



Original Research Article

Histopathological Patterns of Lymph Node Biopsies in a Tertiary Care Hospital

Article History:

Name of Author:

Dr. Nilisha Sharma¹, Dr. Mohd Naushad Ansari², Dr. Deepa Sharma³, Dr. Akansha Singh⁴ and Dr. Prabhu M H⁵.

Affiliation: ¹Assistant Professor, Venkateshwara Institute of Medical Sciences & Hospital, Rajabpur, Gajraula, Amroha.

²Assistant Professor, Venkateshwara Institute of Medical Sciences & Hospital, Rajabpur, Gajraula, Amroha.

³Assistant Professor, Venkateshwara Institute of Medical Sciences & Hospital, Rajabpur, Gajraula, Amroha.

⁴Assistant Professor, Venkateshwara Institute of Medical Sciences & Hospital, Rajabpur, Gajraula, Amroha.

⁵Professor & HOD, Venkateshwara Institute of Medical Sciences & Hospital, Rajabpur, Gajraula, Amroha.

Corresponding Author:

Dr. Akansha Singh

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Abstract: **Background:** Lymphadenopathy is a common clinical problem encountered across all age groups. Histopathological examination of lymph node biopsies remains the gold standard for definitive diagnosis. **Objectives:** To analyze the histopathological patterns of lymph node biopsies and correlate them with demographic and anatomical distribution. **Materials and Methods:** A retrospective study of 200 lymph node biopsies over five years was conducted. Clinical data and histopathological findings were analyzed using routine H&E staining with special stains and immunohistochemistry wherever required. **Results:** Non-neoplastic lesions constituted 70% cases, with reactive lymphadenitis being the most common. Tuberculous lymphadenitis formed 25% cases. Neoplastic lesions accounted for 30%, predominantly metastatic carcinoma followed by lymphomas. **Conclusion:** Histopathological evaluation is indispensable in the diagnosis of lymph node lesions and plays a crucial role in patient management.

Keywords: Lymph node biopsy; Reactive lymphadenitis; Tuberculous lymphadenitis; Metastatic carcinoma; Lymphoma.

INTRODUCTION

Lymph nodes act as filters of the immune system and frequently enlarge in response to infections, inflammatory processes, and malignancies. Lymphadenopathy is one of the most common clinical findings encountered in outpatient and inpatient settings. Although FNAC is a useful screening tool, excisional biopsy provides architectural details necessary for accurate diagnosis, especially in lymphomas and granulomatous diseases.

In India and other developing countries, tuberculosis continues to be a leading cause of peripheral lymphadenopathy, while metastatic malignancies are increasingly diagnosed due to improved healthcare access. This study evaluates the histopathological spectrum of lymph node biopsies in a tertiary care hospital.

MATERIALS AND METHODS

This retrospective descriptive study was conducted in

the Department of Pathology of a tertiary care hospital over a period of five years (January 2019–December 2023). All excisional lymph node biopsies received during the study period were included. Inadequate and autolysed specimens were excluded. Specimens were fixed in 10% buffered formalin and

processed routinely. Sections were stained with hematoxylin and eosin. Ziehl–Neelsen stain, PAS stain, and immunohistochemistry were used where indicated. Data were analyzed using descriptive statistics.

RESULTS

A total of 200 lymph node biopsies were analyzed. The age ranged from 2 to 75 years, with male predominance (male: female = 1.5:1). Cervical lymph nodes were the most frequently biopsied.

Table 1: Age Distribution of Patients

Age Group (Years)	Number of Cases	Percentage
0–10	20	10%
11–20	35	17.5%
21–40	75	37.5%
41–60	45	22.5%
>60	25	12.5%

Table 2: Anatomical Site Distribution

Site	Number of Cases	Percentage
Cervical	130	65%
Axillary	30	15%
Inguinal	24	12%
Others	16	8%

Table 3: Histopathological Diagnosis

Diagnosis	Number of Cases	Percentage
Reactive lymphadenitis	70	35%
Tuberculous lymphadenitis	50	25%
Chronic non-specific lymphadenitis	20	10%
Metastatic carcinoma	36	18%
Lymphoma	24	12%

DISCUSSION

The present study demonstrates that non-neoplastic lesions constitute the majority of lymph node biopsies, which is comparable to findings reported in several Indian and international studies. Reactive lymphadenitis was the most frequent diagnosis, reflecting immune responses to infections and inflammatory conditions. Tuberculous lymphadenitis accounted for 25% of cases, reaffirming tuberculosis as a leading cause of peripheral lymphadenopathy in developing countries. The predominance of cervical lymph nodes mirrors earlier studies. Metastatic carcinoma was the most common malignant lesion, largely due to the high incidence of head and neck squamous cell carcinoma. Lymphomas accounted for a smaller but significant proportion, and immunohistochemistry was essential for accurate classification and prognostication. Overall, histopathological examination supplemented by special stains and immunohistochemistry remains the cornerstone for precise diagnosis.

CONCLUSION

Non-neoplastic conditions form the bulk of lymph node biopsies in a tertiary care setting. Nevertheless, a significant proportion of malignant lesions highlights the importance of histopathological examination for

early and accurate diagnosis.

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