

Clinicopathological Study of Cervical Node Enlargement: A Prospective Study

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Abstract

Introduction: Head and neck region is rich in lymphatics. Cervical lymphadenopathy is relatively common clinical observation. Cervical lymphadenopathy is a diagnostic dilemma to the surgeon. The various avenues available for the analysis of cervical node enlargement are clinical evaluation, aspiration cytology, and open biopsy.

Aim: The study intends to find out systematically the various pathological conditions presenting with nodes.

Methods: Detailed history will be taken followed by physical examination in all the patient with cervical lymphadenopathy. After making a clinical diagnosis, further relevant investigations were carried out to confirm the diagnosis.

Results: Majority of the cases in this study had non-neoplastic causes for cervical lymphadenopathy in which tuberculosis is most common. Male to female ratio of 1.3:1. Maximum incidence was found to be tuberculosis. Maximum number of cases were in the age group of 21-30 years. The constitutional symptoms were fever, pain, cough, sinus, and loss of appetite. All cases presented with swelling neck. Fever was the most commonly presenting symptom.

Conclusion: The most common cause of cervical lymphadenopathy is tuberculosis, reactive lymphadenitis and metastatic secondaries. Fine-needle aspiration cytology is a cheap, quick, readily available, and dependable diagnostic modality and can be used as a first line investigatory tool in outdoor departments.

Key words: Cervical lymphadenopathy, Fine-needle aspiration cytology, Histopathological examination

INTRODUCTION

Lymph nodes are peripheral lymphoid organs. There are approximately 800 lymph nodes in the body. No fewer than 300 of them lie in the neck which is involved in the various pathological conditions. Lymphadenopathy is one of the most common clinical manifestations of many diseases.¹ It is defined as an abnormality in the size and character of the lymph nodes caused by the invasion or propagation of either inflammatory cells or neoplastic cells into the

lymph node. Head and neck region is rich in lymphatics.² Cervical lymphadenopathy is relatively common clinical observation. Cervical lymphadenopathy is a diagnostic dilemma to the surgeon. The analysis of lymph node enlargement is not an easy task and the diagnosis is difficult because most of the disease resemble each other. The various avenues available for the analysis of cervical node enlargement are clinical evaluation, aspiration cytology, and open biopsy. Each method of diagnosis has its own merits and demerits.³ Traditionally, open biopsy and its histopathological study are the main-stay for diagnosis of cervical lymphadenopathy.⁴

Aims

To study the prevalence of the cervical lymphadenopathy with respect to age and sex, various clinical presentations, and to correlate the pathological findings with the clinical manifestations.

Access this article online



www.ijss-sn.com

Month of Submission : 02-2017

Month of Peer Review : 03-2017

Month of Acceptance : 03-2017

Month of Publishing : 04-2017

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MATERIALS AND METHODS

This prospective study was conducted in the Department of General Surgery, Tirunelveli Medical College. Informed consent and Institutional Ethics Committee approval was obtained. Any patient with age group above 12 years and both genders presenting to general surgery outpatient department with neck swelling. Data were collected by detailed history followed by physical examination, chest X-ray, biopsy in all the patient with cervical lymphadenopathy. After making a clinical diagnosis, further relevant investigations were done to confirm the diagnosis.

Table 1: Age and gender wise distribution of cervical node enlargement

Age group (years)	Male	Female	Total
12-20	6	7	13
21-30	10	8	18
31-40	3	3	6
41-50	3	1	4
>50	6	3	9
Total	28	22	50

Table 2: Incidence of presenting symptoms

Symptoms	Number of cases
Neck swelling	50
Pain	8
Fever	14
Cough	6
Loss of appetite	11
Loss of weight	12
Difficulty in swallowing	2
Change in voice	0

Table 3: Histopathological diagnosis

Diagnosis	Number of cases
Tuberculosis	24
Reactive lymphadenopathy	14
Secondaries	8
Lymphoma	4

Table 4: Site distribution

Site	Tubercular cervical lymphadenitis	Reactive lymphadenitis	Lymphomas	Secondaries
Submental and submandibular group	4	6	0	0
Upper jugular group	16	4	3	6
Middle jugular group	0	1	0	1
Lower jugular group	1	1	1	1
Posterior triangle group	3	2	0	0
Anterior compartment group	0	0	0	0
Total	24	14	4	8

RESULTS

In the present study of 50 cases, the maximum number of the case was in the age group 21-30 years. Male to female ratio was 1.3:1. (Table 1). Neck swelling and fever were most commonly presenting symptoms (Table 2). The maximum incidence was found to be tuberculosis which was 24 (48%) cases, next was reactive lymphadenitis (28%) followed by secondaries (16%) and lymphomas (8%) (Table 3). It was observed that upper jugular group was commonly involved in tuberculosis, the submandibular and submental group of lymph node mostly affected in reactive lymphadenitis (Table 4). Discrete enlargement than matted lymph nodes was noted in tuberculosis (Table 5). Out of 24 cases of tubercular lymphadenopathy, only 2 cases showed positive chest X-ray finding of pulmonary tuberculosis (Table 6).

DISCUSSION

Lymphatic system development begins at the 5th week of gestation. During the 5th week of gestation 2 paired and 2 unpaired endothelial sacs arises, these sacs which form the Primordia of the lymphatic system.⁵ The body contains approximately 800 lymph nodes out of these 300 lymph nodes are located in the neck.⁶ For discussion, purpose neck is divided, into triangles. Use of the triangle is simply an organizational device that parcels the volume of anatomic detail in the neck into study units. There are seven levels of lymph nodes present in the neck.⁷ Main cause of lymph node enlargement in the neck are inflammatory mainly tuberculosis, Neoplastic (lymphomas), secondaries from head and neck cancers, non-specific lymphadenitis.^{8,9} Spreading antegrade infection and chronic recurrence was found to be the characteristics of the mixed type of cervical lymph node tuberculosis.¹⁰ The natural clinical stages of tuberculous cervical lymphadenitis are Stage 1 (The node enlargement without matting), Stage 2 (enlarged lymph node with matting, most characteristic feature of tuberculous lymphadenitis), Stage 3 (caseation and liquefaction), Stage 4 (Cold abscess) Stage 5 (sinus).¹¹ The constitutional symptoms were fever, pain cough, sinus, and loss of appetite.

Table 5: Presentation of lymph nodes

Presentation	Number of cases
Matted	8
Discrete	16
Total	24

Table 6: Chest X-ray positivity in tubercular lymphadenitis

Chest X-ray	Number of cases
Positive	2
Negative	22
Total	24

CONCLUSION

Most common cause of cervical lymphadenopathy is tuberculosis, reactive lymphadenitis and metastatic secondaries. Fine-needle aspiration cytology is a cheap, quick, readily available and dependable diagnostic modality and can be used as a first line investigatory tool in outdoor departments.

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How to cite this article: Pandy V, Amalan S, Mohankumar A, Ramesh E, Anandan H. Clinicopathological Study of Cervical Node Enlargement: A Prospective Study.. Int J Sci Stud 2017;5(1):75-77.

Source of Support: Nil, **Conflict of Interest:** None declared.