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Original Research

An analytical study of clinicopathology and management of cervical lymphadenopathy

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ABSTRACT

Aims and objectives: The present was conducted a study to study about various clinical presentations of cervicallymphadenopathy, to correlate pathological findings with the clinical diagnosis & final diagnosis, to study role of FNAC by correlating with confirmed biopsyreport and to study management, outcome and clinical behavior of cervical lymph nodes on followup. **Material and methods:** Routine investigations included haematological andradiological. FNAC was done as front line investigation for cytological diagnosis. ENT opinion, contrast radiological investigations, endoscopy carried out in relevant cases. **Results and conclusion:** In this study, tuberculosis had multiple node involvement in 59 cases (76.63%) while 18 cases (23.37%) showed single node involvement. Again in reactive lymphadentis 15 cases (62.5%) showed multiple node involvement as compared to 9 cases (37.5%) with single node. In chronic non-specific lymphadenitis 59.10% multiple nodal involvement observed. In malignant secondaries, equal involvement was seen. In lymphomas, multiple lymph nodes were involvedexclusively.The sensitivity and specificity of FNAC for diagnosing tuberculous lymphadenitis is therefore 84.42% and 100% respectively

Keywords: Schwannoma, Growth, Predictors

INTRODUCTION

A lymphmode swelling in the cervical region can be a diagnostic challenge. They are frequently examined for the diagnosis of lymphoreticular disorders. Palpable lymph nodes are not always pathological but are presumed to reflect more frequent exposure to new antigens. The study intends to find out systematically the various pathological conditions presenting with enlarged lymph nodes in the neck, also the various modes of clinical presentation and behaviour of these conditions. A study of the role of FNAC in diagnosing these conditions after correlating with a lymph node biopsy confirmation has also been undertaken.[1,2]

The present was conducted a study to study about various clinical presentations of cervical lymphadenopathy, to correlate pathological findings with the clinical diagnosis & final diagnosis, to study role of FNAC by correlating with confirmed biopsyreport and to study management, outcome and clinical behavior of cervical lymph nodes on followup.

MATERIALS & METHODS

Inclusion Criteria

1. Patients more than 12 years of age.
2. Patients presenting with cervical lymph node enlargement.

Exclusion Criteria

Patients less than 12 years of age.

Patients where FNAC and/or Biopsy of the node could not be carried out were excluded.

A proforma drafted for study of all patients presenting with cervical lymph node swellings was used. A detailed history was taken and a note was made regarding age, sex, duration of symptoms, constitutional symptoms and history of contact with tuberculosis patient. A complete physical examination was carried out. After making a provisional diagnosis on clinical grounds, further investigations were carried out to confirm the diagnosis. Routine investigations included haematological and radiological. FNAC was done as front line investigation for cytological diagnosis.ENT opinion, contrast radiological investigations, endoscopy

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carried out in relevant cases. After coming to the diagnosis, treatment was instituted appropriately.All patients were asked to attend the surgical outpatient department for follow-up after discharge. Necessary advice was given.

OBSERVATION and RESULTS

Table 1:- The number and percentage of non-neoplastic and neoplastic lesions

	Number of cases	Percentage
Non-neoplastic	123	82
Neoplastic	27	18
Total	150	100

Table 2:- Table showing histopathological diagnosis in 150 cases

HISTOPATHOLOGICALDIAGNOSIS	NUMBER OFCASES	PERCENTAGE
Tubercular lymphadenitis	77	51.33
Chronic non-specific lymphadenitis	22	14.67
Reactive lymphadenitis	24	16
Secondaries	12	8
Hodgkin's lymphoma	3	2
Non-Hodgkin's lymphoma	12	8
Total	150	100

Table 3:- Presence/absence of constitutional symptoms

TOPATHOLOGICAL DIAGNOSIS	CONSTITUTIONAL SYMPTOMS		TOTAL	PERCENTAGE
	Present	Absent		
Tubercular lymphadenitis	24	53	77	31.17
Chronic non-specific and reactive lymphadenitis	28	18	46	60.86
Secondaries	3	9	12	25
Lymphoma	8	7	15	53.33

From above table it is clear that in the present study, majority of cases of tubercular lymphadenitis and malignant secondaries in neck did not have constitutional symptoms. 24 cases (31.17%) out of 77 cases of tubercular etiology showed presence, while 3 cases (25%) out of 12 cases of secondaries in neck showed presence of symptoms.

Table 4:- History of contact with tuberculosis in tubercular lymphadenitis cases

CONTACT WITH TUBERCULOSIS	NUMBER OF CASES	PERCENTAGE
Positive	12	15.58
Negative	65	84.42

It was observed that only 12 cases (15.58%) out of 77 cases had a positive history.

Table 5:- Site distribution of tubercular cervical lymphadenitis and lymphomas

Site	Number of cases (with percentage)	
	Tubercular lymphadenitis	Lymphomas
Level 1 (submental and submandibular group)	5(6.49%)	0
Level 2 (upper jugular group)	17(22.07)	0
Level 3 (middle jugular group)	5(6.49)	0
Level 4 (lower jugular group)	5(6.49)	0
Level 5 (posterior triangle group)	24(31.16)	2(13.33)
Level 6 (anterior compartment group)	0	0
More than one site in neck	23(29.87)	13(86.67)
Total	77	15

The neck nodes were classified as levels and the involvement was studied for each category. Only tubercular lymphadenitis and lymphomas are considered here. In the present series, it was observed that posterior triangle group was the commonest to get involved in tuberculosis (31.16%) followed by upper deep jugular group (22.07%).

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Table 6:- Single/multiple node involvement

	NUMBER OF CASES (WITH PERCENTAGE)				
	Tubercular lymphadenitis	**Reactive Lymphadenitis**	**Chronic nonspecific lymphadenitis**	**Secondaries**	**Lymphomas**
Single	18(23.37)	9(37.5)	9(40.9)	6(50)	-
Multiple	59(76.63)	15(62.5)	13(59.10)	6(50)	15(100)
Total	77	24	22	12	15

In this study, tuberculosis had multiple node involvement in 59 cases (76.63%) while 18 cases (23.37%) showed single node involvement. Again in reactive lymphadentis 15 cases (62.5%) showed multiple node involvement as compared to 9 cases (37.5%) with single node. In chronic non-specific lymphadenitis 59.10% multiple nodal involvement observed. In malignant secondaries, equal involvement was seen. In lymphomas, multiple lymph nodes were involved exclusively.

Table 7:- Involvement of other lymph nodes (in addition to cervical- lymph nodes) in cervical lymphadenopathy

LYMPH NODE GROUP	TUBERCULAR		REACTIVE AND CNSL		LYMPHOMAS	
	No.of Cases	**%**	**No.of cases**	**%**	**No.of Cases**	**%**
Cervical + Axillary only	2	2.60	2	4.35	3	20
Cervical + Inguinal only	13	16.88	7	15.22	2	13.33
Cervical + Axillary + Inguinal (Generalised)	3	3.90	0	0	5	33.33
Total	18		9		10	

It was observed that 2 (2.59%) cases had axillary lymph node involvement, 13 (16.88%) cases had inguinal lymph node involvement in addition to cervical lymph node enlargement and 3 (3.90%) cases had generalised lymph node involvement. In total 18(23.36%) cases of tubercular cervical lymphadenitis had lymph nodes elsewhere in the body. In cases of reactive lymphadenitis, cervical non-specific lymphadenitis also showed involvement of inguinal group of LN's whereas a cases of lymphadenitis had showed generalized lymphadenitis involvement in 53% pts.

Table 8:- Main types of lymphomas

Types of lymphoma	Number of cases	Percentage
Non-Hodgkin's lymphoma	12	80
Hodgkin's lymphoma	3	20
Total	15	100

Table 9:- Distribution of primary in malignant secondaries in neck

Primary site of malignancy	Histopathological diagnosis	Number of cases
Thyroid	Papillary carcinoma	3
larynx	Squamous cell carcinoma	3
Parotid	Mucoepidermoid carcinoma	1
Unknown	Squamous cell carcinoma Adenocarcinoma	3 2

Of the 12 cases of malignant secondaries, 3 were from the larynx, 3 from the thyroid and 1 from parotid. The remaining 5 cases had unknown primary.

It was observed that 2 (2.59%) cases had axillary lymph node involvement, 13 (16.88%) cases had inguinal lymph node involvement in addition to cervical lymph node enlargement and 3 (3.90%) cases had generalised lymph node involvement. In total 18(23.36%) cases of tubercular cervical lymphadenitis had lymph nodes elsewhere in the body

Table 10:- Sensitivity and specificity of FNAC in diagnosing tuberculous cervical lymphadenitis

BY FNAC	NUMBER OF CASES
True positive	65

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False positive	0
False negative	12
True negative	66
Total	143

66 cases were true negative for tuberculosis. The sensitivity and specificity of FNAC for diagnosing tuberculous lymphadenitis is therefore 84.42% and 100% respectively.

Table 11:- Sensitivity and specificity of FNAC in diagnosing chronic non- specific lymphadenitis

BY FNAC	NUMBER OF CASES
True positive	17
False positive	17
False negative	3
True negative	106
Total	143

Table 12:- Sensitivity and specificity of FNAC in diagnosing secondaries in cervical lymph nodes

BY FNAC	NUMBER OF CASES
True positive	11
False positive	0
False negative	0
True negative	132
Total	143

Table 13:- Sensitivity and specificity of FNAC in diagnosing lymphomas in cervical lymph nodes

BY FNAC	NUMBER OF CASES
True positive	13
False positive	0
False negative	2
True negative	128
Total	143

Distribution of different lesions in various studies

Present Study	51.33%	14.67%	16%	8%	2%	8%
Shafiullah et al.[74]	69%	3.80%	17.80%	2.90%	3.10%	3.40%
Nataraj G. et al.[77]	82.60%	8%		9.40%		
ha B.C. et al.[76] (2001)	63.80%	5.90%	9.60%	20.70%		

In the study by Jha B.C. et al.[76], the commonest age group involved was 11-20 years, while the study by Shafiullah et al.[74] had 72% cases in the age group of 11-30 years, which is comparable with the present study.

History of constitutional symptoms

In present study swelling in the neck (in 100% cases) followed by fever (in 30.67% cases) is the main presenting symptom.

In the present study, only 31.1% of cases with tuberculosis had constitutional symptoms. Similarly, only 25% of cases with malignant secondaries had symptoms. In comparison 60.86% and 53.33% presented with symptoms in reactive/non-specific lymphadenitis and lymphomas respectively. Similar observations were made by Jha B.C. et al.[76]

About 23 cases (29.87%) had more than one site involved in the neck. In contrast, 86.67% of lymphoma cases had more than one site involvement.

Chest X-ray positivity was seen in 22.08% cases of present study, Jha B.C. et al.[76] series with 16%, and 14% cases, which hadpositivity.Role of FNAC in cervical lymphadenopathy

The sensitivity and specificity of FNAC in detecting various lesions of cervical lymph nodes are shown in following Table:

Diagnosis	Sensitivity	Specificity
Tubercular lymphadenitis	84.42%	100%
onic non-specific lymphadenitis	85%	86.18%
Malignant secondaries	100%	100%
Lymphomas	86.67%	100%

The study by Jha B.C. et al.[76] reported a sensitivity of 92.8% in diagnosing tubercular lymphadenitis.

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DISCUSSION

The discussion is mainly on analysis and observations made regarding presenting symptoms, clinical behavior, signs, investigations, management and post-operative events in 150 cases of cervical lymph node enlargement attending to our hospital during a period of two years.

In the present study, out of 150 cases of cervical lymphadenopathy, 123 were non-neoplastic lesions (82%) and 27 (18%) were neoplastic lesions. These figures are very similar with a study by Hirachand et al,[3] where 81.5% cases were benign & 18.5% cases weremalignant.

These figures are comparable with study by Shafiullah and Syed Humayun Shah also,[4] where the incidence of non-neoplastic and neoplastic lesions was 90.6% and 9.4% respectively.

In the present series, tuberculosis accounted for 51.33% of cases, 14.67% turned out to be chronic non-specific lymphadenitis and 16% reactive lymphadenitis.

Among the neoplastic lesions, malignant secondaries and non- Hodgkin's lymphomas accounted for 8% each, while Hodgkin'slymphoma comprised the remaining 2%. Similar observations were made by Jha B.C. et al.[5] who studied 94 cases, of which tuberculosis was confirmed in 63.8% cases. In an another study by Nataraj G. et al[77] tubercular lymphadenitis was seen in 82.60% cases and overall percentage of neoplastic lesions was about 9.40%.

CONCLUSION

Tuberculosis is still the commonest disease to cause cervical lymphadenopathy in developing countries like India.It is curable with antitubercular drugs if administered as per the accepted regimen.The clinical presentation of cervical lymphadenopathy is highly variable and the clinical symptoms have a limited role. Dependence on clinical evidence alone would lead to erroneous diagnosis in a considerable number of cases.Cervical lymphadenopathy is a important disease commonly come across with wide spectrum (from benign to neoplastic) of causes at its root and always calls for meticulous attention, analysis andtreatment.

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