymphadenopathy: Approach and Diagnostic Tools, *IJMS Vol 39: 2*.
- [3] Özkan EA, Göret CC, Özdemir ZT, Yanik S, Göret NE, Doğan M, (2015) "Evaluation of peripheral lymphadenopathy with excisional biopsy: six-year experience, *Int J Clin Exp Pathol*. ; 8(11): 15234–15239.
- [4] Ferrer R. (1998) Lymphadenopathy: differential diagnosis and evaluation. *Am Fam Physician*; 58:1313–1320.
- [5] Miliauskas J (2012), "Lymph nodes", Orell & Sterrett's Fine Needle Aspiration Cytology, Orell SR, Sterrett GF(eds.), 5th edition Elsevier, Edinberg:p77-117.
- [6] Pandit S, Choudhury S, Das A, Das SK, Bhattacharya S. Cervical lymphadenopathy – pitfalls of blind antitubercular treatment. *J Health Popul Nutr* (2014) 32:155–9.
- [7] Prasad RR, Narasimhan R, Sankaran V, Veliath AJ. Fine-needle aspiration cytology in the diagnosis of superficial lymphadenopathy: an analysis of 2,418 cases. *Diagn Cytopathol* (1996) 15:382–6.10.1002/(SICI)1097-0339
- [8] Jemal A, Siegel R, Ward E, Hao Y, Xu J, Thun MJ. Cancer statistics, 2009. *CA Cancer J Clin*. 2009;59:225-249.
- [9] Orell SR, Sterrett GF (2012), "Introduction, Orell & Sterrett's Fine Needle Aspiration Cytology, Orell SR, Sterrett GF(eds.), 5th edition Elsevier, Edinberg:p1-6.
- [10] Chamyal PC, Sabarigirish K (1997), "Clinico-Pathological Correlation Study of Cervical Lymph Node Masses" *IJO & HNS*. 49(4):402-405
- [11] Shrivastav A, Shah HA, Agarwal NM, Santwani PM, Srivastava G. "Evaluation of peripheral lymphadenopathy by fine needle aspiration cytology: A three year study at tertiary center". *JNTR Univ Health Sci [serial online]* 2014 3:86-91.
- [12] Malhotra AS, Lahori M, Nigam A, Khajuria A. Profile of lymphadenopathy: A institutional based cytomorphological study. *Int J App Basic Med Res* 2017;7:100-3