

## THE PATTERN AND FREQUENCY OF DISEASES ASSOCIATED WITH LYMPHADENOPATHY

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### ABSTRACT

*A study of 351 patients of lymphadenopathy was carried out to observe the pattern of various diseases with which these patients were affected. There were 168 male and 183 female patients with male to female ratio of 1:1.09. The youngest patient was 1 year old and the oldest was 80 years of age. The commonest lesion found was tuberculosis in 165 (47%) followed by reactive hyperplasia in 121 (34.5%), metastatic carcinoma in 36 cases (10.3%), malignant lymphoma in 27 cases (7.7%), Kikuchi's lymphadenitis in one case (0.28%), and fungal lymphadenitis in one (0.28%).*

### INTRODUCTION

Lymph node enlargement is a common clinical problem which frequently requires a biopsy to establish a diagnosis. Lymphadenopathy may be primary or secondary manifestation of numerous disorders. The causes of lymphadenopathy include infection (both local and systemic), autoimmune and neoplastic disorders (either primary or metastatic).<sup>1</sup> selection of the lymph nodes to be biopsied is of great importance. Inguinal lymph nodes are to be avoided whenever possible because of high frequency of chronic inflammatory and fibrotic changes present in them<sup>2</sup>. Cervical and axillary lymph nodes are more likely to be informative in cases of generalised lymphadenopathy. Small superficial lymph nodes may show only non-specific hyperplasia whereas deeper nodes of the same group may show diagnostic features.<sup>2</sup>

### MATERIAL AND METHODS

In the present study a total of 351 lymph nodes have been analysed during the period from 2004 to 2007 at the Department of Pathology Baqai Medical University Hospital and PNS Shifa Karachi.

The specimens were received in 10% buffered formalin and processed as per routine procedures and then embedded in paraffin for block preparation. After processing each block was cut into four microne thick sections on a rotary microtome. The sections were stained with the routine haematoxylin and eosin method. The special stains were performed whenever required.

### RESULT

In a total of 351 patients who were evaluated, 168 (47.86%) were males and 183 (52.14%) were females.

The age and sex distribution is shown in table 1. The ages ranged from 1 year to 80 years. Highest number of patients (93) were in 21-30years age group followed by (70) in 11-20 years age group.

**Table 1:** Age and sex distribution in 351 cases.

Age Group (Years)	Male	Female	Total
0 – 10	38	30	68
11 – 20	38	32	70
21-30	34	59	93
31 – 40	22	36	58
41 – 50	15	11	26
51 – 60	14	06	20
61 – 70	04	05	09
71 – 80	03	04	07
Total	168	183	351

Commonest pathology noticed was tuberculosis in 165 cases (47%) followed by reactive hyperplasia in 121 cases (34.5%), metastatic carcinoma in 36 cases (10.3%), malignant lymphoma in 27 cases (7.7%) Kikuchi's disease (0.28%) and fungal lymphadenitis (0.28%). The findings of histopathology are shown in table 2.

### DISCUSSION

In the present study 165 (47%) cases were diagnosed as tuberculosis. Among these cases 98 (59.39%) were females and 67 (40.61%) were males. Similar results are reported in other studies in the region<sup>3-5</sup> Danapat also documented tuberculosis as the commonest cause of lymphadenopathy with predominance of females<sup>6</sup> There were 9 millions new

cases of tuberculosis in the year 2000 worldwide. Tuberculous lymphadenopathy is the commonest cause of extrapulmonary tuberculosis in Pakistan. Tuberculosis is more prevalent in Africans and Asians<sup>7</sup> but tuberculosis is infrequently seen in western community.<sup>8</sup> As the tuberculosis is so common in our country, every case of granulomatous lymphadenitis should be labelled as tuberculous lymphadenitis unless proved otherwise. Reactive hyperplasia is next in frequency in our study. This finding is supported by other studies.<sup>9,10</sup> Lymph

nodes undergo reactive changes whenever there is a focus of infection by microbiological agents, cell debris or foreign matter introduced into wound or into the circulation.<sup>11</sup> Metastatic carcinoma is the 3<sup>rd</sup> common cause of lymphadenopathy in our study in contrast to Rehman who observed it as the 4<sup>th</sup> most common cause of lymphadenopathy.<sup>12</sup> Metastatic carcinoma is the commonest cause of peripheral lymphadenopathy in western countries. Javed et al reported meta-static carcinoma as the commonest cause of lymphadenopathy.<sup>13</sup>

The malignant lymphomas are next in frequency in this study. Non Hodgkin Lymphoma was diagnosed in 15 (55.55%) of our cases and Hodgkin's disease in 12 (44.44%). These results are in accordance with the published figures.<sup>14,15</sup> Ahmed et al also reported that NHL was more frequent than Hodgkin's lymphoma.<sup>16</sup> Malignant lymphoma is the fourth common cause of lymphadenopathy in our study in contrast to Rathi. who reported it as the second most common cause of lymphadenopathy.<sup>17</sup> Many miscellaneous diseases involving lymph nodes have been described, Kikuchi's lymphadenopathy (necrotising lymphadenopathy) comprised of 0.28% of our cases. Kikuchi's disease is seen most commonly in Japan and other Asian countries but it also occurs elsewhere including United States and western Europe.<sup>18</sup> Most patients are young women. Fungal lymphadenopathy was 0.28% of our study.

We **conclude** that tuberculosis is the leading cause of lymphadenopathy. The disease is more common in females. FNAC has good sensitivity in tuberculosis but its results are not promising in malignant lymphoma. The grading of lymphoma is not possible on FNAC which is essential for proper chemotherapy and prognosis. The diagnostic yield can be maximised by excision of the lymph node. Exact early diagnosis can save the patients from high of mortality and morbidity especially in mali-

**Table 2:** *Histopathological diagnosis of patients with lymphadenopathy.*

Actiology	Male	Female	Total	Percentage
Tuberculosis	67	98	165	47%
Reactive hyperplasia	65	56	121	34.5%
Metastatic tumor	14	22	36	10.3%
Malignant lymphoma	21	6	27	7.7%
NHL	12	3	15	(55.55)
Hodgkin's lymphoma	9	3	12	(44.45)
Kikuchi's lymphadenitis	-	1	1	0.28
Fungal lymphadenitis	1	-	1	0.28

gnant diseases.

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