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HISTOPATHOLOGICAL STUDY OF LYMPH NODE SWELLINGS IN A TERTIARY CARE HOSPITAL IN NORTH TELANGANA

Pathology

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ABSTRACT

Introduction: Lymph node swellings are one of the commonest clinical presentation of patients and it encompasses a wide spectrum ranging from inflammation to a malignant lymphoma or a more obnoxious metastatic malignancy.

Aim of the study: The aim of the present study is to study the various lesions of lymph node swelling which was sent to department of Pathology.

Materials & Methods: The present study is a retrospevtive and prospective study done for a period of two years from January 2015 to Decemeber 2017. All cases which were diagnosed already with all clinical details were included. Total 70 cases were included in the present study.

Results: Out of 70 cases, Tubercular lymphadenitis was the most common lesion observed, followed by reactive lymph node, hodgkins disease, metastatic deposits, castlemans disease and Kikuchi disease. Age group between 31-40 years affected more with a female preponderence.

Conclusion: Tuberculous lymphadenitis was noted as the most prevalent etiology for lymphadenopathy with marked increase in female subjects and cervical region as the major site involved.

KEYWORDS

Lymphadenopathy, Tuberculous lymphadenitis, Cervical lymph nodes

INTRODUCTION

Lymphadenopathies are reactive processes of lymph nodes in response to a variety of exogenous and endogenous stimulants. Persistent generalized lymphadenopathy, a common presentation, in various clinical practice settings, is an indication of underlying systemic diseases. In a primary care setting, around one-fourth patient presentation will be of generalized lymphadenopathy and three-fourths will be of localized lymphadenopathy.[1] The most common causes of lymphadenopathy are inflammation and immune reactions.[2]

Tuberculous lymphadenitis is one of the most common causes of lymphadenopathy in adults, particularly in developing countries.[3] However, its prevalence is only less than 5% among Indian children aged between 0-14 years. However, the prevalence of malignancies has been reported to be comparatively lesser among lymphadenopathy patients.[4] Studies have reported cervical lympnodes as the major site of lymphadenopathy in 90% of the cases.[3]

MATERIALS & METHODS

The present study is a retrospective and prospective study done for a period of two years from January 2015 to December 2017. A total of 70 lymph node cases were studied, all the clinical and radiological findings were included and examined.

RESULTS

Out of the total 70 cases, majority were Tubercular lymphadenitis(27) followed by granulomatous and reactive lymphadenitis. Neoplastic lesions like Hodgkins disease, Non Hodgkins and metastatic deposits were also included. Other lesions like Rosai Dorfman disease,Kikuchi disease and microfilaria in lymphnode were also included [Table 1].

Age group between 31-40 years constituted highest number of cases (37) and age group between 0-10 years contributed least cases (03) [Table 2]. Cervical lymphadenopathy was the most common site involved (44) followed by axillary, submandibular, mesenteric and inguinal regions [Table 3].

Table 1: Showing different lymph node lesions

Sl No	Lesion	No. of cases
1	Tubercular lymphadenitis	27
2	Granulomatous lymphadenitis	10
3	Reactive lymphadenitis	09
4	Metastatic deposits	08
5	Hodgkins disease	06
6	Non Hodgkins disease	05
7	Castlemans disease	02
8	Kikuchi disease	01
9	Rosai dorfmann disease	01
10	Lymphatic filariasis	01
Total		70

Table 2: Showing different age groups

Sl no	Age group	No. of cases
1	0-10	03
2	11-20	07
3	21-30	06
4	31-40	37
5	41-50	08
6	51-60	09
Total		70

Table 3: Showing different sites of lymphadenopathy

Sl. no	Site	No of cases
1	Cervical	44
2	Axillary	12
3	Inguinal	10
4	Mesenteric	02
5	Submandibular	02
Total		70

DISCUSSION

Persistant generalized lymphadenopathy is defined as lymphadenop athy of two or more noncontiguous sites, of atleast three months in duration, in the absence of intercurrent illness or drug use associated with lymphadenopathy. The present study has noted tuberculous lymphadenitis as the most common benign lesion, this is in agreement with previous literature evidence[5]. This pattern can be attributed to low socioeconomic status, illiteracy, incomplete treatment, resistance, and increased incidence of HIV infection. However, the present study population has not included HIV infected patients. The study by Biswas et al. among urban population in India has reported a prevalence of 45% for tuberculous lymphadenitis.[6] The present study has also reported same prevalence rate in rural Indian population, with increased female subjects. A study by Abba on Saudi Arabian population reported that tuberculous lymphadenitis was reported in 51% of the females compared to males. The observation was proportional to the present study which reported around 70% cases of tuberculous lymphadenitis.

Cervical region was noted as the most frequent site of lymphadenopathy, followed by axillary, mesenteric, submandibular, and inguinal regions. A recent study from India, by Malukani K et al., has reported a comparable frequency of 79% cases presenting with lymphadenopathy in the cervical region. Even though the study has identified inguinal region as the second frequent site of lymphadenopathy, (7%), the present study has reported inguinal lymphadenopathy as third most common site.

Those cases were included under tubercular lymphadenitis that showed clusters of epithelioid cells, multinucleated giant cells, necrosis as well as acid fast bacilli (AFB) positivity with ZN staining and granulomatous lymphadenitis in the lesions that showed above features but AFB negative. Inspite of great advances in chemotherapy and immunology, tuberculosis still continues to be a major public health problem in the entire world, more common in developing countries of Asia,Africa and Latin America. In fact , half the total number of cases in the world are shared by India and China.

In 1832, Thomas Hodgkin first described the clinical and gross autopsy findings of a series of patients with enormous enlargement of the lymph nodes and involvement of the spleen. There are a number of clinical and pathologic features that unite the various forms of Hodgkin's disease and set them apart from non – Hodgkin's lymphoma. Hodgkin's disease presents in lymph nodes and tends to spread to contiguous lymph nodes in a rather predictable pattern as the disease progresses. Histologically, the tumour tissue contains a large admixture of reactive elements such as small lymphocytes, neutrophils, eosinophils, histiocytes and plasma cells. The neoplastic cell that characterize this disease, the diagnostic Reed –Sternberg (RS) cell, should always be present. This cell is a large cell and by light microscopy contain two or more nuclei or nuclear lobes with large inclusion body like eosinophilic nucleoli surrounded by a halo of clear nucleoplasm. There is a moderate amount of eosinophilic to amphophilic cytoplasm. In addition, varying numbers of large pleomorphic neoplastic cells with distinctive features in each subtype of Hodgkin's are scattered in the milieu.

In the United States, Hodgkin's disease shows a male predominance with the exception of the nodular sclerosis subtype in young adults. Young adults tend to have a predominance of nodular slerosis and lymphocytic predominance subtypes, while the mixed cellularity and lymphocytic depletion subtypes are more prevalant in the older age group[7]. In less developed countries, mixed cellularity and lymphocyte depletion subtypes predominate in both children and adults. There is probably an increase in incidence of Hodgkin's disease , mixed cellularity subtype , in patients with AIDS , especially in the group with a history of intravenous drug use.

The etiology of Hodgkin's disease is still unknown. The epidemiological data show that Hodgkin's in young adults shares certain characteristics with the disease epidemiology of certain viral infections such as poliomyelitis and infectious mononucleosis, suggesting the involvement of a viral agent. This putative agent, similar to the EBV, causes a low incidence of disease in early childhood but a much greater chance of clinical disease when encountered later in life. Other evidence that favours a common source exposure or genetic factors in the pathogenesis of Hodgkin's include occurence of familial cases. In one of the reports, there is a seven fold excess risk of Hodgkin's disease in siblings, with a greater concordance of sex than expected, suggesting interpersonal transmission or common source exposure. There are some slight increases in the frequency of Hodgkin's in HLA types A1, B5, B8 and B 18. The significance of the weak association is unclear and it is hoped that further studies on familial cases will shed some light on the possible role of HLA in Hodgkin's disease[7].

There was some recent interest in the possible involvement of human herpes virus 6 (HHV -6) HHV-6 sequences were detectable in a small proportion of Hodgkin's but its role in the pathogenesis of Hodgkin's is unclear. Evidence for the involvement of EBV is much stronger. Persons with prior infectious mononucleosis are at increased risk of Hodgkin's and those who are seropositive for EBV is much stronger. Persons with prior infectious mononucleosis are at increased risk of Hodgkin's and those who are seropositive for EBV infection have a three to four fold increase in Hodgkin's disease. The antibody titer to viral capsid antigen is higher in patients with Hodgkin's disease.

In Castleman's disease the lesions were solitory and confined to the mediastinum, still the most frequent site of involvement. Microscopically show follicles with regressively transformed germinal centres surrounded by concentrically arranged mantle zone lymphocytes giving a lollipop appearance. Rosai Dorfman disease is a rare disorder, it affects males slightly more often than females and seen in all age groups, but most cases occur in the first two decades of life, and its distribution is worldwide.

CONCLUSION

Tuberculous lymphadenitis has been identified as the common cause for lymphadenopathy, and cervical region as the major site involved in our study. Understanding the pattern of lymphadenopathy in a population assists in pathological reporting and helps the clinician in conducting a more focused investigation and in customizing the treatment course.

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