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Original Research Article

FNAC Findings in Lymphadenitis: An Retrospective Study

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Abstract

Aim: The aim of the present study was to assess the FNAC findings in lymphadenitis.

Methods: This study was done in the Department of Pathology, DMCH, Darbhanga, Bihar, India and conducted for one year. All slides and reports which were collected from the Department of Pathology and MRD were collected and reported. The total sample size was thus 100. The design of the study was retrospective cross sectional.

Results: In the present study, 68% lymphadenopathy was at cervical followed by axillary. According to cytological study, 48 had Tuberculous lymphadenitis followed by Chronic reactive hyperplasia.

Conclusion: Enlarged lymph nodes are easily accessible for aspiration, fine needle aspiration (FNAC) is advocated for the initial diagnosis and management of patients with lymphadenopathy. The technique being simple and leads to minimizing complications. It has been found that it offers a nearly accurate diagnosis of various pathologies including reactive lymphadenitis/inflammatory conditions, granulomatous disorders and neoplastic disorders.

Keywords: FNAC, Lymphadenitis, Tertiary Hospital, Cross-Sectional

Introduction

Lymphadenopathy, considered as an abnormality within the size or nature of lymph nodes, is produced by the invasion or dispersion of either inflammatory cells or neoplastic cells into the node. It results from an enormous array of disease processes. [1] Lymphadenopathy refers to enlarged lymph nodes and it is a common finding in clinical practice either as acute or chronic. Palpable lymph nodes greater than 5 mm are considered abnormal. The annual incidence of unexplained lymphadenopathy is 0.6%. Only 1.1% of cases are related to malignancy, the percentage of which increases with age. [1] About one-half of otherwise healthy children have palpable lymph nodes at any one time. [2] Lymphadenopathy in children is mostly benign or infectious in etiology. In adults and children, lymphadenopathy lasting less than two weeks or greater than 12 months without change in size is unlikely to be neoplastic in origin. [3,4] Exceptions include low-grade Hodgkin lymphoma and non-Hodgkin lymphoma both of which are associated with systemic symptoms. [5]

An excision biopsy of the lymph node is the ideal investigation for diagnosis, but it requires local or generalized anesthesia. Fine needle aspiration cytology (FNAC) offers an alternative for diagnosis with little trauma and cost. [6] First FNAC was done in 1904 by two marine officers - Captain E.D.W. Greig and Lieutenant A.C.H. Grey. The first tumor diagnosis by FNAC was done in 1914 by English physician Gordon R in 1921. De May summarized the benefits of FNAC with the acronym SAFE (simple, accurate, fast, and economical). It can easily differentiate between malignant and nonmalignant lesions. [5] The diagnostic yield of FNAC can be improved if accompanied by radiological guidance like ultra-sonography and computed tomography scan. [6] In review studies of patients with lymphadenopathy, 17.5% were found to be malignant including 11.4% of lymphoproliferation and 6.1% of metastasis; 31% of cases were of reactive etiology and 26% had other non-malignant diseases. [7] A study conducted in Pakistan on 498 patients with cervical lymphadenopathy showed 8% had Hodgkin lymphoma (stages 2 and 3). [8]

The aim of the present study was to assess the FNAC findings in lymphadenitis.

Materials and Methods

This study was done in the Department of Pathology, DMCH, Darbhanga, Bihar, India and conducted for one year. All slides and reports which were collected from the Department of Pathology and MRD were collected and reported. The total sample size was thus 100. The design of the study was retrospective cross sectional.

Exclusion Criteria

- Uncertain slides.
- Sample inadequate slides.

Results

Table 1: Site of lymphadenopathy

Cervical	68
Axillary	20
Inguinal	8
Generalised	4

In the present study, 68% lymphadenopathy was at cervical followed by axillary.

Table 2: Cytological study

Acute lymphadenitis	18
Chronic reactive hyperplasia	22
Lymphoma	2
Tuberculous lymphadenitis	48
Metastatic	10

According to cytological study, 48 had Tuberculous lymphadenitis followed by Chronic reactive hyperplasia.

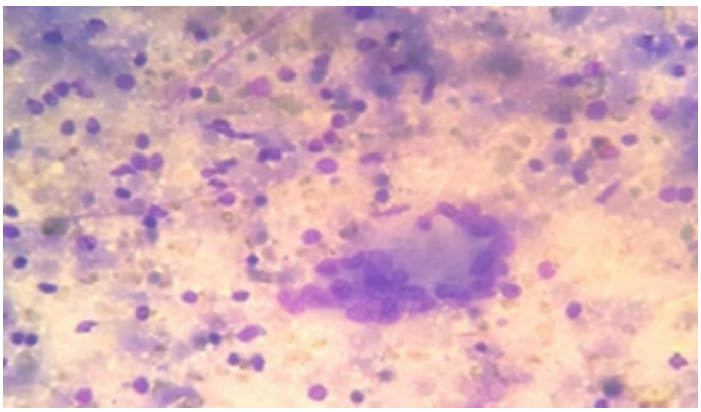

Fig. 1: Tuberculous lymphadenopathy

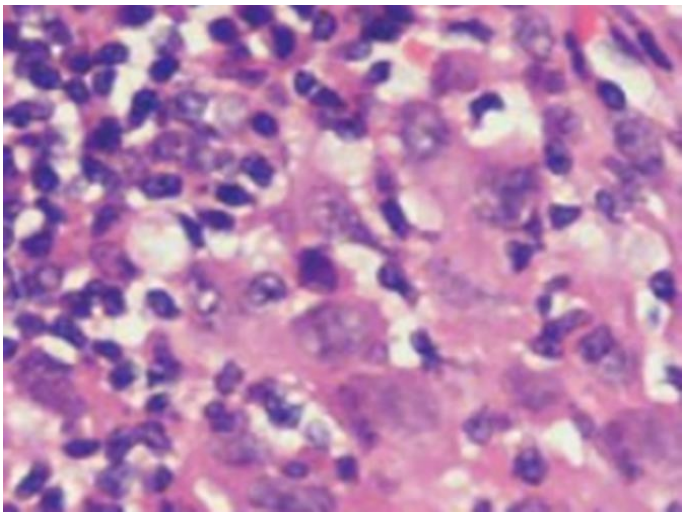

Fig. 2: Metastatic Lymphadenopathy

Discussion

Lymph nodes are round, small nodules of lymphoid tissue that filter microorganisms and particulate matter from the lymph. It constitutes an important part of the defense system of the human body. Lymphadenopathy is the condition of enlargement of lymph nodes and is a common clinical presentation of patients consulting a clinician. Lymph nodes are often involved in infectious diseases, many neoplastic conditions, lipid Storage diseases, endocrine disorders and various other conditions such as sarcoidosis and histiocytosis. [9] Surgical biopsy is considered to be the gold standard for diagnosis. However, it is costly, time-consuming and associated with more complications. Because, enlarged lymph nodes are easily accessible for aspiration, fine needle aspiration (FNAC) is advocated for the initial diagnosis and management of patients with lymphadenopathy. [10]

In the present study, 68% lymphadenopathy was at cervical followed by axillary. According to cytological study, 48 had Tuberculous lymphadenitis followed by Chronic reactive hyperplasia. The technique being simple and leads to minimizing complications. It has been found that it offers a nearly accurate diagnosis of various pathologies including reactive lymphadenitis/ inflammatory conditions, granulomatous disorders and neoplastic disorders. It identifies cases which need further investigations or follow-up. Hence, an excisional biopsy can be avoided in most of the cases. [11] De May has described the advantages of FNAC with the acronym SAFE. It means Simple, Accurate, Fast and Economical.12 FNAC has a pivotal role in the evaluation of peripheral lymphadenopathy and can be used as an alternative to excision biopsy in developing countries with limited financial and health care resources. [13]

Sharma et al [14] observed that granulomatous lymphadenitis was the most common followed by reactive lymphadenopathy, Suppurative –necrotic lesions, micro filarial lymphadenitis, tuberculosis. Among the neoplastic lymph node lesions, the commonest was metastasis followed by lymphoma. Metastatic deposits were more common in the extremes of ages. Tuberculosis and granulomatous pathology were more common in the 10-40 years. Lymphadenopathy is one of the common conditions encountered in outpatients. It is a clinical manifestation of regional or systemic diseases and gives a clue to the underlying disease. It can be due to benign or malignant causes. The etiology varies according to the geographical condition. It becomes important to identify the underlying cause for proper diagnosis and adequate management. Excision biopsy is a gold standard diagnostic test but is associated with complications. FNAC has been established as a safe, cheap and reliable test for diagnosis of superficial masses. It is used as the first-line investigation in the initial management of lymphadenopathy cases and has been advocated as a useful method in comparison with more expensive surgical excision biopsies, especially in developing countries with limited resources. Awareness about the prevailing pattern of causes of lymphadenopathy in a particular area makes the task of clinician easier. Hence, the present study was conducted to assess the Cytomorphological. Pattern of lymph node swellings by FNAC in patients presenting with peripheral lymph node swellings. Cytomorphological features were used for diagnosis of pathology as discussed by Shah et al. [15]

Conclusion

Enlarged lymph nodes are easily accessible for aspiration, fine needle aspiration (FNAC) is advocated for the initial diagnosis and management of patients with lymphadenopathy. The technique being simple and leads to minimizing complications. It has been found that it offers a nearly accurate diagnosis of various pathologies including reactive lymphadenitis/inflammatory conditions, granulomatous disorders and neoplastic disorders.

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