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A prospective study of cervical lymphadenopathy and its clinico-pathological co-relation in general surgery OPD of a referral hospital for a period of one year

Dr. Devendra K. Prajapati, Dr. Kapil Rampal, Jyoti M Prajapati

Department of Surgery, Deendayal Upadhyay Hospital, New Delhi, 110064
WZ 423 A Nanakpura Harinagar, Newdelhi, 110064
***Corresponding Author**: **Dr. Devendra K. Prajapati**
Email id: dr.dev1982@gmail.com

ABSTRACT

Cervical lymphadenopathy represents a fairly common clinical presentation of diverse underlying pathology. The importance of a differential diagnosis is thought over by the fact that the diagnosis may change from a self-limiting viral infection to that of a disease having an altogether different line of management as tuberculosis or a potentially fatal disease as malignancy. This study prospectively followed 118 patients for one year and compared the prevalence of differential diagnosis of tubercular, nonspecific, malignant lymphadenopathy in different age groups based on the FNAC findings. The study outlines a higher overall prevalence of tubercular lymphadenopathy in a developing country as ours and a clear female preponderance. A higher male prevalence was observed in nonspecific reactive lymphadenopathy. Also for lymph nodes >2cm a combined tubercular and malignant adenitis prevalence reached 100%. FNAC is an easy and inexpensive tool for establishing a credible differential diagnosis.

Keywords: Cervical lymphadenopathy, Nonspecific reactive Lymphadenitis, Tubercular lymphadenitis, TBL, NSRL, Extra pulmonary tuberculosis

INTRODUCTION

Lymph node enlargement in head & neck region is usually encountered in general surgery OPD. Lymph nodes enlarged more than 1 cm in size in the neck is known as significant cervical lymphadenopathy. [1]

Cervical lymphadenopathy is common in childhood and mostly associated with benign infections. The most commonly nonspecific reactive lymphadenitis/lymphoid hyperplasia occur due to upper respiratory tract infection. Tubercular lymphadenitis is responsible for about 43% peripheral lymphadenopathy in developing countries [2].

Most patients with lymphadenopathy are treated successfully by primary antibiotic treatment. Surgical consultation is required only to assist in the diagnosis and treatment of patients who do not respond to primary treatment. Some patients may be diagnosed as metastatic secondary lymphadenopathy or malignant lymphadenopathy. For a definitive diagnosis of the cause of cervical lymphadenopathy, FNAC and biopsy may also be

considered along with physical examination despite much advancement in radiological science.

Aims

To prospectively study of Cervical Lymphadenopathy and Its Clinico-pathological Co-Relation In General Surgery OPD of a Referral Hospital for a Period of One Year.

Materials and Methods

We have done a cross sectional study and taken up the patients who had attended the general surgery OPD and FNAC in whom was performed at the Department of Pathology, Deendayal Upadhyay Hospital, New Delhi, for a period of one year. Patients of all age groups who had palpable cervical lymph node(s) were included for the study. Masses of thyroid, salivary glands, thyroglossal cyst, branchial cyst, dermoid etc. were excluded. Inside information of each event as personal data were entered in a Proforma with elaborate clinical history, general, local and systemic examinations and routine laboratory investigations were made out. The attended cases in surgery OPD were advised FNAC in the Department of Pathology. FNAC was carried out on the patients in lying down position with a 20 cc disposable syringe and 24 gauge needles. Smears were prepared air dried or wet fixed and Giemsa staining, Papanicolaou method and Ziehl Nielsen method of staining were done depending on the smears. We studied the Cytopathology and histopathology reports of enlarged cervical nodes and compared the results in terms of age, gender, observation time, clinical presentation, location, size of node, routine and special investigations. Observation time was computed from the day of first attendance the OPD till their final diagnosis and follow up treatment. FNAC and histopathological examination were carried out at the department of pathology. Total 118 patients of all age groups were subjected to FNAC and histopathology.



Fig 1

RESULTS

This is a prospective observational study conducted in Deendayal Upadhyay Hospital, New Delhi for a period of one year on OPD basis. We have studied 118 cases with cervical lymphadenopathy and all underwent FNAC for diagnostic purposes.

Out of 118 cases, 54 cases were (45.76%) diagnosed as tubercular lymphadenitis, 40 cases (30.89%) had nonspecific reactive lymphadenitis and 4 cases (3.38%) had of metastatic deposits. So far the most common cause of cervical lymphadenopathy is tuberculosis. This was found to be more prevalent in females as 30 out of 54 (55.55%).The majorities of patients (96.29%) were from the age group of 13-60 years. Tuberculosis is by far commonest cause of cervical lymphadenitis in developing nations as ours.

The chances of tubercular lymphadenitis increases with the size of lymph node, in this study 1-2 cm size group were found to be having equal chances of tubercular and non-specific reactive lymphadenitis but 78.94% lymph nodes with size >2 cm were positive for tubercular lymphadenitis.

Prevalence of disease

Diagnosis	Total	%
NSRL	40	33.89
TBL	54	45.76
Carcinoma	04	3.38
Acute suppurative lymphadenitis	11	9.32
Others	09	7.62
	118	100

Age variation

Age years	NSRL	Tuberculosis	Carcinoma
1-12	15 (35.71)	02 (3.70)	00 (00)
13-30	19 (47.5)	45 (83.33)	00 (00)
30-60	06 (40)	07 (12.96)	03 (75)
>60	00 (00)	00 (00)	01 (25)
Total	40	54	04

Sex variation

Sex	NSRL	TBL	Carcinoma	Acute suppurative lymphadenitis
Male	28 (70%)	24 (44.44%)	03 (75%)	07 (63.63%)
Female	12 (30%)	30 (55.55 %)	01 (25%)	04 (36.36%)
Total	40	54	04	11

Size variation

S.n.	Size	NSRL	TBL	Carcinoma
1	<1	01	00	00
2	1-2	39	39	00
3	>2	00	15	04
Total		40	54	04

Conventional symptoms

S.n.	Symptoms	NSRL	TBL	Carcinoma
1	Fever	10	46	00
2	Common cold	36	05	00

3	Anorexia	04	40	04
4	Anemia	04	25	04
5	Malaise	30	42	03
6	Weight loss	02	20	04
7	Night sweats	00	42	01

DISCUSSION

This study has been conducted over 118 patients of different age groups and found out 54 (45%) cases of tubercular lymphadenitis (TBL), 40 (33.89%) cases of nonspecific reactive lymphadenitis (NSRL), and 04 (3.38%) cases of metastatic carcinomas.

Similar results were brought out by Dr.M. Karthikrajan [3] where he got 51 % cases of TBL, 16% of NSRL and 8% case of metastatic carcinomas.

Some other study by Dr. Shreenidhi GM [4] had shown similar results with 72% cases of TBL, 21% cases of NSRL and 6.66% cases of metastatic carcinomas.

Thus TBL is the commonest cause of cervical lymphadenopathy. Lymph node tuberculosis (LNTB) was previously named the "King's evil" and evoked responses that included divine interventions for its handling. It was also known to be "scrofula" which means "Glandular swelling" (Latin) and "full necked sow" (French) [5]. Peripheral lymph nodes are most cost commonly affected in cervical region. [5-7] In India and other developing countries lymph node tuberculosis is the most common cause of extra pulmonary tuberculosis. [8-10] LNTB is commonly the local manifestation of a systemic disease, whereas sometimes it may represent a primary localized pathology. Treatment with DOTS recommended drugs e.g. Isoniazid, Rifampsin, Pyrazinamide, Ethambutol and streptomycin for 06 months is considered sufficient for glandular tuberculosis. [11]



Fig 2

AGE/SEX

In this study TBL has been found to be more prevalent in females while NSRL is commoner in males. Here NSRL showed 30% occurrence in females and 70% male prevalence amongst the 40 patients. Similarly TBL is having 55.55% occurrence in females and 44.44% in males.

A study by Gupta Amit Kumar et al [12] showed similar prevalence of NSRL, 76.2% in males & 23.8% females while 55% female and 45% male prevalence was seen in TBL

This result showed a close coherence with the study of Gautam Vishwas et al [13] where TBL was found to be commoner in females at 56.2% than males (33%).

Different studies by Manju Purohit [14], E.D. carrot et al [15] and A Polesky et al [16] showed similar prevalence rates.

In this study, we found out that TBL are commoner in 13-30 age groups, 83.33% whereas prevalence of NSRL is variable to 1-12 year age group showing 35.7% and 13-30 age group contributing 47.5%.

This study demonstrated a close coherence with the study by Hossain [17] where a TBL prevalence of 78.94% in 11-30 age groups, the NSRL prevalence of 18.18% in 1-10 age group and 68.62% in 11-30 age group was brought out.

This survey also produced similar results as with a study by Chandanwale Shirish et al [18] where TBL was commoner in the age group 21-40, which was 51.62%.

Size

This study showed that <1 cm size cervical lymphadenopathy is non –contributory towards a definitive diagnosis, but a size of 1-2 cm size lymphadenitis produced equivocal results of 50% each for NSRL and TBL. But >2 cm size is 100% positive for TBL or metastatic carcinoma combined.

This study showed close similarity with a study by Reddy et al [19] where <1 cm size cervical lymphadenopathy is non-pathognomic.

In another study S. shamsad et al [20] contributed that >1 cm size cervical lymph nodes are positive for TBL in 84% cases and 83% positive for malignant lymphadenopathy .

Constitutional symptoms

In this study the patient attended OPD with various constitutional symptoms like fever, common cold, anorexia, anaemia, malaise, night sweats and weight loss. Among them fever, common cold & malaise common in NSRL while fever, anorexia, malaise, night sweats & weight loss was commoner in TBL.

The study by Mohan Kumar et al [21] showed similarity with this study that shows approx 27.69% cases came with constitutional symptoms.

Some other study by Chandanwale Shirish et al [18] showed that 13.82% cases have constitutional symptoms like fever, night sweats & weight loss.

Some other study by Z.A. Mines et al [22] also showed 36% constitutional symptoms like fever, night sweats and weight loss in TBL.

Nevertheless, none of the surveys quoted above have brought out a differential incidence of organic symptoms.



Fig 3

CONCLUSION

The clinical influence of this study compared favourably with several studies already published in the literature. The study concludes a higher prevalence of tubercular cervical lymphadenopathy in developing countries such as ours and a comparison of cause-prevalence in different age groups. Besides it has taken out a clinico-pathological co- relation between the size of lymph node and the pathology underneath. The conclusions inferred have a positive bearing on the management of a comparatively common clinical manifestation and the results drawn also a coherent replica of related literature.

Conflict of interests: None to declare.

ABBREVIATION

TBL- tubercular lymphadenitis

NSRL- nonspecific reactive lymphadenitis
OPD- outer patient dispensary
LNTB- lymph node tuberculosis
FNAC- fine needle aspiration cytology

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