



Original Research Article

Histopathological Study of Lymphnode Biopsies in a Tertiary Health Care Hospital

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Abstract

The lymphatic system consists of groups of cells, tissues, and organs. These structures monitor the body surfaces and the internal fluid compartments and these tissues react to the presence of various potentially harmful substances. A study of lymph node lesions was carried in our tertiary hospital for a period of 2 years from Jan 2106 to Dec 2017. In our study, maximum number of cases showed reactive lymphadenitis 16 (34.04%) followed by 14 cases (29.79%) of metastasis.

Introduction

Infections and non-microbial inflammatory stimuli often activate immune cells residing in lymph nodes, which acts as defensive barrier. Any immune response against foreign antigens can lead to lymph node enlargement (lymphadenopathy). Infections causing lymphadenitis are varied and numerous and may be acute or chronic. In most instances the histologic appearance of the lymph node reaction is non-specific.

Lymph node diseases are always complex because focus of large number of diseases reach via lymph only. Analysis of lymph nodal lesions is not an easy task. Even though fine needle aspiration cytology is commonly used to establish the

diagnosis, there are some grey areas of the lymph node lesions to arrive at a confirmatory diagnosis.

The present histopathological study was carried out in a rural teaching hospital in Tamil Nadu to find out systematically the various pathological conditions presenting with enlarged lymph nodes.

Materials and Methods

This study was carried out in the department of pathology, Rajah Muthiah Medical College and hospital, Tamil Nadu, a rural teaching hospital from January 2016 to December 2017, for a period of two years.

The materials of the study were all the lymph node biopsies that were received during the above said period.

Inclusion Criteria

All the lymph node specimens received in the department of pathology in all age groups.

Exclusion Criteria

Poorly preserved specimen and inadequate sample
The gross features like size, shape, consistency, color and necrosis were recognized. Sections were taken from the from the lesion and processed in automated tissue processor. Thin sections were made and stained using hematoxylin and eosin.

Observation

In the present study, all the lymph node biopsies were analyzed. They were categorized into reactive lymphadenitis (34.4%), metastasis 14 (29.79%), granulomatous lymphadenitis (25.53%) and lymphoma (10.54%).

Table: 3

Age	Reactive	Granulomatous	Lymphoma	Metastasis	Total No of Cases	%
<10	3	0	0	0	3	6.38
11-20	0	0	1	1	2	4.26
21-30	2	4	0	0	6	12.77
31-40	2	1	0	1	4	8.51
41-50	3	3	1	3	10	21.27
51-60	3	3	1	5	12	25.53
61-70	3	1	0	2	6	12.77
>70	0	0	2	2	4	8.51
Total	16	12	5	14	47	100%

Majority of the patients were seen between the age group of 51-60 years (12cases-25.53%) followed by 41-50 years (10 cases-21.27%) and

Table-1

Pathology/Lesions	No of Cases	%
Reactive Lymphadenitis	16	34.04%
Granulomatous Lymphadenitis	12	25.5%
Lymphoma	5	10.64%
Metastasis	14	29.79%
Total	47	100%

Out of 47 cases received in our department 24 cases (51%) were found to be male and 23 cases (49%) were female

Table-2

Sex	No of cases	Percentage %
Male	24	51%
Female	23	49%
Total	47	100%

Among the 47 lymph node biopsies analyzed the non-neoplastic lesion were common comprising 28 cases (59.6%) and the neoplastic lesion with 19 cases(40.4%).

the least number of cases were seen between 11-20 years (4.26%).

Discussion

S.No	Study	Year & Place	Non-Neo Plastic Leasions			Neo Plastic Leasions		
			RH	GL	Others	Lymphoma	Metastatic	Others
1	Chumatrav et al ³	2002 Russia	64.9%	20.2%	-	-	14.9%	-
2	Moore et al ⁴	2003 South Africa	47.8%	36.3%	3.9%	8.5%	2.62%	Kappos Sarcoma 0.07%
3	Tiwari et al ⁵	2007 Nepal	36%	47%	2%	2%	11%	2%
4	Anunobi et al ⁶	2008 Nigeria	34%	17.40 %	-	14.20%	33.6%	-
5	Kamat et al ⁷	2011 Karnataka India	30.73 %	58.19 %	-	3.67%	7.37%	-
6	Anand vachani ⁸	2013 Gujarath India	51%	24%	-	2%	23%	-
7	Present study	Tamilnadu India	34.04 %	25.5%	-	10.64%	29.79%	-

Lymph node is one of the important components of immune system. Lymphadenopathy is a common condition in clinical setting. Lymph node biopsies give a valuable information about the causes of nodal enlargement. Even though immunohistochemistry helps to a certain extent in further categorization of lymph nodes, still H & E sections stands gold standard for diagnosis.

In the present study of 47 cases, 24 were male (51%) and female (49%). In comparison with various studies Paliwal UK et al shows slight male preponderance to female which was similar to our studies, while other studies like Rehamanetal shows female preponderance.

In the present study, we observed maximum number of 12 (25.53%) cases between the age group 51-60years and minimum number of 2 cases (4.26%) between 11-20years.

Non-neoplastic lesions: In the present study, reactive lymphadenitis 16 cases (34.04%) was the predominant lesion. This was almost compatible with the studies done by Tiwari et al (36%), Anunobi et al (34%) and Akindle et al (31.37%)

In our study, the incidence of granulomatous lymphadenitis was 12 cases (25.5%). This was nearly compatible with the studies by Chumakov et al (20.2%) and Anand vachhani et al (24%)

Neoplastic lesions: In the present study, the lymphoma case was 5 (10.64%) which was nearly similar to the study done by Anunobi et al (14.20%) and Moore et al (8.5%)

Metastasis: The present study shows second highest incidence of metastaticnode with 14cases (29.79%). This was similar with study done by Anunobi et al (33.6%).

Conclusion

It is suggested that efforts should be made to establish the cause of lymphadenopathy and the importance of lymph node biopsy to arrive at a diagnosis and clinical management of the patient. In our study, reactive lymphadenitis was the most common cause of lymphadenopathy followed by metastatic deposits.

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