

# Histopathologic diagnosis of lymph node biopsies

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## ABSTRACT

This is a retrospective study of biopsies of lymph nodes received in the department of pathology, Nepal Medical College (NMC), from January 2004 to December 2005. Total number of lymph node biopsies during the two year period was 55, out of which 56.0% cases were females and 44.0% were males with M:F 1:1.29. Most common cause of lymphadenopathy was tuberculosis and most common group of lymph node was cervical lymph nodes. Metastatic deposits were seen in only six cases. So, like other developing countries, in our country also, tuberculosis is the leading cause for lymphadenopathy.

**Keywords:** Lymphadenopathy, tuberculosis, metastatic, reactive.

## INTRODUCTION

Superficial lymph node enlargement is common in various diseases resulting in diagnostic dilemma to physicians. Various reports documented tuberculosis and infectious etiology as major causes of lymph node enlargements<sup>1-4</sup> in tropical countries whereas malignancies as a predominant cause in developed countries.<sup>5,6</sup> Because of HIV infection, incidence of tuberculosis is also increasing in developed countries also.<sup>7,8</sup>

Pattern of lymph node enlargement is different in different age group. Metastatic deposit is common in adults whereas it is rare in children.<sup>9,10</sup> In children, reactive lymphadenopathy is common.<sup>11</sup>

This study aims at finding causes of superficial lymph node enlargement and pattern of lymph node distribution in lymph node biopsy samples received in pathology department of Nepal Medical College Teaching Hospital (NMCTH).

## MATERIALS AND METHODS

This is a retrospective study of cases of lymph node biopsy received at department of pathology NMCTH from Jan 2004 to Dec 2005. Demographic data regarding age, sex, site of biopsy were obtained from request form. All biopsy slides were reevaluated. Metastatic lymph node associated with primaries elsewhere in the body were excluded from the study.

## RESULTS

A total of 55 lymph node biopsies were obtained, which constituted 3.7% of total biopsies in the department during the two years period. Out of 55 cases, 24 (44.0%) cases were of males and 31 (56.0%) cases were of females with male to female ratio of 1:1.29. Age range of the patients was 1 year to 70 years with mean age of 37 years.

Table-1 shows site distribution of diseases and frequency of enlargement of different groups of lymph nodes. Cervical group of lymph nodes were most frequently affected, constituting 27 (49.0%) of the total cases. Tuberculosis (TB) was the most common condition, constituting 26 (47.0%) of the total cases followed by reactive lymphadenopathy (36.0%). Metastatic deposits were seen only in 6 (11.0%) of cases.

Table-2 shows histological diagnosis of lymph node biopsies with their age and sex correlation. TB is common in young adults with slight female predominance. Out of 26 cases, 20 (77.0%) cases were seen before 40 years of age and sex ratio 1:1.6 (M: F).

Reactive lymphadenopathy was seen in all age group with equal male to female ratio. Metastatic deposits were seen after 30 years of age. More than 50.0% cases of metastatic deposits were seen in supraclavicular lymph nodes.

## DISCUSSION

Most of the studies have reported TB as a common cause of lymph node enlargement in tropics.<sup>1-4</sup> This study also shows TB as a common cause of lymph adenopathy, constituting 47.0% of the total cases. High incidence of TB has been attributed to low socioeconomic status and poor standard of living in third world countries.<sup>12</sup> In this study TB was found to be more common in cervical group of lymph nodes with female predominance and most cases were seen in the young age group. These findings are consistent with findings of other studies.<sup>1-4,13-15</sup> Reactive lymphadenopathy was second most common cause which was also predominant in cervical lymph nodes. In this

study, malignant deposits were seen only in 11.0% of the cases which is very low in comparison to 65.0% of the cases documented in the western series.<sup>5,6</sup> This shows that metastatic deposits are more common in western countries where socioeconomic status is high.

The pattern of diseases observed in this study was comparable to that of other third world countries. T.B and reactive lymphadenopathy were common problems and presented mostly with cervical lymphadenopathy. Most cases of malignant deposits were seen in supraclavicular lymph nodes; hence early investigation is needed in such cases to delay management.

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**Table-1: Site distribution and histologic diagnosis**

| Site                 | Total     | %          | T.B       | Reactive  | Metastatic | NHL      | Lymphangioma | Acute<br>Necrotizing |
|----------------------|-----------|------------|-----------|-----------|------------|----------|--------------|----------------------|
| Cervical             | 27        | 49         | 18        | 6         | 1          |          | 1            | 1                    |
| Axillary             | 9         | 17         | 4         | 4         |            | 1        |              |                      |
| Supra-<br>clavicular | 7         | 13         | 1         | 2         | 4          |          |              |                      |
| Sub-<br>mandibular   | 5         | 9          | 1         | 4         |            |          |              |                      |
| Sub mental           | 4         | 7          | 2         | 2         |            |          |              |                      |
| Inguinal             | 3         | 5          |           | 2         | 1          |          |              |                      |
| <b>Total</b>         | <b>55</b> | <b>100</b> | <b>26</b> | <b>20</b> | <b>6</b>   | <b>1</b> | <b>1</b>     | <b>1</b>             |

**Table-2:** Age and sex distribution

| Diagnosis         | No. of cases | % of cases | Males (%) | Females (%) | M:F    |
|-------------------|--------------|------------|-----------|-------------|--------|
| T.B               | 26           | 47         | 10(42)    | 16(52)      | 1:1.6  |
| Reactive          | 20           | 36         | 10(42)    | 10(32)      | 1:1    |
| Metastatic        | 6            | 11         | 2(8)      | 4(13)       | 1:2    |
| NHL               | 1            | 2          | 1(4)      |             | 1:0    |
| Acute Necrotizing | 1            | 2          |           | 1(3)        | 0:1    |
| Lymphangioma      | 1            | 2          | 1(4)      |             | 1; 0   |
| Total             | 55           | 100        | 24(100)   | 31(100)     | 1:1.29 |