

Cervical Lymphadenopathy - A Clinical Spectrum

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Abstract

Background: Cervical lymphadenopathy is a common presentation in the course of many diseases. This condition is generally not a disease by itself; it is a symptom of many possible underlying problems so it's a great challenge establishing correct diagnosis of cervical lymphadenopathy. The objective is to study the spectrum of Clinicopathological features and management of cervical lymphadenopathy. **Subjects and Methods:** All patients attending to the Surgical OP, Bhaskar General Hospital with cervical lymphadenopathy during the period of six months between January 2018 to June 2018 were included. A detailed case history, clinical examination of the patient and investigation were carried out. If FNAC was inconclusive then Lymph node biopsy was carried out. Management of the cervical lymphadenopathy was done accordingly. **Results:** Out of 66 cases, tuberculosis accounted for 42 cases. Thirteen were neoplastic lesions, eight were reactive lymphadenitis and rest three cases were turned out to be chronic non-specific lymphadenitis. Out of the 42 histopathologically confirmed cases of TB cervical lymphadenitis, a diagnosis of tuberculosis was made in 36 cases by FNAC. **Conclusion:** Cervical lymphadenopathy is a presenting symptom for wide variety of diseases and requires meticulous attention to make a correct diagnosis and plan proper treatment. FNAC is most commonly available valuable investigation for accurate diagnosis. The treating physician need to be aware of the wide spectrum of disease which can be presented as cervical lymphadenopathy.

Keywords: Lymphadenopathy, Cervical lymphadenopathy, Lymph nodes, Tuberculosis.

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Introduction

Cervical lymphadenopathy is a common type of peripheral lymphadenopathy. Lymph node enlargement may be due to malignancy, infections, autoimmune diseases, other unusual and iatrogenic conditions.^[1] Most patients can be diagnosed on the basis of a careful history and physical examination. This study presents a methodical clinical approach and the treatment to patients with cervical lymphadenopathy. The body has about 600 lymph nodes of which approximately 60 – 70 nodes are situated in the head and neck region.^[2] Inappropriate diagnosis and the treatment may change a potentially curable disease into an incurable one. So a clinic-pathological correlation is always required.^[3,4] Of the many causes for cervical lymphadenitis, tuberculosis is still a common cause for lymphadenitis. In generalized lymphadenopathy, the most likely diagnoses are probably tuberculosis and Hodgkin's disease.^[5]

Lymph node tuberculosis is a most common type of extra-pulmonary tuberculosis in India and is probably the commonest cause of chronic lymphadenitis in children. Even after the advent of effective chemotherapy for tuberculosis, it still poses considerable problems in diagnosis and management. The diseases even present as painless lymphadenopathy of superficial lymph nodes of insidious onset.^[6] Head and neck cancers account for 2.8% of all newly discovered cancers. Metastatic carcinoma within cervical lymph nodes with an unknown primary tumour site accounts for 3% to 5% of all head and neck cancers. The control of such regional metastatic disease constitutes a significant part of the process of treating head and neck cancer. The presence of an enlarged node proven histologically positive for metastasis is an ominous finding and as a general rule decreases the 5-year survival rate by at least 50%.^[7]

Subjects and Methods

Place of study: General Surgery OPD, Bhaskar General Hospital.

Type of Study: Prospective study.

Sample Size: 66 cases.

The patients presenting with cervical lymphadenopathy to surgical OPD at Bhaskar General Hospital, Yenkapally.

Inclusion Criteria

- Patients presenting with cervical lymphadenopathy aged 11 years and above were included.

Exclusion Criteria

- Children less than 10 years
- Patients who had been diagnosed or taken treatment earlier were excluded from the study.

A detailed case history, clinical examination of the patient and investigation were carried out. In local examination, importance was given to the site, size, laterality, number, matted/discrete, secondary changes, level of the cervical lymph nodes and involvement of other (inguinal/axillary) lymph nodes. Systemic examination also carried out.

An attempt was made to find out the primary tumour in cases of lymph nodes suspicious as secondaries in neck. After making a clinical diagnosis further investigation were carried out to confirm the diagnosis. Routine investigations included hematological and radiological.

FNAC was done to get a cytological diagnosis at hand. If FNAC was inconclusive then Lymph node biopsy was carried out. Management of the cervical lymphadenopathy was done accordingly.

Further tests were carried out on the basis of histopathological diagnosis (for example, secondaries in the neck), contrast radiological investigations, triple endoscopy carried out in relevant cases. Having come to conclusion of diagnosis, treatment was instituted appropriately. Medical treatment was employed predominantly for conditions like tubercular lymphadenitis, infective lymph node swellings. Cases requiring surgical management were operated accordingly and patients requiring radiotherapy, chemotherapy and expert oncologic surgeries, patients were referred to MNJ institute of Oncology, Hyderabad. All patients were asked to attend the surgical outpatient department for follow-up after discharge. Necessary advice was given.

Ethical Clearance: Ethical permission was obtained from the institutional ethics committee prior to the commencement of the study.

Statistical Analysis: SPSS 21 software was used for statistical analysis and the data was presented in the form of tables.

Results

Tuberculosis was the commonest cause of cervical lymphadenopathy accounting for 42 out of 66 cases. Other causes of cervical lymphadenopathy were neoplastic (13 cases), reactive lymphadenitis (8 cases) and chronic non-specific lymphadenitis (3 cases).

Among the neoplastic causes, secondaries was the commonest cause (9 cases) followed by lymphoma (4 cases).

The commonest age group affected by this disease in this study was 21 – 30 years (24 cases) followed by 31 – 40 years (19 cases).

It was observed that 7 cases out of 42 cases had a positive history of contact with tuberculosis.

The sex distribution, size of the lymph nodes and ESR levels are shown in the [Table 1-3] respectively.

The most common group of lymph nodes involved was the posterior triangle group followed by upper deep jugular group. Lymph nodes were involved on one site in 34 patients and bilateral involved was present in 8 patients. All 4 cases of lymphomas had more than one site involvement whereas 11 cases of tuberculosis lymphadenitis had more than one site.

Tuberculosis lymphadenitis was presented more commonly as discrete lymph nodes which is observed in 30 cases whereas matting of lymph nodes was observed in 12 cases.

In the present study, caseation of the lymph nodes were observed in 24 cases whereas 18 cases had non caseated nodes.

Only 9 cases had a positive chest X-ray in tubercular lymphadenitis while 33 cases had negative chest X-ray.

The below table shows single / multiple lymph node involvement in cervical lymphadenopathy table.

It was observed that 1 case of tubercular lymphadenitis had axillary lymph node involvement in addition to cervical lymph node enlargement. Among lymphomas, 1 had axillary lymph node enlargement in addition to cervical lymphadenopathy. 2 cases had generalized lymph nodal involvement.

Out of 4 cases of histopathologically confirmed lymphomas. It was Non-Hodgkin's variety and 3 were Hodgkin's variety.

The sensitivity and specificity of FNAC for diagnosing tubercular lymphadenitis is 86% and 100% whereas it is 75% and 95% respectively for chronic non-specific lymphadenitis. Both sensitivity and specificity of FNAC is 100% for diagnosis secondaries and lymphomas in cervical lymph nodes.

In the present study all the 42 cases proved as tubercular were treated with DOTS as per RNTCP guidelines.

Table 1: Distribution of cases based on gender.

Sex	Number of cases	Percentage
Male	35	53%
Female	31	47%

Table 2: Distribution of cases based on size of the lymph node (cms) in biggest diameter.

Size in cm in biggest diameter (of largest node if multiple)	Number of cases	Percentage
< 4	36	85.71
≥ 4	6	14.29

Table 3: Showing number of cases with variable ESR levels.

ESR levels (in mm/hr)	Number of Cases	Percentage
<20	17	40.47
≥ 20	25	59.53

Table 4: Showing single/multiple node involvement in cervical lymphadenopathy.

	Number of cases (with percentage)				
	TB	Reactive	CNSL	Secondaries	Lymphomas
Single	16	3	2	2	0
Multiple	26	5	1	7	4
Total	42	8	3	9	4

Amonge 42 caes, 2 cases turned out to be Rifampicin resistance and were treated according to MOR regimen.

Out of 42 cases, in 36 cases nodes were completely resolved. Out of 6 cases, 4 cases developed fresh nodes after extended therapy and for remaining 2 cases, surgical excision was done.

Patients were followed up at regular intervals of 1month to look for clinical response and adverse reactions.

The patients who are diagnosed as reactive and chronic non-specific lymphadenitis were prescribed antibiotics like pencillin group or macrolide group for 10 – 15 days and clinical course observed. Those presenting with drainage (4 cases). In 1 case no response was seen and the node was exercised under local anaesthesia.

Of the 9 cases diagnosed as malignant secondaries in cervical lymph nodes, 2 cases had primary in the larynx, 1 each from Papillary Ca thyroid, Sq cell carcinoma Lower Lip, Carcinoma tongue, Carcinoma Pyriform fossa, Carcinoma Stomach (Stage IV, inoperable) and remaining 2 had a unknown primary Remaining cases were referred to MNJ INSTITUTE OF ONCOLOGY, Hyderabad for Radiotherapy, Chemotherapy & Radical Surgery.

4 cases of lymphomas were referred to MNJ INSTITUTE OF MEDICAL ONCOLOGY, Hyderabad for further manage-

ment.

Discussion

Sixty six cases of cervical lymph node enlargement attending to Bhaskar General Hospital, Yenkapally during a period of six Months were taken for discussion . It was noted that cervical lymphadenopathy was more common in males (53%). The male to female ratio was 1.13:1. A study by Veetil et al., noted similar results with male to female ratio of 1.38:1.^[7] In the present study, out of 66 cases of cervical lymphadenopathy, 53 were nonneoplastic lesions (80.3%) and 13 (19.7%) were neoplastic lesions. These figures are comparable with study by Shafullah and Syed Humayun Shah et al.^[8] where the incidence of non-neoplastic and neoplastic lesion was 90.6% and 9.4% respectively. In the present series, tuberculosis accounted for 63.63% of cases, 12.12% turned out to be chronic non-specific lymphadenitis and 4.54% reactive lymphadenitis. Among the neoplastic lesions, malignant secondaries accounted for 13.36% and Hodgkin's lymphomas for 4.54% each, while non- Hodgkin's lymphoma comprised the remaining 1.51%. Similar observations were made by Jha B.C. et al.^[9] who studied 94 cases, of which tuberculosis was confirmed in 63.8% cases. The findings observed by Jindal N. et al,^[10] Nataraj G. et al,^[11] Arora B. et

al.^[12] are also comparable with the present study. The lower incidence of tuberculosis in study by Kim L.H. et al.^[13] is probably because the patients were from non-prevalent areas

Age distribution in cervical lymphadenopathy: The commonest age group affected in the present study is 21-30 years accounting for 36.36% of cases, followed by 31-40 years (28.78%) and 11-20 years (15.15%). The least affected age group was > 60 years where only 4 cases were accounted. In the study by Jha B.C. et al., the commonest age group involved was 11-20 years, while study by Shafiullah et al. had 72% cases in the age group of 11-30 years, which is comparable with the present study. The study by Kim L.H. et al. comparable with present study, as it had maximum number of cases between 20-50 years of age.^[13]

History of constitutional symptoms: In the present study, only 42.8% of the cases with tuberculosis had constitutional symptoms. Similarly, only 33.33% of cases with malignant secondaries had symptoms. In comparison 72.7% & 50% presented with symptoms in reactive / nonspecific 116 lymphadenitis and lymphomas respectively. Similar observations were made by JHA B. C et al and Jindal N. et al.

Site distribution in cervical lymphadenopathy: In the present study, the Memorial Sloan-Kettering Hospital classification of neck lymph nodes from level 1 through level 7 was utilized. It was observed that in tuberculosis, the level 5 (posterior triangle group) was most commonly affected (33.3%) followed by level 2 (upper jugular group) at 23.8%. About 11 cases (21.2%) had more than one site involved in the neck. In contrast, all cases (100%) of lymphoma had more than one site involvement. In the Jha B.C. et al. series, upper deep jugular group was the most commonly involved. In Baskota D.K. et al.^[14] study posterior triangle was the commonest at 51% (comparable to the present study). In the Manolidis S. study anterior triangle (excluding submandibular) was the most commonly involved (35.1%), similar percentage had multiple site involvement. Posterior triangle (including supraclavicular) came next with 9.1% (again, comparable with present study). In the Jha B. C. et al study, multiple matted nodes were seen in 23 patients out of 60(38.3%), single discrete nodes were seen in 18 patients (30%). Discharging sinus and abscesses were uncommon. In the Baskota et al series, 83% cases had unilateral involvement of neck with single group only at 68%.^[14] In the Dworski I. study, unilateral involvement was seen in 87%. The present study had unilateral involvement in 81% cases with discrete nodes in 19% cases (comparable with above studies).

Casation was seen in 28.57% of tubercular cases in the present study comparable with Bedi R.S. study (39%). Chest X-ray positivity was seen in 21.5% cases of present study (comparable with Aggarwal P. et al. series where 28.3% had positivity, and Jha B.C. et al. series with 16%). In the present study Non-Hodgkin's lesion: Hodgkin's lesion ratio is 1:3.

While findings by Gutenshon N et al had a ratio of 9:1.^[15] The commonest site of primary in a case of malignant secondary was lungs and pancreas in the studies by Linderman et al. and Osama Gaber et al.^[16,17] In the present study it was larynx and thyroid. In the study by Osama Gaber et al., it was possible to establish primary in 86.7% whereas in the present study it was only 77.77%, this was because of limited resources available in the hospital.^[17]

Role of FNAC in cervical lymphadenopathy: In the present study, FNAC could detect 86% of cases. The study by Jha B.C. et al. reported a sensitivity of 92.8% in diagnosing tubercular lymphadenitis. Dandapat M.C. et al. reported a sensitivity of 83% for tuberculosis. Dasgupta A. et al. reported a sensitivity of 84.4% for tuberculosis and 89% for malignant secondary deposits.^[18] In a larger series of 444 cases, Mondal A. et al.^[19] reported 100% sensitivity in diagnosing tubercular and pyogenic lymphadenitis, and also Hodgkin's disease, 98% for metastatic deposits; 97% for chronic non-specific lymphadenitis; 92% for Non-Hodgkin's lymphomas. After studying 2216 cases, Prasad R.R. et al noted sensitivity and specificity of 84% and 95% respectively for tubercular lymphadenitis,^[20] 97% and 99% for metastatic deposits; 80% and 98% for Hodgkin's disease; 81% and 96% for Non-Hodgkin's lymphomas. Comparable observations were made in the present study.

Most of the diseases are medically curable and surgery has a limited role in nonneoplastic lesion. FNAC is the first line invasive test for any case with cervical lymphadenopathy because it is cheap and easy to perform and widely available. Open biopsy with histopathology is most definitive to diagnose the case of cervical lymphadenopathy.

Preventive measure like good hygiene, good nutrition, education of patient and family that can lead to early diagnosis and treatment. New anti-tubercular drugs and Chemotherapy drugs for neoplastic lesions can be used. And also new methods for lymph node examination like CBNAAT can be used.^[21]

Conclusion

Cervical lymphadenopathy is a presenting symptom for wide variety of diseases and requires meticulous attention to make a correct diagnosis and plan proper treatment. FNAC is most commonly available valuable investigation for accurate diagnosis.

Tuberculosis is the most common cause (63.63%) of cervical lymphadenopathy in this study population with 4.5 % of single drug resistant cases. Malignancy is the next common cause (19.69%). Among malignancy, secondaries were most common (69.2%) followed by lymphomas (31.8%). Chronic non-specific lymphadenitis was found to be least common disease with incidence of only 4.54% and was treated with

antibiotics. The treating physician need to be aware of the wide spectrum of disease which can be presented as cervical lymphadenopathy.

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