

Dr. Jayashri Pandya	Professor TNMC Mumbai Department Of General Surgery		
Dr. Sai Krishna E	Sr TNMC Mumbai Department Of General Surgery		
Dr. Sagar R. Ambre*	Assistant Professor TNMC Mumbai Department Of General Surgery *Corresponding Author		

ABSTRACT Cervical lymphadenopathy is a clinical finding and may be a sign of an indolent inflammation, infection or a malignant disorder. Fine Needle Aspiration Cytology of lymph node has become an integral part of the initial diagnosis and management of patients with lymphadenopathy due to easy availability of results, simplicity and minimal trauma with less complications. In some cases, reactive lymphadenopathy can be discerned on clinical grounds , and may require no specific therapy. The objective of this study is to correlate the findings of FNAC to biopsy in all cervical lymphadenopathies.

KEYWORDS : cervical lymphadenopathy, Tuberculosis, Reactive lymphadenopathy, Fine needle aspiration cytology ,Histopathology

INTRODUCTION

The term lymphadenopathy refers to nodes that are abnormal in size, shape, consistency or number ¹. Cervical lymphadenopathy is a common clinical finding and may be a sign of an indolent inflammation, infection or a malignant disorder, depending upon many factors including the geographical condition and socio-economical setup²⁴ . In our country , infective aetiology like tuberculosis predominates over the other causes. It remains a diagnostic and therapeutic challenge, because tuberculous lymphadenitis mimics other pathological process and yields inconsistent physical and laboratory findings. Various diagnostic modalities like fine needle aspiration cytology(FNAC), ultrasonography (USG), computerised tomography and PET CT neck are now available to diagnose underlying disease in cervical lymph nodes . These investigating tools have high sensitivity and specificity for cervical lymphadenopathy. FNAC of lymph node has become an integral part of the initial diagnosis and management of patients with lymphadenopathy, due to early availability of results, simplicity and minimal trauma with less complications. When FNAC for cervical lymphadenopathy results in a non diagnostic or an equivocal report, open biopsy is frequently performed as a second step in reaching the diagnosis. The advantage of open biopsy is that it always provides tissue diagnosis and IHC. The objective of this study is to correlate the findings of FNAC to histopathology in persistent cervical lymphadenopathy and in patients with reactive lymphadenopathy.

MATERIALS AND METHODS :

The clinical material consists of 60 cases, during the period of Feb 2021 to Jan 2022 enrolled from surgery department, tertiary care centre mumbai India. Diagnosis was made on basis of FNAC and biopsy findings. All patients with persistent reactive cervical lymphadenopathy diagnosed on FNAC as reactive or inflammatory or infective aetiology, age greater than 18 years were included.

Ethics committee approval was taken. This is a prospective observational study in patients to correlate the yield of FNAC and biopsy in cervical lymphadenopathy. Records of the patients were assessed with respect to the age, sex, clinical features. This study included 60 patients whose FNAC showed reactive or TB aetiology and were subjected to lymph node biopsy. Analysing this data was done establish the correlation between the FNAC and biopsy in cervical lymphadenopathy. The data of the 60 patients so collected, was tabulated and epidemiological outcomes were discussed. Data was then analysed using SPSS software.

RESULTS:

Table 1. Age distribution of cervical lymphadenopathy

Age	No of cases
18-30	40
30-40	16
40-60	04

Table 2. Sex distribution of cervical lymphadenopathy

Sex	No of cases	
Male	34	
Female	26	

Table 3. Anatomical sites of cervical lymphadenopathy

Site	No of cases	Percentage
Anterior cervical	36	60
Posterior cervical	19	31.6
Submandibular	5	8.3

Table 4. Lymph node side

Side	No of cases	
Both posterior triangle	8	
Right side posterior triangle	5	
left posterior triangle	6	
Right side anterior triangle	16	
Left side posterior triangle	20	
Submandibular region	5	

Table 5. Duration of lymphadenopathy

Duration	No of cases	
3-6 months	41	
6-8 months	16	
9-12 months	3	

Table 6. FNAC Report

Diagnosis	No of cases
ТВ	28
lymphoma	6
Normal Salivary gland	1
Reactive LN	25

Table 7. biopsy report

Diagnosis	No of cases	%
TB	40	66
lymphoma	6	10
Normal Salivary gland	1	0.6
Reactive LN	13	21

Table 8. Cytomorphological and biopsy diagnosis and correlation

VOLUME - 11, ISSUE - 09, SEPTEMBER - 2022 • PRINT ISSN No. 2277 - 8160 • I				
Histopathological	No of	FNAC	FNAC NOT	
diagnosis	cases	correlating	correlating	
		with biopsy	with biopsy	
TB	40	28	12	
NHL	6	6	0	
Normal SG	1	1	0	
Reactive lymph node	13	13	0	
Total	60(100%)	48(80%)	12(20%)	

Table 9. Sensitivity and Specificity of FNAC in diagnosing tuberculosis cervical lymphadenopathy

FNAC	No of cases
True positive	28
False positive	0
False negative	12
True negative	40
Total	60

During a period of 12 months , there were 60 patients who underwent FNAC and biopsy. There were 34 males and 26 female patients with a ratio of 3:2. Majority of patients were in age group of 18 to 30 years , followed by 30 to 40 years, the mean age getting affected were 27 and youngest was 12 years of age.

The time interval between onset of symptoms and time to visit in hospital varied from 3 to 6 months. We enrolled 60 cases with cervical lymphadenopathy, anterior triangle lymph node were commonly involved, followed by posterior triangle and submandibular triangle respectively.

Clinical examination revealed that 34 patients had matted lymph node and 26 patients showed single discrete node.

Of the 60 patients underwent both FNAC and Biopsy, 28 diagnosed on FNAC as TB, rest 32, 25 showed reactive lymph node, 6 NHL, 1 Normal Salivary gland cells on FNAC.

Of the 25 lymph node diagnosed on FNAC as reactive, on biopsy 12 diagnosed as tuberculosis.

In our study, sensitivity and specificity of FNAC in diagnosing tubercular cervical lymphadenitis was 70% and 100% respectively.

There were 12 patients (20%) in which there was no correlation between FNAC and biopsy. Of the 25 cases reported on FNAC as reactive lymph node and on biopsy in 25 cases, 12 showed tuberculosis. Overall correlation of FNAC and biopsy was 80% (Table 8).

DISCUSSION

We analysed the clinical behaviour and investigations and management in 60 cases in tertiary care centre Mumbai India. Cervical lymphadenopathy is one of the commonest clinical presentation of patients attending outdoor clinics in most hospitals⁵.

The aetiology varies from an inflammatory process to a malignant condition. Persistent Cervical lymphadenopathy is the most common head, neck and extra pulmonary manifestation of tuberculosis ⁶. It possess diagnostic and therapeutic challenge because it mimics other pathological process and yields inconsistent physical and laboratory findings.

FNAC of lymph node has become an integral part of initial diagnosis and management of patients with lymphadenopathy due to easy availability, early results, simplicity and minimal trauma with less complications.

In some situations, conditions resulting in reactive lymphadenopathy can be discerned on clinical grounds, and

may require no specific therapy. However, patients with persistent reactive lymphadenopathy require further investigations often with the aim to rule out tuberculosis and malignancy.

OOI : 10.36106/gjra

FNAC for head and neck masses has several limitations. Failure to establish an accurate diagnosis may be because of sampling error. In these circumstances, repeat usg guided aspiration is suggested, and excision biopsy may be considered as a second step in reaching the diagnosis.

In our study ,cervical lymphadenopathy was most commonly seen in age groups of 18 to 30 years followed by 30 to 40 years, 40 to 60 years these findings are similar to study done by Dukare SR et al⁷ and Chandanwale S et al, ⁸where Sharma P et al⁹reported maximum number of cases during 11 - 20 years of age.

Tuberculous lymphadenopathy is seen most commonly between age groups of 18 to 30 years and reactive lymphadenopathy's seen commonly in age group of 30 to 40 years. A study done by Dandapat M C et al ¹⁰ showed younger age group commonly affected by TB.

Of the 60 cases, 34 were male, 26 were female. The sex ratio in the present study was 3:2(M:F) preponderance has also been observed by Pradeep et al ¹¹, they showed female preponderance, but in our study male preponderance was seen.

Cervical lymphadenopathy was most commonly seen in anterior cervical group of lymph node (60%) followed by posterior cervical group (31%) and submandibular group (8.3%). Most of patients presented as unilateral cervical lymphadenopathy (88.3%). Bilateral cervical lymphadenopathy is observed in 8 cases (11%) in our study.

A study done by Jha et al ¹² showed that upper deep cervical node were commonly involved group(Anterior cervical group). A study done by kirti et al ¹³ showed posterior triangle lymph node were commonly involved. In our study, it was the second most common group to be involved.

In our study , on FNAC common cause of cervical lymphadenopathy was found to be reactive lymphadenopathy, tuberculosis, which is similar to Hirachand S et al¹⁴ study where FNAC diagnosis was found to be as follows: reactive hyperplasia, tubercular lymphadenitis.

A study done by Iqbal et al showed tuberculosis lymphadenopathy 86% on FNAC while 14% cases underwent biopsy to get diagnosis. In our study, 25 cases who showed reactive lymph node on FNAC but in them on biopsy of 12 were tuberculosis lymph node. Overall correlation of FNAC and HPE was 80%.

There were 12 patients (20%) in which there was no correlation between FNAC and biopsy. In our study after doing biopsy of cervical lymph node, tuberculosis (66.6%) is predominant cause of cervical lymphadenopathy, followed by reactive lymphadenopathy (21.6%), than lymphoma (10%) was diagnosed.

In Our study, sensitivity and specificity of FNAC in diagnosing tubercular cervical lymphadenitis is 80 % and 100%. Negative predictive value and positive predictive value of FNAC in tuberculosis is 100% and 80%.

The sensitivity in various studies ranged from 46 to 87 % for tuberculous cervical nodes which is similar to our study. Prasad et al reported FNAC in 2,216 cases of clinically significant lymphadenopathy over a period of five years. He correlated FNAC with biopsy in 1041 cases. The sensitivity rates of FNAC in tuberculosis, metastatic tumours and lymphoma, were 83.3, 97, 30, and 80.3% respectively, the specificity were 94.3, 98.9 and 97.4% respectively¹⁶.

Ahmed et al ³evaluated the accuracy and efficacy of FNAC in cervical lymphadenopathy in 50 patients. Sensitivity was 95.8%, Specificity was 100%, and Accuracy was 93.0%.

In our study, sensitivity and specificity of FNAC in diagnosing tubercular cervical lymphadenitis is 80% and 100%. Overall correlation of FNAC and biopsy was 80%.

CONCLUSION:

Sensitivity of FNAC in diagnosing cervical lymphadenopathy can be increased by doing FNAC under USG guidance and interpretation by experienced cyto pathologist. In cases of persistent reactive lymphadenopathy for more than 3 month duration to be clinically reviewed and biopsy to be used as a first consideration in the management.

Conflicts of interest : No conflicts of interest.

REFERENCES:

- King D, Ramachandra J, Yeomanson D. Lymphadenopathy in children: refer or reassure? Archives of disease in childhood. Education and practice. 2014; 99:101-10.
- Darnal HK, Karim N, Kamini K, et al. The profile of lymphadenopathy in adults and children. Med J Malaysia 2005;60(5):590-8.
- Ahmed N, Israr S, Ashraf MS. Comparison of fine needle aspiration cytology (FNAC) and excision biopsy in the diagnosis of cervical lymphadenopathy. Pakistan J Surg 2009;25(2):72-5.
- Khan AH, Hayat AS, Baloch GH, et al. Study on the role of fine needle aspiration cytology in cervical lymphadenopathy. World Applied Sci J 2011;12(11):1951-4.
- Gupta AK, Nayar M, Chandra M. Critical appraisal of fine needle aspiration cytology in tuberculous lymphadenitis. Acta Cytol 1992 May-Jun; 36(3): 3914.
- Ahmad SS, Akhtar S, Akhtar K, Naseem S, Mansoor T, Khalil S. Incidence of tuberculosis from study of fine needle aspiration cytology in lymphadenopathy and acid fast staining. Ind J Community Medicine 2005; 30(2).
- Dukare SR, Jadhav DS, Gaikwad ÅL, et al. Fine needle aspiration cytology of cervical lymphadenopathy - a study of 510 cases. Asian J Sci Technol 2014;5(9):537-40.
- Chandanwale S, Buch A, Verma A, et al. Evaluation of granulomatous lymphadenitis on Fine needle aspiration cytology-diagnostic dilemma. Int J Pharm Bio Sci 2014;5(4):377-84.
- Sharma P, Rana S, Gill MK, et al. Spectrum of Lymph node lesions on cytology in rural Haryana – a retrospective analysis. International Journal of Research in Medical Sciences 2015;3(5):1125-30.
- M C Dandapat et al Br j sURG. 1990 AUG. Peripheral lymph node tuberculosis; review of 80 cases.
- Pradeep kulal r et al clinic pathological study of cervical lymphadenopathy july 2015 iournal of evaluation of epically and dental science 4 (54) 9437-9448.
- 12. Jha et al cervical lymphadenopathy changing clinical pattern and concepts in managment 2001 Mar, 77 (905) 185-187.
- Kirti et al distribuation of lymph nodes in the neck in cases of cervical lymphadenitis. Acute orolaryngeal 2004, 124 (9), 1095-8.
- Hirachand S, Lakhey M, Akhter J, et al. Evaluaion of fine needle aspiration cytology of lymph nodes in Kathmandu Medical College, teaching hospital. Kathmandu Univ Med J 2009;7(26):139-42.
- Prasad RRA, Narasimhan R, Sankaran V, Veliath AJ. Fine Needle Aspiration Cytology in the Diagnosis of Superficial Lymphadenopathy: An Analysis of 2,418 Cases. Diagn Cytopathol. 1996;15(5):382-86. DOI:10.1002/(SICI)1097-0339(199612)15:5<382::AID-DC5>3.0.CO;2-E.