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A study on incidence of cervical lymphadenopathy: An observational study

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Abstract
Aim and Objective: To study incidence of cervical lymphadenopathy between age, sex and disease.
Methodology: A review of 100 cases of cervical lymphadenopathy from Shadan Institute of Medical Sciences, Hyderabad were used for analysis and discussion.
Results: Tuberculous cervical lymphadenitis is the commonest disease affecting the cervical lymphnodes 50% followed by secondaries from various primaries 39%, non-specific 5%, Hodgkins lymphoma 4% and non Hodgekins lymphoma 2% were diseases commonly found to be effecting cervical lymphonodes in the study conducted above, we had no cases of cat scratch disease or toxoplasma gondi or other in the group. Higher incidence of tuberculous cervical lymphadenitis in the age group between 11-40 years. The youngest in the series was 11 years, oldest its 66 years. Average age is 35 years. The male: female ratio is 1:1 in present series. Tuberculosis is a disease of the poor still holds good. In the present study 71% of patients belong to socioeconomically low income groups. Hindus were more commonly affected than Muslim which is explained due to the fact that Hindu population is more than Muslim population in the area when this study was conducted. Distribution of disease is more in rural area 67%. According to the present series, this could be due to increase the awareness of the disease and improvement in living condition of the population living in the urban area.
Conclusion: There is very high incidence of tubercular cervical lymphadenitis in patients with enlarged neck nodes in developing countries like India. Cervical lymph adenopathy constitutes the most common presentation of extra pulmonary form of tuberculosis. However, it mimics other pathological conditions like metastasis from other primary sites, reactive lymphadenitis, chronic non-specific lymphadenitis, lymphoma etc. Therefore, it is important that otolaryngologists are aware of tuberculosis in the head and neck region which can aid in early diagnosis with the help of simple investigations and subsequently patients can be managed promptly without delay.

Keywords: Lymphadenopathy, cervical lymphnode, tuberculosis, FNAC

Introduction
The common causes of swelling in the neck are enlarged lymph gland. Cervical lymphadenopathy is one of the commonest conditions that bring the patient to the surgical department. Patient in all age groups have been reported. There are approximately 800 lymph node in the body. No fewer than 300 of these lymph nodes are in the neck. The inflammation of the lymph node of neck is exceedingly common. Understanding the possible cause of cervical lymphadenopathy requires a thorough knowledge of the anatomy of cervical lymph nodes [1-4].
In this study all cases presented to surgical department Shadan Institute of Medical Sciences Hyderabad either as out-patient or in patient were studied are carefully followed based on the protocol formatted and relevant parameters were noted.
This study has been conducted by personally studying 100 cases of cervical lymphadenopathy for a period of 2 years from April 2018 to April 2020. The available data analyzed and discussed to study the incidence, age group, sex ratio etc.

Aim and Objectives
To study incidence of cervical lymphadenopathy between age, sex and disease.

Materials and Methods
In the present study, clinical material consist of patients randomly selected with history of cervical lymphadenopathy who have come to surgical OPD in SIMS and were seen as out and

inpatient over a period 2years from April 2018 to April 2020 are included in this study. Patient were selected randomly and 100 cases were personally studied by me in the present series. For statistical purpose the present study was analysed and compared with other similar studies available from the literature pertaining to this condition. As far as possible an attempt was made to obtain the pathological diagnosis in most cases for effective analysis

Methods

The details of the cases recorded as shown in the preform clinical data consists of the study done by me personally. In my study the data was taken from the SIMS. The diagnosis of cervical lymphadenopathy was made on the basis of detailed case history taking, clinical examination, finding of the patient and investigation was carried out according to the proforma given for the confirmation of the diagnosis.

Investigation like FNAC, blood examination and urine examinations were done as routine. Every patient has undergone FNAC and HIV screening test for suspected case (after obtaining permission from the patient). Radiological examination of the chest was made to find out associated primary lesion in the lung.

Ultrasonic Examination was done in needed cases.

Biopsiecs were done whenever indicated.

For the cases which ever treated surgically for tuberculosis it was done as a day care surgery. Patient was called in morning for the surgery in the operation theatre. The patients were put on prophylactic antibiotics on previous night.

All these cases had undergone operation under general anesthesia a few under local anesthesia.

Results and Observations

The following data is obtained from the present series of 100 cases of cervical lymphadenopathy and also the statistics obtained from Shadan Institute of Medical Sciences patients were randomly selected from those who have come to department of surgery and ENT and the study was done between the periods from April 2018 to April 2020.

Table 1: Incidence of various diseases in cervical lymphadenopathyt

Tuberculosis	No. of cases	Percentage
Tuberculosis	50	50
Non-specofic	5	5
Hodgkins lymphoma	4	4
Non-hodgkins	2	2
Secondaries	39	39
Total	100	100

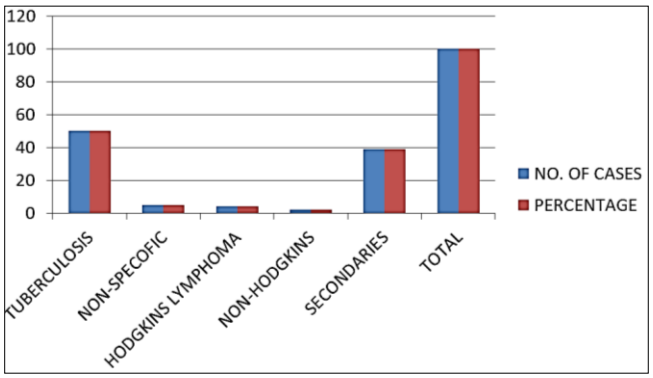

Fig 1: Incidence of various diseases in cervical lymphadenopathyt

From the above table, it can be seen that maximum incidence was found to be tuberculosis which accounts to 50% of cases. Next were secondaries (39%) than non-specific (5%) and HL (4%) and NHL (2%).

Table 2: Age distribution in cervical lymphadenopathy for various diseases

Age	TB	N-S	SFC	NHL	HL	Total
1-10	12	1				1
11-20	12	1		1	1	15
21-30	18	1			1	20
31-40	13		6			19
41-50	3		11		1	15
51-60	2	1	10	1	1	15
61-70	2		9			11
71 above		1	3			4
Total	50	5	39	2	4	100

From above table it can be seen the maximum incidence of TB was found between 11-40 years (80%). In secondaries (SEC) it is maximum from 41-70 (77%). The other three diseases were occurring in all ages

Table 3: Ages and sex distribution of cases

Age	Male	Female	Total	Percentage
1-10	0	-	1	1
11-20	6	9	15	15
21-30	12	8	20	20
31-40	14	5	19	19
41-50	13	2	15	15
51-60	9	6	15	15
61-70	5	6	11	11
71 above	4	-	4	4
Total	64	36	100	100

Table 4: Sex distribution

Disfase	Male	Female	Total	Percentage
Tuberculosis	25	25	50	50
Non-specofic	4	1	5	5
Secondaries	31	8	39	39
Hodgkins Lymphoma	3	1	4	4
Non-hodgkins	1	1	2	2
Total	64	36	100	100

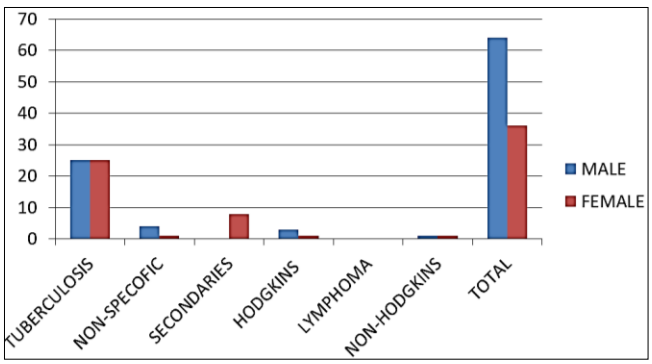

Fig 2: Sex distribution

From the above table the following Male: female ratio are obtained

Tuberculosis: 1:1

Non-Specific: 4:1

Secondaries: 4:1

Hodgekins lymphoma: 3:1

Non Hodgkins lymphoma: 1:1

Table 5: Age incidence in tuberculosis

Age	No. of cases	Percentage
1-10	-	-
11-20	12	24
21-30	18	36
31-40	13	26
41-50	3	6
51-60	2	4
61-70	2	4
Total	50	100

Table 6: Incidence in various religious

Religion	No. of cases	Percentage
Hindu	83	83
Muslim	8	8
Christian	9	9
Total	100	100

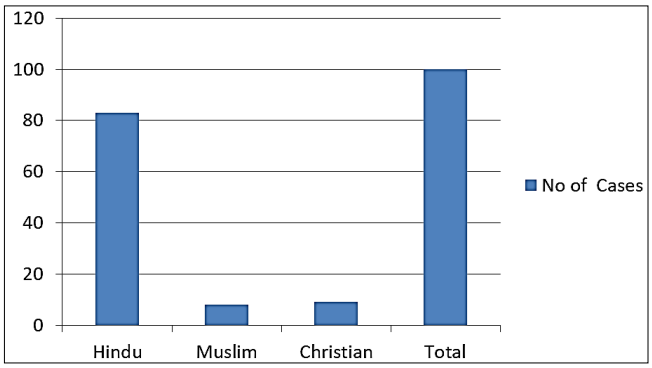

Fig 3: Incidence in various religious

Table 7: Incidence according to socioeconomic status

Diagnosis	Low	Middle	High	Total
Tuberculosis	31	19		50
Hodgkins	3	1		4
Non-Hodgkins	2	-		2
Secondaries	33	6		39
Non-Specific	2	3		5
Total	77	29		100

The above table Shows maximum incidence of cervical lymphadenopathy was found is low socio-economic status 71% and 29% in middle socio- economic status. No patient was found in high socio-economic status because most of the patients in study were from Shadan Medical College.

Table 8. Geographical distribution of cervical lymphadenopathy

Area	No of cases	Percentages
Urban	33	33
Rural	67	67
Total	100	100

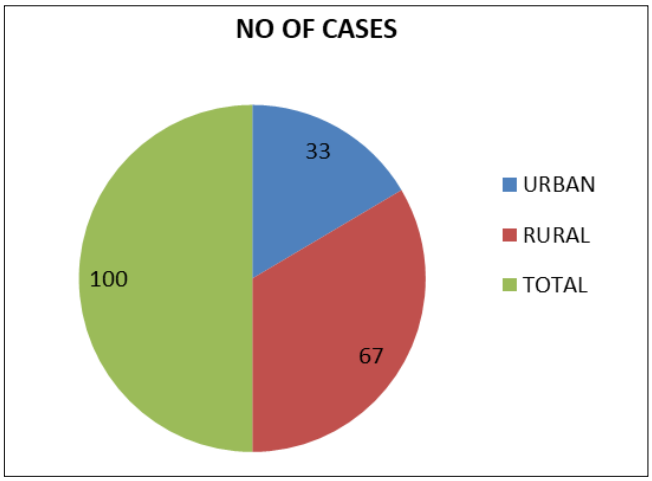

Fig 4: Geographical distribution of cervical lymphadenopathy

This table shows that most of the cases (67%) are from rural area.

Discussion

Analysis of 100 cases of cervical lymphadenopathy is presented here the same is compared with other similar studies available in the literature

Table 9: Showing age incidence of tuberculosis cervical lymphadenitis

Series	1-10	11-20	21-30	31-40	41-50	51-60	61-70
Research Committee of the tuberculosis association of India	23	59	88	32	21	10	0
Present series	0	12	18	13	3	2	2

The above table shows the majority of cases are in age group between 11-40 years. The same table is compared with other series. The research committee of tuberculosis association of India series shows that the majority of the cases in their study was between 11-30 years. The same observation was made in our study also with age of maximum incidence was between 11-40 years.

In the age group the lymphatic system plays an important role and lymph nodes act as powerful second line of defense in holding of the infection (Krishna Murthy). Malnutrition, excess carbohydrates less protein and fats, minerals and vitamins, and exposure to stress and strain are supposed to be the predisposing factors (A.R. Pudvar). Hence the incidence of tuberculosis lymphadenitis is a problem more common in this age group. The Youngest in this series was 11 years and the oldest was 66 years with average age being 35 years [5-7].

Table 10: Showing sex incidence

Series	Male	Female
Research committee of tuberculosis association of India	100	133
Dandapat *et al*. (Sept.1983-May 1985)	19	21
Present Study	25	25

The male: female ratio in the present series is 1:1. A female preponderance had been observed which showed 1.33:1 in Research committee of Tuberculosis Association of India and

1:1:1 in Dandapat *et al*. (1986), Berhampur, Orissa.

Table 11: Incidence to TB cervical lymphadenopathy

Total no. of cases	Tuberculosis	Percentage
100	50	50%

Table 12: Showing socio economic status

Socio economic status	Present series	Bhaskar Reddy series 1962
Low	71%	97-40%
Middle	29%	-
High	-	2.6%

The above table shows that, tubercular cervical lymphadenitis is more common in socioeconomically backward as assessed by income. In the present series 71% of the cases belong to socioeconomically backward class. The main reason for it being more preponderance in the poor, is to their overcrowded, ill ventilated, unhygienic living conditions and also the poverty and malnutrition

Table 13: Geography distribution of cervical lymphadenopathy

Area	Present no. of cases	Series %
Urban	33	33
Rural	67	67
Total	100	100

The above shows that the disease is higher in rural areas than in the urban area. In the present series, 33% of the patients were from the urban areas compared to 67% of the patients from the rural area. This could be probably due to increased awareness of the disease and improvement in living condition of the patient living area than in the rural areas.

Table 14: Incidence of religion

Religion	Present no. of cases	Series %
Hindu	83	83
Muslim	8	8
Christian	9	9
Total	100	100

Though it is said that the tuberculosis is more common in Muslim population when compared to others, in the present series, it is observed that the Hindu population is affected more than the Muslim community. This can probably be accounted for the large Hindu population Compared to the Muslim Population in the area was study was conducted [8].

Table 15: Incidence of Hodgkins lymphoma

Total no. of cases	No. of cases	Series percentage
100	4	4

Incidence of Hodgkins lymphoma in cervical lymphadenopathy is found to be 4% in the present series

Table 16: Incidence of Non-Hodgkins lymphoma

Total no. of cases	No. of cases	Series percentage
100	2	2

Incidence of Non-Hodgkins lymphoma in cervical lymphomapathy is found to be 2% in the present series, which is least series.

Table 17: Incidence of non-specific lymphadenitis in cervical lymphadenopathy

Total no. of cases	No. of cases	Series percentage
100	5	5

Non-secific lymphadenitis in cervical lymphadenopathy is found to have 5% incidence

Table 18: Incidence if secondaries in cervical lymphadenopathy

Total no. of cases	No. of cases	Series percentage
100	39	39

Secondaries from various primaries were found to involve the cervical lymph node in the study conducted constituting 39%, second most common after tuberculosis in the present series [9-11].

Conclusion

There is very high incidence of tubercular cervical lymphadenitis in patients with enlarged neck nodes in developing countries like India. With improvement in economic, social conditions and the use of effective DOTS program, there is decline in pulmonary tuberculosis in developing countries but there is increase in incidence of extra-pulmonary form of tuberculosis. Lymph node involvement constitutes the most common presentation of extra pulmonary form of tuberculosis and cervical lymph nodes are the most commonly affected group of nodes. Tubercular lymphadenitis mimics other pathological conditions like metastasis from other primary sites, reactive lymphadenitis, chronic non-specific lymphadenitis, lymphoma etc. Therefore, it is important that otolaryngologists are aware of tuberculosis in the head and neck region. If the otolaryngologist maintains a high index of suspicion, an early diagnosis can be made with the help of simple investigations and subsequently patients can be managed promptly without delay.

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Conflict of Interest

None

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References

1. King D, Ramachandra J, Yeomanson D. Lymphadenopathy in children: Refer or reassure? Arch Dis Child Educ Pract Ed 2014;99:101-10.
2. Eisenmenger LB, Wiggins RH. Imaging of head and neck lymph nodes. Radiol Clin North Am 2015;53:115-32.
3. Kim J. Differential diagnosis of lymphadenopathy. J Korean Med Assoc 2000;43:1001.
4. Tarantino DR, McHenry CR, Strickland T, Khiyami A. The role of fine needle aspiration biopsy and flow cytometry in the evaluation of persistent neck adenopathy. Am J Surg 1998;176:413-7.
5. Skandalakis J, Gray S. Embryology for Surgeons. 1st ed. Baltimore: Williams & Wilkins 1994.
6. Russell CRC, Bulstrode JK. Bailey and Love's Short Practice of Surgery. 23rd ed. Florida: CRC Press 2000.
7. Bielamowicz SA, Storper IS, Jabour BA, Lufkin RB, Hanafee WN. Spaces and triangles of the head and neck.

Head Neck 1994;16:383-8.
8. Williams N, Bulstrode JK. Bailey and Love Short Practice of Surgery. 25th ed. London: CRC Press 2005.
9. Symmers W. Systemic Pathology. 1st ed. Edinburgh: Churchill Livingstone 1990.
10. Guo B, Liu W, Shao B. Radical neck dissection in treating cervical lymph node tuberculosis. Zhonghua Jie He He Hu Xi Za Zhi 1998;21:352-4.
11. Sloane MF. Mycobacterial lymphadenitis. In: Rom WN, Garay SM, editors. Tuberculosis. Boston, New York, Toronto, London: Little, Brown and Company 1996, P577-83.