



General surgery

A CROSS SECTIONAL STUDY OF PATIENTS WITH CERVICAL LYMPHADENOPATHY PRESENTING TO SURGERY DEPARTMENT IN A TERTIARY CARE HOSPITAL OF MAHARASHTRA.

Dr. Varsha Bijwe	Associate Professor in Department of Surgery, Dr. Panjabrao Deshmukh Memorial Medical College, Amravati.
Dr. Akshay Marathe*	Senior resident in Department of Surgery, Dr. Panjabrao Deshmukh Memorial Medical College, Amravati. *Corresponding Author
Dr. Syed Rizwanuddin Qazi	Associate Professor in Department of Surgery, Dr. Panjabrao Deshmukh Memorial Medical College, Amravati.

ABSTRACT **Introduction:** Cervical lymphadenopathy is the one of most common causes of neck swelling. The causes of lymphadenopathy can be benign, infectious and malignant condition. Definitive diagnosis can be made only by biopsy or fine needle aspiration. We conducted this study with a goal to understand the various causes of cervical lymphadenopathy and their age and gender variation. **Material and methods:** A cross sectional study was conducted on the patients with cervical lymphadenopathy presenting to the department of surgery in a tertiary care hospital of Maharashtra. The duration of study was for 6 months. Those patients who were diagnosed on clinical examination with cervical lymphadenopathy for the first time were included in the study. We have included 100 cases in the present study. **Results-** The most common cause of cervical lymphadenopathy among our patients was tuberculosis (38%) followed by reactive lymphadenitis (26%). Upper cervical nodes (49%) were the most common site. Majority of the tuberculosis cases were in age range of 21 to 30 years and 31 to 40 years of age. Metastatic deposits were more common in age group more than 40 years **Conclusion:** Tuberculosis, reactive lymphadenitis and secondary metastatic deposits were the most common causes of cervical lymphadenopathy in the present study. FNAC is rapid, safe and inexpensive test for the initial assessment of the patient with cervical lymphadenopathy. But biopsy remains gold standard test. Early detection of cause of cervical lymphadenopathy especially in younger population can improve the outcome

KEYWORDS : Cervical Lymphadenopathy, FNAC, Tuberculosis, Metastatic deposits.

INTRODUCTION:

Cervical lymphadenopathy is the one of most common causes of neck swelling¹. It is defined as cervical lymph node measuring more than 1cm in diameter. The enlargement of these lymph nodes can be a part of the localised disease or a systemic pathology². The causes of lymphadenopathy can be benign, infectious and malignant conditions³. Evaluation of the cervical lymphadenopathy is often challenging faced by clinicians^{4,5}. Detailed clinical history and physical examination helps in identifying the cause but definitive diagnosis can be made only by biopsy or fine needle aspiration⁵. Often, surgical intervention is required for the patients with cervical lymphadenopathy⁶. With this basic background, we conducted this study with a goal to understand the various causes of cervical lymphadenopathy and their age and gender variation

Material And Methods:

A cross sectional study was conducted on the patients with cervical lymphadenopathy presenting to the department of surgery in a tertiary care hospital of Maharashtra. The duration of study was for 6 months. Those patients who were diagnosed on clinical examination with cervical lymphadenopathy for the first time were included in the study. The age group was more than 18 years and those patients with generalised lymphadenopathy, already diagnosed infection, malignancy or chronic disease on treatment were excluded from the study.

A study conducted by Yogish V et al⁷ inferred that the most common cause of cervical lymphadenopathy in their study was tuberculosis with 59% of the total cases. Using this with 95% confidence interval and 10% absolute error, we found the minimum sample size to be 93. For our convenience, we have included 100 cases in the present study.

Before the start of the study approval from the institutional ethics committee was taken. Written informed consent was taken from all the individuals. The data was collected using pre tested and pre designed questionnaire which included demographic particulars, detailed clinical history and physical examination. Relevant investigations were done and pathological diagnosis was made after FNAC or biopsy of the swelling. The reporting of the cytology or histopathology reports were made by a single pathologist to reduce bias on reporting. After the diagnosis was made, appropriate medical and surgical treatment was offered the patients.

Statistical Analysis:

The data was collected, compiled, and analyzed using EPI info

(version 7.2). The qualitative variables were expressed in terms of percentages. The quantitative variables were both categorized and expressed in terms of percentages or in terms of mean and standard deviations.

The difference between the two proportions was analyzed using chi-square or Fisher exact test. All analysis was 2 tailed and the significance level was set at 0.05.

RESULTS:

We have included 100 cases in the present study.

Table 1: Distribution of the study subjects based on the demographic particulars

Demographic particulars	Frequency	Percentage
Age group		
18 to 20	11	11
21 to 30	20	20
31 to 40	27	27
41 to 50	17	17
51 to 60	12	12
>60	13	13
Gender		
Female	45	45
Male	55	55

The mean age of the study subjects was 45.32 ± 7.82 years with male preponderance.

Table 2: Distribution of the study subjects based on the causes of cervical lymphadenopathy

Causes	Frequency	Percentage
Tuberculosis	38	38
Reactive lymphadenitis	26	26
Metastatic deposits	25	25
Lymphomas	3	3
Non specific lymphadenitis	8	8

The most common cause of cervical lymphadenopathy among our patients was tuberculosis (38%) followed by reactive lymphadenitis (26%).

Table 3: Distribution of the cases based on the site of cervical lymphadenopathy

Site of lymphadenopathy	Frequency	Percentage
Submandibular	3	3
Upper cervical	49	49
Middle cervical	8	8
Lower cervical	15	15
Post cervical	2	2
Multiple	4	4

Upper cervical nodes (49%) were the most common site. About 8% were middle cervical and 15% were lower cervical nodes in the present study.

Table 4: Age wise distribution of the causes of cervical lymphadenopathy

Age group	Tuberculosis (n=38)		Reactive lymphadenitis (n=26)		Metastatic deposits (n=25)		Lymphoma (n=3)		Non specific lymphadenopathy (n=8)	
	No ^r	%	No ^r	%	No ^r	%	No ^r	%	No ^r	%
18 to 20	4	10.53	3	11.54	0	0	0	0	4	11.54
21 to 30	13	34.21	4	15.38	0	0	1	33.33	2	25.00
31 to 40	9	23.68	7	26.92	8	32.00	1	33.33	2	25.00
41 to 50	7	18.42	5	19.23	4	16.00	1	33.33	0	0
51 to 60	3	7.89	2	7.69	7	28.00	0	0	0	0
>60	2	5.26	5	19.23	6	24.00	0	0	0	0
P value	0.0051									

Majority of the tuberculosis cases were in age range of 21 to 30 years and 31 to 40 years of age. Metastatic deposits were more common in age group more than 40 years and non specific lymphadenopathy was more common in less than 40 years age group. The association of age group with causes of cervical lymphadenopathy was statistically significant. (p<0.001)

Table 5: Gender wise distribution of the causes of cervical lymphadenopathy

Gender	Tuberculosis (n=38)		Reactive lymphadenitis (n=26)		Metastatic deposits (n=25)		Lymphoma (n=3)		Non specific lymphadenopathy (n=8)	
	No ^r	%	No ^r	%	No ^r	%	No ^r	%	No ^r	%
Female	14	36.84	13	50.00	14	56.00	2	66.67	2	25.00
Male	24	63.16	13	50.00	11	44.00	1	33.33	6	75.00
P value	0.3584									

There was no significant difference between the various causes of cervical lymphadenopathy and gender.

DISCUSSION:

A methodological approach to cervical lymphadenopathy is necessary for an accurate diagnosis and further management. To guide this either fine needle aspiration or biopsy of the node is very essential. The goal of present study was to identify the causes of cervical lymphadenopathy and their variations in different age groups and gender.

The most common cause which was noted in the present study was tuberculosis (38%) followed by reactive lymphadenitis (26%) and metastatic deposits (25%). Yogish V et al⁷ reported that TB was the most common diagnosis reported but non-specific lymphadenopathy was the second most common cause in their study. Another study conducted by Vijaylakshmi V et al⁸ also reported tuberculosis and various infections were the most common cause of cervical lymphadenopathy. Out of 94 presented by head and neck department of government medical college Chandigarh, 64 cases were tuberculous in nature⁹. Similar inference was drawn by studies conducted by Borse H et al¹⁰, Dasari P et al¹¹, Pandey V et al¹² and Mili MK et al¹³. In a developing country like India, the most common cause of cervical lymphadenopathy is still tuberculosis and in the recent years metastatic deposits and other malignancies have been on rise. The increased incidence of malignancies such as oral cavity cancer and cervical lymphadenopathy being one of its manifestations encouraged us to conduct the present study. Early detection and timely intervention can improve the outcome of the patients.

We found that the tuberculosis cases were more common in the middle

age group patients in the present study. A study conducted by Jha BC et al¹ inferred that the mean age of their cases was 23.4 years with the tuberculous cervical lymphadenopathy being more common among 11 to 20 years and 21 to 30 years of age group in their study. Similar inferences were inferred by Dasari P et al¹¹ and Pandey V et al¹². The present study had some limitations pertaining to its single center and observational design. Nonetheless, this study will add to the research gap in the area of cervical lymphadenopathy.

CONCLUSION:

Tuberculosis, reactive lymphadenitis and secondary metastatic deposits were the most common causes of cervical lymphadenopathy in the present study. Tuberculosis was most common in the middle age group; malignant lesions were more in the age group of more than 40 years. We did not find any significant difference between the causes of cervical lymphadenopathy based on gender. FNAC is rapid, safe and inexpensive test for the initial assessment of the patient with cervical lymphadenopathy. But biopsy remains gold standard test. Early detection of cause of cervical lymphadenopathy especially in younger population can improve the outcome.

REFERENCES:

- Olu-eddo AN, Omoti CE. Diagnostic evaluation of primary cervical adenopathies in a developing country. *Pan Afr Med J*. 2011;10:52.
- Sakr M. Cervical: Lymphadenopathy. *Head Neck Endocr Surg From Clin Present to Treat Success*. 2016:163-190.
- Mohseni S, Shojaiefard A, Khorgami Z, Alinejad S, Ghorbani A, Ghafouri A. Peripheral lymphadenopathy: approach and diagnostic tools. *Iran J Med Sci*. 2014;39(2 Suppl):158-170.
- Ramadas AA, Jose R, Varma B, Chandy ML. Cervical lymphadenopathy: Unwinding the hidden truth. *Dent Res J (Isfahan)*. 2017;14(1):73-78.
- Prasad R, Arthur LG. Cervical Lymphadenopathy. *Fundam Pediatr Surg*. 2010:213-219.
- Lekhbal A, Chaker K, Halily S, et al. Treatment of cervical lymph node tuberculosis: When surgery should be performed? A retrospective cohort study. *Ann Med Surg*. 2020;55:159-163.
- Yogesh V, Venkateshwar P, Rajkamal S. A study of the causes of cervical lymphadenopathy in the general population between the age group of 20 yrs to 70 yrs attending the surgical department in a tertiary hospital: a research article. *J Evol Med Dent Sci*. 2015;4(85):14852-14862.
- Vijaylakshmi V, Reddy M, Rao K, Bhavnai C. Evaluation of Cervical Lymphadenopathy among Patients Attending a Tertiary Care Centre. *Int J Contemp Med Surg Radiol*. 2020;5(3):125-128.
- Jha BC, Dass A, Nagarkar NM, Gupta R, Singhal S. Cervical tuberculous lymphadenopathy: changing clinical pattern and concepts in management. *Postgrad Med J*. 2001;77(905):185 LP- 187.
- Borse H, Bhamre A. Clinico-Pathological Study of Cervical Lymphadenopathy in a Tertiary Care Centre. *MVPJ Med Sci*. 2019;6(1):118-121.
- Dasari P, Varanasi S, Pattayak S, Nagababu, Nandini. Cervical Lymphadenopathy: A Prospective Study in Rajiv Gandhi Institute of Medical Sciences, Srikakulam, Andhra Pradesh. *Int J Sci Study*. 2019;4(5):223-226.
- Pandey V, Amalan S, Mohankumar A, Ramesh E, Anandan H. Clinicopathological Study of Cervical Node Enlargement: A Prospective Study. *Int J Sci Study*. 2017;5(1):75-77.
- Mili M, Phookan J. A Clinico- Pathological Study of Cervical Lymphadenopathy. *Int J Dent Med Res*. 2015;1(5):112-117.