

CERVICAL LYMPHADENOPATHY: AN AUDIT OF 116 CASES

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ABSTRACT

OBJECTIVE: To find out the frequency of different pathologies causing enlarged cervical lymph nodes.

STUDY DESIGN: A Prospective observational study.

PLACE AND DURATION: Study carried out from 1st Jan 2006 to 31st Dec 2006 at ENT Department of Khayber Teaching Hospital, Peshawar, Department of Pathology Kabeer Medical College, Peshawar and Department of Histopathology, Combined Military Hospital Peshawar Cantonment.

METHODOLOGY: The patients presenting with cervical lymph node enlargement for more than one month duration were subjected to Fine Needle Aspiration. A Core Needle or open biopsy was performed when FNAC yielded a non diagnostic aspirate or when a histological confirmation of a malignant tumour was required.

RESULTS: A total of 116 patients, aged between 8-72 years with a mean age of 34.64 and male to female ratio of 1.23:1 were studied. Tuberculosis was the commonest cause of lymphadenopathy 36.2% (n=42), followed by metastatic disease 29.3% (n=34), reactive hyperplasia was the third commonest cause with 19.3% (n=22), followed by Lymphoma (both Non Hodgkin's and Hodgkin's) accounting for 13.8% of cases. A single case 0.86% of Kikuchi's or Necrotizing lymphadenitis was also found.

CONCLUSION: Tuberculosis was the underlying cause in younger patients while metastatic disease was more commonly found in elderly patients.

KEYWORDS: Cervical lymphadenopathy, FNAC, tuberculous lymphadenitis, metastatic lymphadenopathy.

INTRODUCTION

Cervical lymphadenopathy is a common clinical presentation due to a number of reasons varying from benign self limiting reactive hyperplasia to infections to malignant conditions.¹ The head and neck has an extremely rich lymphatic drainage. There are numerous lymph nodes groups in the neck, both superficial and deep.^{2,3} The lymphatic drainage is from the scalp, face as well as from the nose, sinuses, nasopharynx, upper aerodigestive tract, salivary glands, ears and thyroid.⁴ It is important to have knowledge of regional drainage of specific group of lymph nodes.⁵ Tuberculous lymphadenopathy is a common extra pulmonary manifestation of tuberculosis. Persistent lymph node enlargement often presents a diagnostic dilemma.⁶ It cannot be easily diagnosed on clinical grounds or by routine laboratory investigations alone.⁷ A series of investigations may be required to reach a definite diagnosis in order to start meaningful treatment.⁸

The workup of enlarged lymph nodes in the neck includes

clinical history, physical examination, Full Blood Count (FBC), Erythrocyte Sedimentation Rate (ESR), imaging studies, FNA and Biopsy. Biopsy could either be incisional including core needle biopsy or excisional biopsy. FNAC is reliable, safe and accurate first line investigation for evaluation of cervical lymphadenopathy. It can between differentiate inflammatory and infective processes from neoplastic conditions and thus unnecessary surgery can be avoided.⁹ In some cases surgical biopsy is still required to reach a definitive diagnosis.¹⁰

This study was designed to estimate frequencies of various pathologies causing persistent cervical lymph node enlargement for more than one month duration.

METHODOLOGY

This prospective observational study was conducted at the Department of ENT, Khyber Teaching Hospital, Peshawar, from 1st Jan 2006 to 31st Dec 2006. One hundred and sixteen (116) patients of all ages and both sexes with palpable lymph nodes in the neck for more than one month duration and not responding to conservative treatment were included in this study. Patients already diagnosed for tuberculosis or malignant disease and on treatment and patients not willing to undergo either FNA or surgical biopsy were excluded from the study.

Personal identification data including name, age, sex, socioeconomic status, ethnic background and detailed clinical history were recorded. A thorough physical and ENT examination especially screening the oral cavity, oropharynx, hypopharynx, larynx, nose and nasopharynx was carried out. Thorough neck examination for lymph nodes including number, sizes and consistency was carried out. If more than one lymph node were enlarged their numbers and groups were also recorded. Routine laboratory investigations included Full Blood Counts, ESR, Ultra Sound neck and X-Ray chest were done. All

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the above mentioned findings were recorded on a specially designed Performa. In patients fulfilling the inclusion criterion, an informed consent was taken and FNAC was performed from one or more lymph nodes. One or more attempts were done from each lymph node, labelling each separately. FNA was done by a 10 ml BD syringe fitted with 23 gauge needle. The aspirate was immediately smeared on glass slides and fixed with absolute alcohol. One slide was air dried if more than one slides were made. The slides were stained with H and E and Giemsa stains. ZN and PAS stain was done where required. All the slides were examined at Department of Histopathology, CMH Peshawar and findings were recorded. A core needle or open biopsy was done in cases where FNAC was inconclusive or where a confirmation of diagnosis was required, mostly in, metastatic disease and lymphomas. An attempt was made to determine site of primary tumour in patients presenting with nodal metastasis. All lymphomas were classified according to WHO classification criterion. The data was analyzed using SPSS version 12.

RESULTS

Total one hundred and sixteen patients (116) were enrolled during study period, with age ranging between 8 to 72 years with mean age of 34.64 ± 16.36 SD. Including 64 males and 52 females and male to female ratio was 1.23:1. (Fig – 1) The study revealed that 36.2% (n=42) were tuberculous lymphadenitis, 29.31% (n=34) were metastatic nodes, 19.3% (n=22) reactive hyperplasia, 14.65% (n=17) were lymphomas and 0.86% (n=1) patient was reported to have Kikuchi's or necrotizing lymphadenitis. (Table – I)

In 34 case of metastatic nodal disease, nasopharyngeal carcinoma was found in 53% (n=18) cases, Carcinoma hypopharynx and oesophagus in 20.58% (n=7) cases while

11.76% (n=4) had their primary lesions in oropharynx. 5.9% (n=2) patients had primary lesion in oral cavity and tongue. 2.9% (n=1) patient had parotid gland malignancy whereas primary tumour of 5.9% (n=2) patients couldn't be located (occult primary). (Table – II)

Among the 17 patient with lymphoma 11 were Non Hodgkin's and 6 were Hodgkin's lymphomas.

Out of the 116 cases 38%, (n=44) patients had involvement of posterior group of cervical lymph nodes. Submandibular and upper deep cervical lymph nodes were the next common affected site having 19.8%, (n=23) cases. More than one lymph node group involvement was noted in 34% cases. In 53.44% (n=62) cases there was unilateral cervical lymph node involvement and in the rest 43.10% (n=50) it was bilateral. (Table - III)

Metastatic disease was found in only 9.10 % (n=2) cases in patients less than 40 years of age. The incidence of metastatic disease causing cervical lymph node enlargement was found in 90.90 % (n=20) in patients older than 40 years.

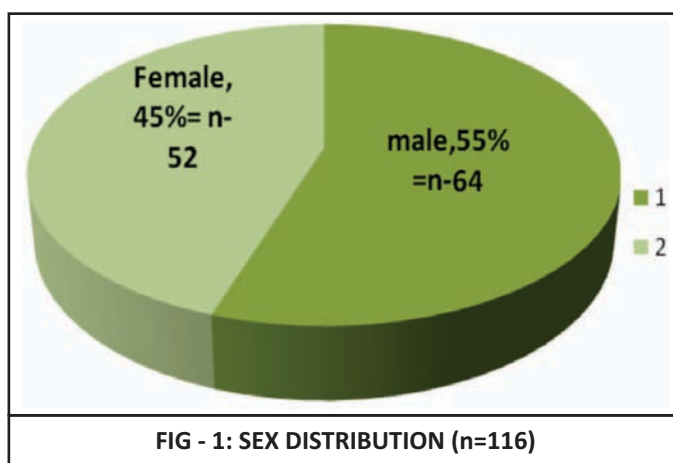


TABLE-I: FREQUENCY OF DIFFERENT LYMPH NODE PATHOLOGIES (n=116)

S. No	Lymph Node Pathology	Total No	% of lymph node
1	Tuberculous Lymph Nodes	42	36.2%
2	Metastatic Lymph Nodes	34	29.2%
3	React. Hyperplasia of Lymph Nodes	22	19.2%)
4	Lymphoma	17(11+6)	14.6%
5	Kikuchi Lymphadenopathy	01	00.8%
	Total	116	100%

TABLE-II: SITE DISTRIBUTION OF PRIMARY TUMOUR IN METASTATIC LYMPHADENOPATHY (n=34)

S. No	Site	Numbers	%age
1	nasopharynx	18	52.94
2	Hypopharynx/eosophagus	7	20.58
3	oropharynx	4	11.76
4	Oral cavity/tongue	2	05.89
5	Parotid gland	1	02.94
6	Unknown primary	2	05.89

TABLE-III: FREQUENCY OF DIFFERENT GROUPS OF ENLARGED LYMPH NODES (n=116)

S. No	Groups	Numbers	% age
1	Post cervical groups	44	38%
2	Submandibular/upper deep groups	22	18.96%
3	More than one group	50	43.10%

TABLE-IV: AGE WISE DISTRIBUTION OF TUBERCULOUS LYMPHADENITIS IN PERCENTAGES (n=42)

S. No	Age groups in years	Numbers	% ages
1	1-10	01	02.38
2	11-20	14	33.33
3	21-30	16	38.10
4	31-40	05	11.90
5	41-50	03	07.14
6	51-60	02	04.76
7	61-70	01	02.38
8	71-82	00	00

TABLE-V: AGE WISE INCIDENCE OF METASTATIC DISEASE IN PERCENTAGES (n=22)

S. No	Age groups in years	Numbers	Percentages
1	8-40	02	09.10
2	41-82	20	90.90

DISCUSSION

Of 116 patients studied male to female ratio was 1.23:1., which was similar to other local studies, Khan et al. reported 1.2:1,¹¹ while Siddiqui and Ahmed reported ratio of 1.13:1).¹²

The commonest cause of enlarged cervical lymph nodes in our study was tuberculosis which is 36.2%, with a male to female ratio of 1.36: 1. Tuberculosis was more common in younger patients while malignancies were common in the old patients, which are in concordance with previously published data.¹⁴ The incidence of tuberculosis was more in Pakistani and Indian studies as compared to western data. In a study conducted by Siddiqui and Ahmed, the frequency of tuberculosis was 46%.¹², Khan¹¹ et al 33.3% in a study of 75 cases and Balaji et al¹⁵ 34.07% tuberculous lymphadenitis in cervical lymph nodes, which are close to our study.

Olu-Eddo and Ohanaka, conducted a larger study of 250 patients with cervical node enlargement and found tuberculosis in 26.7% of cases.¹³

In a study of 126 pediatric patient conducted by Adeswa et al tuberculosis was the predominant cause of peripheral lymphadenopathy in 48.4% cases.¹⁴ Increased prevalence of tuberculosis in local studies from west is due to poverty, overcrowding, and poor sanitary conditions.

Regarding metastatic cervical lymph nodes, out of 116 patients in our study 34 (29.31%) had metastatic disease. Variable results are observed in medical literature on the subject. Na DG et al¹⁶ reports 43.8%, Khan et al¹¹ (32%), Dedivitis et al¹⁷ 29.3% while Shaikh et al. noted only 7%.¹⁸ The justification for these variation may be patients selection, demographic and

geographical diversities and hospital protocols. Among the 34 patients who had metastatic nodes, (53%) cases had primary in the nasopharynx, (20.58%) cases had carcinoma hypopharynx, (11.76%) had their primary lesions in oropharynx while 2 on floor mouth of the and tongue, one patient had the primary lesion in parotid gland. Adoga et al reported 51.7% of the primary in the nasopharynx, 6.7% in oropharynx, 2.2% in hypopharynx, 27% in Sino-nasal, 7.9% in larynx and 4.5% in parotid gland.¹⁹ Khan et al. reported 50% cancers in nasopharynx 25% hypopharyngeal cancer and 12.5% cancer both in tongue and oropharynx each.¹¹

Reactive hyperplasia/ non-specific inflammation was recorded in 19.3% lymph nodes in our study. Similar results were observed by Khan et al. 21.3% and 20.5% by Shaikh et al.^{11,17} Olu-Eddo AN et al noted reactive changes in 25.4%.^{13,14} of cases.

Lymphoma was found in 14.65% patients in this study with 11 Non Hodgkin's and 6 Hodgkin's cases, while Khan et al. had lymphoma in 13.3% of cases including 7 non Hodgkin's and 3 Hodgkin's lymphomas. This is in concordance with our results, while Spinelli et al detected lymphoma in 7.7% of patients. Olu-Eddo AN et al observed Non Hodgkin's lymphoma in 17.4% cases and Hodgkin's lymphoma in 5.6% in their study¹⁴ more frequent than our results.

In this study we have seen a case of Kikuchi's Disease, which is necrotizing lymphadenitis of an autoimmune aetiology and is self limiting.

CONCLUSION

Tuberculosis was the commonest cause of cervical

lymphadenopathy while metastatic tumors were the second important pathology followed by reactive hyperplasia and lymphoma. Tuberculosis was more common in younger while metastatic tumour was more common in older patients. Reactive lymphoid hyperplasia and lymphomas, both Hodgkin's and Non Hodgkin's is also a significant cause of cervical lymph node enlargement and affect all age groups.

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