LYMPH NODE DISEASES: A HISTOPATHOLOGICAL ANALYSIS OF 86 CASES AT A TERTIARY CARE TEACHING HOSPITAL IN PESHAWAR.

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Abstract
Objective: To know the frequency of lymph node Diseases

Materials and methods: The lymph nodes specimens received in the department of pathology, HMC in the year 2003(n=86) were analyzed histopathologically.

Results: Out of a total eighty six lymph node biopsy specimens ,common lymph node lesions included chronic granulomatous lesions compatible with tuberculosis (37.2%) followed by reactive hyperplasia (26.7%), Hodgkin’s Disease (6.9%), Non-Hodgkins lymphoma, (3.5%), Acute lymphadenitis (9.3%) and metastatic carcinoma (9.3%).

Conclusion:- This study shows that extrapulmonary tuberculous lymphadenitis is still the most commonly encountered lesion followed by non-specific reactive changes and malignancies.

KEY WORDS: Lymph node, tuberculous lymphadenitis, reactive hyperplasia and malignancies

INTRODUCTION:-
The lymph nodes are major component of the lymphatic system placed in small groups or chains at strategic locations where they drain the lymphatic vessels of various anatomic regions. Their accessibility makes them an easy target for diagnostic purposes. More importantly, because of the role played by lymph node in retaining and reacting to foreign antigens, lymph node changes reflect regional as well as systemic pathologic disorders 1,2

Lymph node diseases are showing a rising trend worldwide. A number of studies have been done in order to know the magnitude of the problems. Extra pulmonary tuberculous lymphadenitis ranks first in this part of the world. There is a wide variation in the spectrum of the Lymph node diseases and the epidemiology in various countries or ethnic groups 3,4

MATERIAL AND METHODS
The pathology department of Hayatabad Medical complex Peshawar is a Tertiary Care Unit. It caters not only to the population of Peshawar but also receiving samples from Afghan refuges. The laboratory receiving around Four thousand and five hundred surgical specimens per year. In this study the biopsies of lymph nodes received were from admitted as well as out door patients in Hayatabad Medical Complex. A total of 86 specimens were analyzed over a period of one year from Jan, 2002 to Dec. 2002. The specimens were received in 10% buffered formalin and processed in auto processor. Paraffin embedded sections were stained with the routine haemotoxyllin and eosin method 5. The diagnosis was undertaken on morphological grounds.

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RESULTS:
During the period of one year i.e Jan; 2002 Dec; 2002 a total of 86 (n=86) lymph nodes specimens were received in the department of pathology Hayatabad Medical complex Peshawar. Tuberculosis was the most common condition noted and accounted for 37.2% of all the cases (n=86). The male/female ratio was 12:20. It was followed by reactive hyperplasia (26.7%), Lymphoma (Hodgkin’s and Non-Hodgkin’s both) 10.4%, metastatic carcinoma and acute infectious lymphadenitis 9.3% respectively (Table-1).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number Of Cases</th>
<th>Percentage Distribution</th>
<th>Male/Female Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>32</td>
<td>37.2%</td>
<td>12/20</td>
</tr>
<tr>
<td>Acute Inflammation</td>
<td>08</td>
<td>9.3%</td>
<td>02/06</td>
</tr>
<tr>
<td>Reactive Hyperplasia</td>
<td>23</td>
<td>26.7%</td>
<td>15/80</td>
</tr>
<tr>
<td>Hodgkin lymphoma</td>
<td>06</td>
<td>6.9%</td>
<td>04/02</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>03</td>
<td>3.5%</td>
<td>02/01</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>08</td>
<td>9.3%</td>
<td>02/06</td>
</tr>
<tr>
<td>Metastatic Carcinoma</td>
<td>08</td>
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</tbody>
</table>

DISCUSSION
The evaluation of lymph node histology remains one of the most challenging task for the pathologist. There is often a confusing overlap of reactive and neoplastic processes which may require information from studies other than light microscopy. Morphologic examination of paraffin sections, however, remains the standard method for the diagnosis of nodal diseases.

Tuberculosis is one of the most common disease of peripheral lymph nodes. Despite improvement in the living standards in general, significant reduction in the incidence of tuberculosis in Asian and African population has not occurred correspondingly. In this study 37.2% of the lymph nodes reveal chronic granulomatous caseating lesion compatible with tuberculosis. Some previous studies have revealed higher prevalence of tuberculous lymphadenitis in countries like Pakistan, India and Bangladesh. Reactive hyperplasia including bacterial lymphadenitis was the second most category observed in our study. This usually occurs as a result of immune response to infective agents (e.g. Bacteria, Viruses, fungus etc) or due to inflammatory cells in infections involving the lymph node. When the hyperplastic change is very intense the differential changes with malignant lymphoma may become difficult. It may be follicular or diffuse. Immunoglobulin light chains (MT2 and Bc1-2) may help in case of difficulty between follicular lymphoma and follicular hyperplasia. The 3rd most common disease of lymph node in our study was malignancy. Collectively malignant lymphoma comprised 10.4% of all cases. Hodgkin’s disease cases were more as compared to non-Hodgkin’s lymphoma. There was male preponderance over female (2.1) which is in conformity with other studies. Mixed cellularity Hodgkin’s disease ranked high followed by lymphocytic predominant and depletion type. The non-Hodgkin’s lymphoma comprised 3.5% of all the lymph node studies. Diffuse lymphocytic lymphoma was the predominant type observed in our studies which is in conformity with many earlier studies. Among the lymph node malignancies metastatic carcinoma comprised 9.3%. Cervical and abdominal mesenteric lymph node were the commonest site for metastatic deposits.
In biopsy of lymph node, more than those of any other argan there seems to be the less agreement in the original diagnosis and that made at the time of review studies. There are multiple causes of miss-diagnosis. Some can be traced to:-

- Surgical procedures regarding poor selection of lymph node site, improper removal etc. large lymph node should be removed. Superficial lymph node should be avoided.
- Technical Processing of biopsy material.
- Interpretation of lesion

The supraclavicular nodes yield highest number of diagnostic lesion (64-85%) followed by cervical lymph node (46-64%). The axillary and inguinal lymph node produced fewer identifiable lesions. Moreover, the accuracy of histological diagnosis is directly proportional to the quality of histologic section. Of the technical factors, fixation is irreversible and therefore the most important. The formaldehyde solution present in the operation theatre may not be of the required strength used for tissue fixation. This improper fixation leads to thick sections, poor staining and distorted specimens leading to misdiagnosis.

CONCLUSION

This study conclude the higher prevalence of tuberculous lymphadenitis in this part of country due to high influx of Afghan refugees mixing with the local population. Although excision of lymph node and the routine H&E staining is the gold standard in pathological diagnosis of lymph node pathology. Other available means of investigations such as FNAC, Print touch cytology, core needle biopsy and tumor markers are also useful tool in those cases where facilities and expertise is available. This will reduce the number of false reactive hyperplasia and help in differential diagnosis.

RECOMMENDATIONS

Proper intact / bi-halved lymph node in 10% buffered formalin or B-5 fixative be submitted for histopathological examination. Complete history with clinical diagnosis along with proper relevant investigations / information be provided to the consultant pathologist. Efforts should be made to provide facilities for the latest types of investigations such as FNAC, touch cytology, core needle biopsy, frozen sections, immunohistochemistry and PCR etc.

REFERENCE:

1. Mohammad Hussain and Nadeem Rizvi; Clinical and morphological evaluation of tuberculous, peripheral lymphadenopathy. J coll phy; & Surg; Pak 2003;13;694-96.

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