

## Histopathological Profile of Lymphadenopathy in a Tertiary Care Hospital in Goa

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### Abstract:

**Background-** The study was conducted to evaluate the histopathological profile of lymphadenopathy and assess its etiology.

**Method-** Observational case series study was conducted among 100 consecutive patients based on clinical examination and constructed questionnaire. Fine needle aspiration cytology and lymph node excision biopsy was performed in all patients to evaluate the causes of lymphadenopathy. Data was Statistically analyzed using SPSS software.

**Results-** The results of present study showed that 70% of the study population had cervical lymphadenopathy, while 16% of the study group had inguinal lymphadenopathy and the remaining 14% developed axillary lymphadenopathy. Tuberculosis was the most common cause of lymphadenopathy observed in 47% of participants. 26% of participants were diagnosed to have malignancy in the current study which predominantly revealed lymphadenopathy secondary to metastasis.

**Conclusion-** The present study showed a high incidence of tuberculosis and occult malignancy in histopathologically confirmed lymph node specimens. Thus histopathological examination should be the foremost diagnostic tool to evaluate any lymphadenopathy.

**Keywords-** lymphadenopathy, FNAC, histopathology, tuberculosis, malignancy

Date of Submission: 01-06-2018

Date Of Acceptance: 18-06-2018

### I. Introduction

The lymphatic system forms one of the pervasive, important and indispensable part of our anatomy. Specific lymph nodes are associated with specific areas of the body, and the enlargement of a particular lymph node can suggest the pathological organ and focus of infection. Lymph node enlargement can also reflect a major occult systemic illness like malignancy. Histopathology remains an important tool for diagnosing the etiology of lymphadenopathy. Aspiration cytology has been one of the rapid and cheap diagnostic tools for accessible lymph node swellings and it assists in formulating the management of the patient.<sup>[1]</sup> Therefore, the present case series study was undertaken as limited number of studies have been conducted in Goa to evaluate histopathological profile of lymphadenopathy and an attempt was made to assess its etiology.

### II. Material and Methods

This case series study was conducted in the Department of Surgery at Goa Medical College over a period of two years from June 2012 to May 2014. During this period, 100 consecutive patients with newly diagnosed lymphadenopathy at inpatient and outpatient level were included in this study. Informed Consent for including data for the purpose of study was obtained from each patient at the time of enrollment. Institutional Ethics Committee approval was also obtained prior to the study.

#### Inclusion criteria:

1. Patients of 10-80 years of age group
2. Patients with newly diagnosed palpable lymph nodes either localized or generalized.

#### Exclusion criteria:

1. Patients who have recurrent lymphadenopathy
2. Patients who are already on treatment for lymphadenopathy

**Procedure methodology**

A detailed history regarding age, sex, symptoms and past history of Kochs contact was recorded in a constructed questionnaire. A complete physical and systemic examination was carried out to diagnose the cause of lymphadenopathy. An attempt was made to find out the primary tumour in cases of suspicious secondaries in neck. Routine hematological investigations like complete haemogram, ESR, liver function tests, HIV ELISA and radiological investigations like chest x-ray and contrast computed tomography of involved area were carried out to confirm the diagnosis. Fine needle aspiration cytology of the lymph nodes was done in all the participants as an outpatient department procedure and concomitant excision biopsy was performed in all the cases of this series. Further tests like endoscopy were carried out on the basis of histopathological diagnosis in relevant cases. Data was analyzed using SPSS software.

**III. Results**

A total of 100 patients were included in this study, 52 being males and 48 females. Mean age was 34.43 years. Mean age was 38.75 years in males and 45.67 years in females. The clinical features of the study population are listed in Table.1 Incidence of patients with lymphadenopathy was maximum in second, third and fourth decade. The most common symptoms present in study population was weight loss (74%) and pyrexia of unknown origin (51%).

**TABLE 1:** Showing clinical features in patients referred for FNAC of lymph nodes

| Associated Symptoms                       | No of patients |
|---|----------------|
| Loss of weight                            | 74             |
| Loss of appetite                          | 21             |
| Fever                                     | 51             |
| Cough                                     | 32             |
| Throat irritation and hoarseness of voice | 3              |
| Dysphagia                                 | 3              |
| Night sweats                              | 8              |
| Pruritus                                  | 6              |
| Lump and pain in swelling                 | 4              |

The current study revealed predominantly localized lymphadenopathy (78%) while generalized lymphadenopathy was present in 22% of the study group. Local Examination revealed firm lymph nodes in most of the cases(42%) although matted lymphadenopathy was present in 31% of the cases. Hard Lymph nodes were palpable in 25% of cases.

**TABLE 2:** Distribution of lymph nodes in different regions

| Lymph nodes     | No of patients | Percentage of cases |
|-----------------|----------------|---------------------|
| Cervical        | 57             | 57                  |
| Axillary        | 14             | 14                  |
| Supraclavicular | 13             | 13                  |
| Inguinal        | 16             | 16                  |
| Total           | 100            | 100                 |

70% of the study population had cervical lymph node involvement while 14% and 16% of cases had axillary and inguinal lymphadenopathy respectively as shown in Table 2. Tuberculosis was the most common cause of lymphadenopathy observed in 47% of participants. 26% of the participants were diagnosed to have malignancy in the current study. Although acute lymphadenitis was seen in only 4% of cases, chronic nonspecific lymphadenitis contributed to 15% of cases. Reactive hyperplasia was found in 8% of the cases as shown in Table 3.

**TABLE 3:** Distribution of lymphadenopathy on histopathology

| Diagnosis                         | No. of patients | Percentage |
|-----------------------------------|-----------------|------------|
| Tuberculosis                      | 47              | 47         |
| Chronic nonspecific lymphadenitis | 11              | 11         |
| Acute Lymphadenitis               | 4               | 4          |
| Metastasis                        | 20              | 20         |
| Lymphoma                          | 11              | 11         |
| Reactive hyperplasia              | 7               | 7          |
|                                   | 100             | 100        |

Tuberculosis was mainly found in cervical nodes in the current study (74.47%) while 6 patients (12.76%) were found to have axillary involvement. Only 4.26% of the patients had tuberculous inguinal lymphadenopathy. 14.89% of patients presenting with tuberculous lymphadenitis were diagnosed to have pulmonary Kochs. Positive history of contact with tuberculosis was seen only in 14.89 % of cases confirmed as tubercular lymphadenitis. 8% of patients presenting with lymphadenopathy were diagnosed to have HIV.

Lymph node enlargement secondary to metastasis was found in 14 % of the study population. 64% of this group developed metastasis secondary to squamous cell carcinoma while 28 % were found to have adenocarcinoma. Cervical lymph nodes were enlarged in 45% of metastatic disease. Lymphoma contributed to 12% of the study population. Of the 11 cases of histopathological confirmed lymphomas, 6 were found to have Non-Hodgkin's lymphoma and 5 were categorized into Hodgkin's lymphoma. Cervical and axillary lymph nodes were found to be mainly involved in lymphomas.

Reactive hyperplasia was mainly seen to involve cervical lymph nodes as compared to other group of lymph nodes. 75% of acute lymphadenitis involved cervical lymph nodes. Chronic nonspecific lymphadenitis was mainly found in inguinal lymph nodes while only one case had involvement of axillary lymph nodes.

#### **IV. Discussion**

The present study indicated that 70% of the study population had cervical lymphadenopathy, while 16% of the participants had inguinal lymphadenopathy and the remaining 14% developed axillary lymphadenopathy. Correlating with the results of the present study was the study by Kim LH et al who observed that 57% of patients had cervical lymphadenopathy while 15.17% developed axillary and 8.7% of patients had inguinal lymph node involvement.<sup>[2]</sup> Similar results were obtained in other studies where cervical nodes were most commonly affected – Hirachand et al<sup>[3]</sup> 66 cases (50.76%), Guru et al<sup>[4]</sup> 230 cases (78.76%), Amit et al<sup>[5]</sup> 243 cases (81%). But the results of another retrospective study of 169 lymph node biopsies in university of Ilorin Teaching Hospital Ilorin, Nigeria indicated that the most common sites of localized lymphadenopathy were axillary (38%), cervical (32%), inguinal (8%) and submandibular (8%) which is contrary to the current study results.<sup>[6]</sup>

In our study, majority of the patients with lymphadenopathy were found to be in 20 to 40 years of age group which consisted of 68% of cases followed by 41 to 60 years of age group which consisted of 21% cases. Study by Pandit AA et al<sup>[7]</sup> also revealed similar mean age group of 20 to 40 years (51.05%) whereas in a study of Gupta et al<sup>[8]</sup> most of the patients (52.26%) were in the age group of 0-20 years. Gender was not a major factor associated with lymphadenopathy in this study. The data showed a male preponderance of 52% contrary to the study by Tariq et al which showed females being predominantly affected than males.<sup>[9]</sup>

This study showed a higher incidence of malignancy of 26% with higher incidence of metastatic deposits in lymph nodes (14%). Correlating with the above results were the studies by Sumit Giri et al (21.89%)<sup>[10]</sup>, Anastasio Serrano et al (22.6%).<sup>[11]</sup> Lymphoma contributed to 12% of the study population contrary to results of the Sumit Giri et al study (2.7%),<sup>[10]</sup> and Anastasio Serrano et al study (9%).<sup>[11]</sup> In the present study, Hodgkin's Lymphoma was reported in 5% cases and Non-Hodgkin's Lymphoma in 6% cases. This is in contrast to Sumit Giri et al study<sup>[10]</sup> who reported 1.08% cases of Hodgkin's Lymphoma. In the case of Non-Hodgkin's lymphoma, Sumit Giri et al<sup>[10]</sup> reported much lesser percentage of cases at 1.62% whereas Nesreen et al<sup>[12]</sup> and Sumyra et al<sup>[13]</sup> reported a higher percentage of NHL cases at 5.7% and 6.5% respectively. Malignancies have been a major cause of lymphadenopathy in developed countries than developing countries like India. A higher incidence in the present study could be because the institute in which it was conducted is the only tertiary referral institute in Goa.

In the present study, only 8% cases were diagnosed to be having reactive lymphadenitis unlike the results by Guru et al study<sup>[4]</sup> which showed high incidence of 46.32% of reactive lymph node hyperplasia.

Peripheral lymph node tuberculosis is the most common form of extra pulmonary tuberculosis.<sup>[15]</sup> The commonest age group affected is 11-20 years followed by 21-30 years. This study also revealed tuberculosis as the most common cause of lymphadenopathy. Similar age group of less than 30 years was predominantly affected in this study followed by 31-50 years. Tubercular lymphadenitis in our study population was predominantly cervical in location.

#### **V. Conclusion**

In the current study, 70 % of the study population developed cervical lymphadenopathy while 14% and 16% of cases had axillary and inguinal lymphadenopathy respectively. Tuberculosis was the most common cause of lymphadenopathy observed in 47% of the study group. 26% of participants were diagnosed to have malignancy in the current study. This study showed lymphadenopathy secondary to malignancy in 26% of the study group with higher incidence of metastasis due to squamous cell carcinoma. Although FNAC is the cheapest and rapid method of assessment of etiology of lymphadenopathy, concomitant excision lymph node biopsy can yield accurate diagnosis and would help in the proper management of the patient.<sup>[16]</sup> Therefore,

histopathology remains the most indispensable diagnostic tool for evaluation of lymphadenopathy and should be regularly employed for assessing lymph node enlargements.

### References

- [1]. Mondal A, Mukerjee D, Chatterjee DM, Saha AM, Mukerjee AL: Fine needle aspiration biopsy of cervical lymphadenopathies, J Indian Med Assoc, Dec; 87(12): 281-283,1989
- [2]. Kim LH, Peh SC, Chan KS, Chai SP Pattern of lymph node Pathology in a private pathology laboratory. Malays J pathol.1999 Dec;21(2);87-93
- [3]. Hirachand S, Lakhey M, Akhter j, Thapa B. Evaluation of fine needle aspiration cytology of lymph nodes in Kathmandu Medical College, Teaching hospital, Kathmandu University Medical Journal 2009;7(26):139142.
- [4]. Kumuguru, M.H. Kulkarni, N.S. Kamakeri. FNAC of peripheral lymph nodes in HIV-positive patients. Scientific Medicine 2009;1(2):1-7.
- [5]. Amit A, Hardik S, Gauravi D. Fine needle Aspiration study of lymph node in HIV patients and CD 4 count. Int J Res Med. 2013;2(2);16-19
- [6]. Ojo BA, Buhari MO, Malami SA, Abdulrahman MB.Surgical lymph node biopsies in University of Ilorin Teaching Hospital, Ilorin, Nigeria.Niger Postgrad Med J. 2005 Dec;12(4):299-304.
- [7]. Pandit A A, Candes FP, Khub Chandini SR. Fine needle aspiration cytology of lymph nodes. Journal of postgraduate medicine: 1987;33(3):134-136.
- [8]. R.K. Gupta, S. Naran, S. Lallu and R. Fauck. The diagnostic value of fine needle aspiration cytology in the assessment of palpable supraclavicular lymph nodes: a study of 218 cases. Cytopathology; 2003; 14:201-207.
- [9]. Tariq Ahemed, Mohammed Naeem, Siddique Ahmed, Ambreen Samad, Amir Nasir. FNAC and Swellings in the surgical output. J Ayub Med Coll Abbottabad 2008;20(3):30-33.
- [10]. Sumit Giri, Karandeep Singh. Role of FNAC in evaluation of patients with superficial lymphadenopathy. International Journal of Biological and Medical Research 2012;3(4):2475-2479
- [11]. Anastasio Serrano Egea, Miguel A, Andres Perez, Nuria Alberti. Usefulness of Light Microscopy in lymph node Fine Needle Aspiration Biopsy. Acta Cytologica 2002;46(2):364-368.
- [12]. Nesreen H. Hafez., Neveen S. Tahoun. Reliability of FNAC as a diagnostic tool in cases of cervical lymphadenopathy. Journal of the Egyptian National Cancer Institute 2011;(23),105-114.
- [13]. Sumyra Khurshid Qadri, Nissar H., Praveen S., Iqbal Lone, Khalil B. Profile of Lymphadenopathy in Kashmir Valley: a cytological study. Asian Pacific J Cancer Prev, 2012 Vol 13,3621-3625.
- [14]. Kamat GC. A ten-year histopathological study of generalized lymphadenopathy in India. S Afr Fam Pract 2011; 53(3): 267-270.
- [15]. Tiwari M, Aryal G, Shrestha R. Histopathologic diagnosis of lymph node biopsies. Nepal Med Coll J2007;9(4): 259-61.
- [16]. Saraswat A, Rajender A, Purohit K. Lymph node biopsy: Spectrum and clinical significance as diagnostic tool at tertiary care centre.J of Evolution Med and Dent Sci. 2015; 4(6): 1008-14.

Dr. Akshay S. Naik "Histopathological Profile of Lymphadenopathy in a Tertiary Care Hospital in Goa."IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 6, 2018, pp 58-61.