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A TWO YEARS STUDY OF CERVICAL LYMPHADENOPATHY BY FINE NEEDLE ASPIRATION CYTOLOGY IN A TERTIARY CARE HOSPITAL IN NORTH EAST INDIA.

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ABSTRACT Fine Needle Aspiration Cytology (FNAC) is a simple, quick and inexpensive method that is used to sample superficial masses like cervical lymph node found in the neck and is usually performed in the outpatient clinic. Cervical lymphadenopathy is a common clinical presentation across patients of all age group. The aetiology may range from a benign nonspecific inflammation to lymphoproliferative disorders and metastatic malignancy. The present study was undertaken to study non neoplastic and neoplastic lesions of enlarged lymph nodes by Fine needle aspiration cytology (FNAC) in patients presenting with cervical lymphadenopathy referred to cytopathology department from the OPD/IPD of a tertiary care institute over a period of two years (February 2015 to January 2017).A total of 850 patients were subjected to FNAC of cervical lymph nodes over two years period. Since in 35patients,the aspirate was inadequate the remaining 815 cases were analysed.Overall tuberculous lymphadenitis was the most common finding (42.45%), followed by reactive hyperplasia (35.09%). Malignant pathology accounted for 20.24% of cervical lymph node enlargement, most of which was due to metastatic squamous cell carcinoma (65.4%).This study highlights the usefulness of FNAC as a reliable method for diagnosis of cervical lymphadenopathy

KEYWORDS : FNAC, Tuberculous lymphadenitis, Reactive lymphadenitis

INTRODUCTION

Lymphadenopathy is an abnormal increase in size and altered consistency of lymph nodes. It is a clinical manifestation of regional or systemic disease and serves as an excellent clue to the underlying disease. Cervical lymphadenopathy is a common clinical presentation across patients of all age group. The aetiology may range from a benign nonspecific inflammation to lymphoproliferative disorders and metastatic malignancy. FNAC is widely used as first line investigation for the diagnosis of lymphadenopathy. This simple, easy and quick technique can diagnose reactive, infective and malignant conditions. Several studies in the past have documented the diagnostic accuracy of FNAC with reference to cervical lymphadenopathy among patients presenting to tertiary care institution to evaluate the diagnostic efficacy of FNAC.[1 -4].

The present study was undertaken to study non neoplastic and neoplastic lesions of enlarged lymph nodes by Fine needle aspiration cytology (FNAC) in patients presenting with cervical lymphadenopathy referred to cytopathology department from the OPD/IPD of tertiary care institute of North East India over a period of two years (February 2015 to January 2017).

MATERIALS AND METHODS:

This study was carried out over a period of two years (february 2015 to January 2017) at a tertiary care institute in north east India. A total of 850 patients with cervical lymphadenopathy were subjected to FNAC using 23 G needle and a 10ml disposable syringe. The slides were both air dried and wet fixed in alcohol for May-Grunwald Giemsa and Papanicolaou stain respectively.Clinical records and details of information like of age, sex, site, size, duration, involvement of other lymph nodes and other investigations were done.

The cases were divided into following groups, viz.: (a) Reactive hyperplasia: Smears were very cellular, showing a polymorphous population of lymphoid cells and histiocytes. (b) Tuberculous lymphadenitis: showed epithelioid cell granulomas with or without caseous necrosis_and giant cells. Smears showing only caseous necrotic material and lymphocytes were also grouped as tuberculous inflammation. (c) Metastatic malignancy: revealed malignant cells in clusters or scattered discretely along with other lymphoid cells. Metastatic carcinoma was subdivided (e.g. Squamous cell carcinoma, adenocarcinoma, etc.) according to cytological features (d) Lymphoma: cases with a mixed cell population and the characteristic Reed-Sternberg giant cell were categorised as Hodgkin's lymphoma. Non – Hodgkin's lymphoma showed a monomorphous population of small lymphoid cells or lymphoblasts. (e)Miscellaneous group: showed features which conform to none of the above mentioned groups (e.g. Rosai Dorfmann disease**).**

RESULTS

In this study 850 patients were subjected to FNAC for cervical lymphadenopathy. Among these patients, in 35 cases, the aspirate was inadequate despite repeated procedure. Hence these 35 cases were excluded from study and we proceeded to analyse the remaining 815cases.

The male:female ratio in this study was 1.36:1, the mean age of presentation being 30.9 years and 26.8 years for male and female patients respectively. The age at presentation ranged from 6 months to 70 years. We received the maximum number of patients (23.68%) in the 21-30 years age group, and the least (2.94%) in the >60 years age category (Table 1).

Tubercular lymphadenitis (42.45%) was overall the most common cause of lymphadenopathy. Most of,the cases occurred between 21-30 years.

Reactive lymphoid hyperplasia was the second most common finding (35.09%) predominantly in the age group 0f 11-20 years. As expected, the percentage of malignant cases rose steadily with age and accounted for 42.30% cases of cervical lymphadenopathy in patients more than 50 years of age.

Malignant pathology accounted 20.24% cases of cervical lymphadenopathy (Table 1). Of these neoplastic lesion, metastatic lymphadenopathy (82.42%) was most common. Rest of the neoplastic cases were NHL 12.72% and Hodgkins lymphoma 4.84%.

Among the metastatic lesion, squamous cell carcinoma topped the chart with 65.4%, as opposed to metastatic adenocarcinoma29.41% found in only cases. Other than these, there were 2 cases of metastatic nasopharyngeal carcinoma (1.47%), 4 undifferentiated carcinoma 2.94% and a single case of metastatic malignant melanoma.

Besides the above mentioned causes of lymph node affliction, we noted three cases of Cat scratch disease,six cases of Rosai Dorfman disease (sinus histiocytosis with massive lymphadenopathy). All 6 patients were less than 15 years of age. Malignant lesions were more in the >50 years age group whereas in all other age groups tuberculous lesions predominated.

Age group (years)	TB	Reactive hyperplasia	Hodkins lymphoma	NHL	metastasis	Others	total
<10	11	58	0	1	0	4	74
11-20	35	101	2	0	1	2	141
21-30	137	43	0	1	8	4	193
31-40	70	29	1	2	11	7	120
41-50	52	27	4	5	39	1	128
51-60	34	22	1	9	60	1	127
>60	7	6	0	2	17	0	32
total	346	286	8	20	136	19	815

Table 1: Age wise distribution of cases

DISCUSSION:

Cytology of cervical lymph node is the first investigation in diagnosis of many diseases in tertiary care settings.[5]. FNAC of cervical lymph nodes helps to explore the various lesions that involve these In the present study males were more commonly involved than females with male:female ratio of 1.36:1 .Age of patients showed a wide range starting from as early as 6 months to 70 years old, most of the cases occurring between 20-29 years of age group. Similar findings were observed by Shakera N Baji and co-workers[6], Pandav AB et al[5].

Since infections from oral cavity, ears, nose, and para nasal sinuses drain into cervical nodes, reactive lymphoid hyperplasia is a common finding [5,7]. However, in our study tuberculous lymphadenitis emerged as commonest (42%) cause of cervical lymphadenopathy. Most of the cases occured between 20-29 years of age. A declining trend in cases has been observed after 30 years of age. This corroborates with other studies conducted by Shakera N Baji and coworkers[6], Khadka s,et al [8]. The high incidence of tuberculosis may be explained by the fact of low socioeconomic condition ,poor hygiene and lack of awareness in the region.

Reactive lymphoid hyperplasia was the second most common lesion,commonly in the younger age group. Males were affected more than females. These findings correlates with study by Shakera N Baji and coworkers[6].The incidence of reactive lymph node enlargement fell steadily the 5th decade onwards and malignant lesions took over.

Among the malignant lesion ,metastatic lymphadenopathy (80%) was the most common and predominant cause in patients ranging from 40 years and above .Rest of the cases were that of NHL (12.8%) and Hodkins lymphoma (4.9-%). These findings are similar to studies by K. Bhuyan Medhi et al [9].Among the metastic lesions ,squamous cell carcinoma (65%)was the commonest . Metastatic squamous cell carcinoma was found to be more common in males and most of the cases occurred between 50-59 years of age. Similar observation was noted in studies done by Nath s et al [10]. Metastatic adenocarcinoma and few cases of undifferentiated carcinoma constituted the rest of malignant lesions. The high incidence of metastatic lymphadenopathy may be due to high incidence of malignancy of Head and neck region in this geo-economic block.

We noted 8 cases of Rosai Dorfman syndrome. It is a benign condition and a rare cause of cervical lymphadenopathy.[11] It usually occurs in the first decade of life and manifest as massive enlargement of cervical lymph nodes.

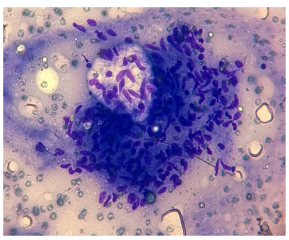

Fig: Photomicrograph showing Granuloma without caseous necrosis.MGG(40x10)

CONCLUSION:

This study highlights the usefulness of FNAC as a reliable method for diagnosis of cervical lymphadenopathy . The most frequent causes of cervical lymphadenopathy are tuberculosis, reactive lymphadenitis, and metastatic malignancies. In large number of cases FNAC alone is enough for diagnosis in proper clinical setting and surgical procedures like biopsy can be avoided even in tertiary care settings. Exact early diagnosis can save the patient from high mortality and morbidity especially in malignant diseases.

REFERENCES

1. Steel BL, Schwartz MR, Ramzy I. Fine needle aspiration biopsy in the diagnosis of lymphadenopathy in 1,103 patients: role, limitations, an analysis of diagnostic pitfalls. Acta Cytol 1995;39:76-81.
2. Nasuti JF, Yu G, Boudousquire A, Gupta P. Diagnostic value of lymph node fine needle aspiration cytology: an institutional experience of 387 cases observed over a 5 y e a r period. Cytopathology 2000;11:18-31.
3. Gupta RK, Naran S, Lallu S, Fauck R. The diagnostic value of fine needle aspiration cytology (FNAC) in the assessment of palpable supraclavicular lymph nodes: a study of 218 cases. Cytopathology 2003;14:201-7.
4. Bhaskaran CS, Kumar GH, Sreenivas M, Kameswari R, Rao G, Aruna CA. Fine needle aspiration cytology. Review of 1731 cases. Indian J Pathol Microbiol 1990;33:387-97.
5. Pandav AB et al,Cervical lymphadenopathy-Diagnosis by FNAC:A study of 219 cases,Asian journal of Medicine,Ref:2012,1(3);79-83.
6. Baji S.N.Analysis of FNAC of cervical lymph nodes. Experience over a twoyear period. International Journal of medical sciences and public health .2014;3:607-609.
7. Bargota R :A cytological study of cervical lymphnodes in a tertiary care centre.jk science2015;17:13-15
8. Khadka S., Shrestha D. Evaluation of fine needle aspiration of cervical lymphadenopathy in bir hospital. Jcms.2015;11(1):22-25.
9. Medhi K et al,. Pattern of various lymph node lesions in Fine needle aspiration cytology in patients presenting with lymphadenopathy. A in a tertiary care hospital of North east India, IJPR2016;6:334-337.
10. Nath S. et al.Cytodiagnosis of metastatic cervical lymphadenopathy in a tertiary care centre in North East–A one year study. NJMR 2015;5(4):296-299.
11. Russell J, Orell S, Skinner J, Seshadri R. Fine needle aspiration cytology in the management of lymphoma. Aust N Z J Med. 1983;13:365–368.