ORIGINAL RESEARCH

A Clinico- Pathological Study of Cervical Lymphadenopathy

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ABSTRACT

Aim and objectives: To study about various clinical presentation of cervical lymphadenopathy. To correlates clinical findings with pathological finding (FNAC and HPE findings). To study the management and clinical behaviour of cervical lymphadenopathy on follow up. **Material and method:** A prospective study of 112 patients in ENT Department, Gauhati Medical College & Hospital from January 2011 to February 2012. **Results:** There were 79 males and 33 females (M:F= 2.39:1). 71 cases come to be non-neoplastic and 41 cases neoplastic. Tuberculosis accounted for 65 cases, 34 cases metastatic secondary neck node, 6 cases to be reactive lymphadenitis with Hodgkin's 4 cases and non-Hodgkin's 3 cases. Only 27.69% cases of tuberculosis and 23.53% cases of malignant secondaries had constitutional symptoms in comparison to reactive lymphadenitis which had 100% cases with constitutional symptoms. **Conclusion:**Tuberculosis is the commonest cause of cervical lymphadenopathy and it is curable with antitubercular drugs if administered as per the accepted regimen. Clinical symptoms of cervical lymphadenopathy have limited significance and clinical behaviour can be highly variable. Dependence on clinical evidence alone would lead to erroneous diagnosis in a considerable number of cases. FNAC can be deemed as a frontline investigation with further investigations on the basis of FNAC result. However, histopathological examination remains the most dependable diagnostic tool. Most of the non-neoplastic cervical lymphadenopathy is medically curable and surgery has limited role. Cervical lymphadenopathy is an important disease commonly come across, and always calls for meticulous attention, analysis and treatment.

KEYWORDS: Cervical Lymphadenopathy, FNAC, Tuberculosis

INTRODUCTION

The prime function of lymph node is to deal with antigen, whether this is in the form of organisms or other particulate material, or even soluble antigen. Lymph nodes are strategically placed along the drainage of tissue and body fluids; they are most numerous in those areas which are in direct contact with the exterior of the individual.[1]

Neck consists nearly 2/3rd of the total lymph nodes of the body. The enlargement of these lymph nodes is quite significant in that there so many etiological agents and is an index of spread of infection and malignancy. The evaluation of lymph node enlargement in the neck is not an easy task and the diagnosis of this condition is a difficult task because most of the diseases resemble each other. Improper diagnosis and the treatment may convert a potentially curable one into incurable. Hence, we often need the aid of pathologists, bacteriologists and sometimes the biochemists.[2,3]

Lymph nodes may be the only site of disease. However most nodal disease is related to abnormalities in the organ associated with the abnormal node. Nodal diseases are complex, because of the large number of diseases. A swelling in the cervical region (Fig No.1,2,3) can be a diagnostic challenge.[4-7] The study intends to find out systematically the various pathological conditions presenting with enlarged lymph nodes in the neck, also the various modes of clinical presentation and behavior of these conditions. A study of the role of FNAC in diagnosing these conditions after correlating with a lymph node biopsy confirmation has also been

Fig No.1: Showing cervical lymphadenopathy with squamous cell carcinoma of Left PFS & Left AEF

How to cite this article:
Mili MK, Phookan J. A Clinico- Pathological Study of Cervical Lymphadenopathy. Int J Dent Med Res 2015;1(5):24-27.

Fig No.2: Showing cervical lymphadenopathy with carcinoma of unknown primary

Fig No.3: Showing tuberculous cervical lymphadenopathy

undertaken. The various trends observed in the present study is correlated with recent literatures and conclusions were made.

The objectives of this study are:

- To study about the various clinical presentations of cervical lymphadenopathy.
- To correlate pathological findings with the clinical diagnosis.
- To study the role of FNAC by correlating with confirmed biopsy report.
- To study the management, outcome and clinical behavior of cervical lymph nodes on follow up.

METHODOLOGY

The present study was conducted prospectively on selected 112 patients at Gauhati Medical College & hospital, Guwahati, Assam.

Period: one year from January 2011 to February 2012. The material consists of in-patients and outpatient Department in ENT.

The study consists of prospective 112 consecutive cases; diagnosis is based on clinico pathological findings. A total of 112 patients irrespective of age and sex with neck swelling randomly selected for the study. A proforma drafted for study of all patients presenting with cervical lymph node swellings was used. A brief clinical history was carried out including age, sex, and duration of symptoms, constitutional symptoms and history of contact with tuberculosis patient. Complete clinical examination was carried out. In local examination, importance was given to the site, size, laterality, number, secondary changes, and level of the cervical lymph nodes. Systemic examination also carried out. An attempt was made to find out the primary tumour in cases of lymph nodes suspicious as secondaries in neck. Those patients with cytological findings of tuberculosis underwent battery of investigations which included chest X-ray and three samples of sputum for AFB to exclude pulmonary tuberculosis. Montoux's test and ESR was carried out in all the patients with positive FNAC findings. Those with FNAC findings suggestive of reactive lymphadenitis were treated with ten days antibiotic therapy and were followed after two weeks to see the size of the node.After making a clinical diagnosis, further investigations were carried out to confirm the diagnosis. Routine investigations included hematological and radiological. FNAC was put in the front line for diagnosis and to get a cytological diagnosis at hand. Lymph node biopsy was carried out meticulously; it was studied grossly, and sent to pathologist for expert opinion. Further tests were carried out on the basis of histopathological diagnosis (for example, secondaries in the neck), contrast radiological investigations, endoscopy carried out in relevant cases. Those patients with cytological or histopathological confirmed tubercular lymphadenitis were referred to DOTS clinic for anti-tubercular therapy (ATT) with four drugs regimen for initial two months and then two drugs continuation for four months. The information were complied, analyzed and tabulated to get the statically and comprehensive results

In the present study, majority of cases were tubercular lymphadenitis and maximum of malignant secondary in neck did not have constitutional symptoms and all cervical lymphadenopathy had male preponderance (Table No.1).

Sex	Number of cases	Percentages
Male	79	70.53%
Female	33	29.47%
Total	112	100

Table No.1

18 cases (27.69%) out of 65 cases of tubercular aetiology showed presence of constitutional symptoms, while 8 cases (23.53%) out of 34 cases of secondaries in neck showed presence of symptoms in comparison to all 6 cases (100%) of reactive lymphadenitis showed presence of symptoms. 2 cases (28.57%) of lymphoma out of 7 cases had constitutional symptoms. Only few cases with tubercular lymphadenitis had a positive history of contact with tuberculosis. It was observed that only 4 cases (6.15%) out of 65 cases had a positive history (Table No.2). It was observed that the majority of nodes affected

in tuberculosis (80%) were less than 4 cm in size(Fig No.4).

Contact with tuberculosis	Number of cases	Percentages
Positive	4	6.15%
Negative	61	93.85%

Table No.2: Table showing history of contact with tuberculosis in tubercular lymphadenitis cases.

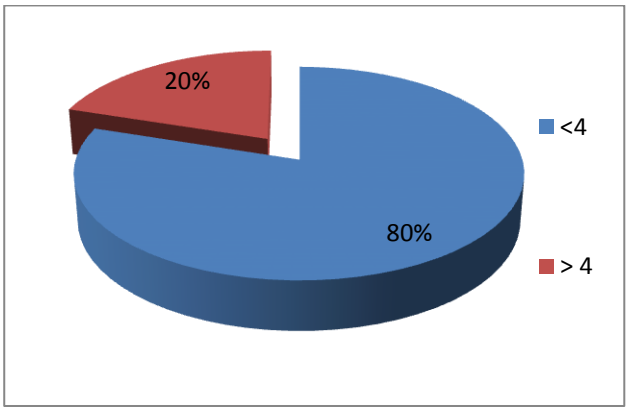

Fig no.4: showing size of lymph nodes in tubercular cervical lymphadenopathy

Among the patient presented with cervical lymphadenopathy 63.39% cases were non neoplastic (Table No.3). Among the neoplastic causes, secondaries had the maximum number of cases (30.35% cases) followed by lymphomas (7 cases) (Table No.4).

	Number of cases	Percentages
Non-neoplastic	71	63.39%
Neoplastic	41	36.61%
Total	112	100%

Table No.3

Histopathological diagnosis	Number of cases	Percentages
Tubercular lymphadenitis	65	58.03%
Reactive lymphadenitis	6	5.35%
Secondaries	34	30.35%
Hodgkin's lymphoma	4	3.57%
Non-Hodgkin's lymphoma	3	2.67%
Total	112	100%

Table No.4: Table showing histopathological diagnosis in 112 cases

The neck lymph nodes were classified as levels and the involvement was studied for each category. Only tubercular and lymphoma were considered here. In the present series, it was observed that Upper jugular group (level-2) was the commonest to get involved in tuberculosis (30.76%) (Table No.5).[2-5] Among the tubercular lymphadenopathy cases only 15.39% cases presented with bilateral neck node (Table No.6). 67% of laryngeal squamous cell carcinoma had malignant secondary neck node (Fig no.5).

Studies	Tuberculosis	Reactive	Secondaries	Hodgkin's	Non Hodgkin's
Jha B.C. et al. (2001)	63.8%	15.5%	20.7%		
Arora B. et al (1990)	62%	17%	6%	4%	11%
Lau S.K. et al. (1991)	65%	29.7%	5.3%		
Kim L.H. et al. (1999)	13.9%	35.3%	25.7%	4.1%	8%
Aruna Das et al. (1996)	38.3%	32%	15%	15%	
Present study	58.04%	5.36%	30.36%	3.57%	2.67%

Table No.5: Distribution of different lesions in various studies

Jha B.C. et al.	Baskota et al.	Present study
30%	83%	84.61%(55 cases)
38.3 %	17%	15.39%(10 cases)

Table No.6: Comparative Analysis of Unilateral/Bilateral Involvement in Tubercular Adenitis

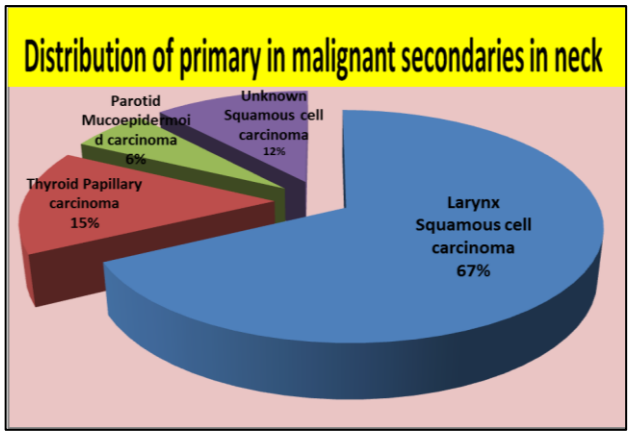

Fig No.5

DISCUSSION

Incidence of false negative cases on FNAC in metastatic nodes and tubercular lymph node is a matter of serious concern to the clinician. The risk of false positive reports from lymph nodes must also be considered. In the present study, both sensitivity and specificity of FNAC for malignant secondaries was 100% whereas for tuberculosis sensitivity was only 86.20% and specificity was 100%. Only 27.69 % of cases with tuberculosis had constitutional symptoms. Similarly, only 23.53% of cases with malignant secondaries had symptoms. In

comparison 100% presented with symptoms in reactive lymphadenitis. Similar observations were made by Jha B.C. et al.[2] Here 58.04% patient was diagnosed as tuberculosis which is comparable with Jha B.C. et al. (2001)[2] and Arora B. et al (1990)[3] (Table No.5). Very low incidence of tubercular lymphadenopathy was observed by by Haque et al. (3.5%).[9] This difference with present study may be due to high prevalence of tuberculosis in the underprivileged area. In the present study, the Memorial Sloan- Kettering cancer centre (MSKCC) classification of neck lymph nodes from level 1 through level 7 was utilized.[1] It was observed that in tuberculosis, the level 2 (upper jugular group) at 20 cases (30.76%). About 10 cases (15.39%) had more than one site involved. In Baskota D.K. et al. and Toran KC & Lakhey M et. al.(Table no.7) in both study posterior triangle was the commonest site for lymphadenopathy with 51% and 42% respectively.[6,8] None of the study is comparable with present study.

	Tubercular lymphadenitis	Lymphoma
Level 1 (submental and Submdibular group)	5(7.69%)	0
Level 2 (upper jugular group)	20 (30.76%)	0
Level 3 (middle jugular group)	15(23.08%)	0
Level 4 (lower jugular group)	8 (12.31%)	0
Level 5 (posterior triangle group)	7 (10.77%)	2(28.57%)
Level 6 (anterior compartment grp)	0	0
More than one site in neck	10 (15.39%)	5 (71.43%)
Total	65	7

Table No.7

In the Jha B.C. et al. study, multiple matted nodes were seen in 23 patients out of 60 (38.3%), single discrete nodes were seen in 18 patients out of 60 (30%).[2] Discharging sinus and abscesses were uncommon. In the Baskota et al. series, 83% cases had unilateral involvement of neck (Comparable with the present study) (Table no.6).[6]

The outcome of this study suggests that it would be beneficial to evaluate histopathologically all cervical lymph node masses irrespective of the clinical diagnosis. The choice of mode of first line histopathological evaluation depends on FNAC which provides a reliable, quick and cheap way with low failure and complication rates. Open biopsy should be reserved for certain specific situations like failed aspiration, suspected false negative and false positive cases and in lymphoma.

CONCLUSION

Tuberculosis is a potentially serious infectious disease, one of the commonest disease affecting lymph nodes. It is curable with antitubercular drugs if administered as per the accepted regimen. Clinical symptoms in cervical lymphadenopathy have limited significance and clinical behaviour can be highly variable. Dependence on clinical evidence alone would lead to erroneous diagnosis in a considerable number of cases. FNAC can be deemed as a frontline investigation with further investigations on the basis of FNAC result. However, histopathological examination remains the most dependable diagnostic tool. Most of the diseases are medically curable with limited role for surgery in non-neoplastic lesions. It is important to have a high index suspicion in head and neck region and an otolaryngologist must aware about the possible pathologies in cervical lymphadenopathy. Then only an early diagnosis can be possible with simple investigation and thus better outcome of cervical lymphadenopathy.

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Source of Support: Nil
Conflict of Interest: Nil