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A Clinico-PAthological Study of Neck Swellings Excluding Thyroid

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Abstract
Introduction: *"A clinico – pathological study of neck swelling excluding thyroid" is a prospective study of 100 cases. The study was conducted with an objective to know the various etiological factors and clinical factors and clinical presentation of the neck swelling and also to correlate the clinical diagnosis with FNAC and histopathological reports.*
Methods: *The study was conducted in Thanjavur medical college during study period i.e. from August 2014 to 2016. 100 patients with neck swellings exclusion criteria were included in this study. After a detail history and clinical examination of neck swellings, patient were subjected for FNAC to confirm the diagnosis. Biopsy of the lymph node was performed when FNAC either negative or doubtful to confirm the diagnosis by histopathological examination. The Age/Sex distribution, clinical presentation, the investigations, the treatment modalities, complications were all evaluated and compared with standard literature.*
Results: *A total 100 patients were enlisted in this study, tubercular cervical lymphadenitis accounted for 55%. Among them 21 were male patients and 32 females with the female to male ratio being 1.5:1. The commonest group of lymph node region involved was the upper deep jugular group accounting for 70.9% followed by posterior triangle lymph node region accounting for 18.2%. ESR was found to be elevated in all the patients. Sputum AFB was positive in 14 patients (25.5%). FNAC was inconclusive in 4 patients and were subjected for lymph node biopsy. Total of 13 patients underwent lymph node biopsy.*
In our study, metastasis in the cervical lymph nodes was the second commonest etiological factor among neck swellings, observed in 13 patient (13%). 11 were diagnosed as having sq. cell carcinoma and 2 as adenocarcinoma metastatic work up revealed the primary site for sq cell ca as tonsilar fossa. posterior pharynx, larynx accounting for 63.6%, 27.3% and 9.1% respectively.6 cases were diagnosed as having lymphoma with the maximum occurrence observed in the age group of 41-60 years. The usual presentation was painless cervical lymphdenopathy.
Other neck swellings observed in our study were cystic hygroma in 4 patients, branchial cyst in 2 patients, and lipoma in 4 patients.
Keywords: *Lymph node, Tuberculosis, malignancy, chemotheraphy, excision.*

INTRODUCTION

Neck swellings are common in clinical practice, with various types i.e. congenital, acquired, inflammatory, neoplastic, and Miscellaneous[1]. The workup of neck mass is different in children and in adults, due to differing etiologies. Neck masses are common in children and most often are due to inflammatory processes or congenital

abnormalities. Only 2-15% are malignant. In adults, a neck mass more often represents malignancy. Persistent masses larger than 2cm represents cancer in 80% of the cases. The study is conducted in Thanjavur medical college, during study period in which all the patients with swelling in neck region were included, excluding thyroid and its associated swellings, As thyroid and its associated swellings are itself a vast topics, needs separate study and so these conditions are excluded from the present study.

The commonest cause of neck swelling is tubercular cervical lymphadenitis. It is known that 1.5% of India's population is affected with tuberculosis. Other commonly encountered swellings are secondaries in the neck[2], acute lymphadenitis chronic non specific lymphadenitis and lymphomas. Swellings like cystic hygroma, brachial cyst are seen less frequently.

In this present dissertation, we have tried to review the literature and to know the disease occurrence and its distribution-and to find out the possible etiological factors of the neck swellings with fine needle aspiration cytology and histopa-thological Correlation and also to summarize the results of different forms of treatment for neck swellings especially tuberculosis.

The Aim of this study is to study the various etiological factors of neck swellings. To study the clinical presentation of neck swellings, To correlate the clinical diagnosis with FNAC and Histopathological report.

MATERIALS AND METHODS

The present study involved 40 patients with swellings in the neck excluding thyroid who attended Thanjavur medical college during the study period i.e. from August 2014 to August 2016.All patients presenting with neck swelling were included in study. Those patients having thyroid and its associated swellings were excluded. After detailed history and clinical examination, fine needle aspiration cytology of involved lymph nodes were performed. Biopsy of the lymph nodes were performed when fine needle aspiration cytology was either negative or doubtful[3]. Routine tests like hemoglobin percentage, total count, differential count, erythrocyte sedimentation rate, chest radiographs were done in all patients. Sputum examination for acid fast bacilli done for only suspected cases of TB lymph adenitis. After conformation of diagnosis all TB patients were treated with short term chemotherapy and were followed up at monthly intervals for 6 months and progress was assessed by clinical examination as well as monthly ESR estimation. Cystichygromas, branchial cyst, and lipoma were excised. Metastatic work up was done for unknown primary with relevant investigations. The age and sex distribution, clinical presentation, diagnostic methods and treatment were evaluated and compared with standard published literature.

OBSERVATION

The data of 50 patients presenting with swelling in the neck (excluding thyroid) who were out patient and in patient in Thanjavur medical college. Tuberculosis was the commonest cause of lymphadenitis, observed in 27 out of 50 cases. Other cases of cervical lymphadenopathy were metastatic (13 patient), chronic nonspecific lymphadenitis (9 patients), lymphomas (6 patients), and acute lymphadenitis (7 patients). Other swellings of the neck included in this study were cystic hygroma (4 patients), branchial cyst (2 patients) &lipoma (4 patients).Tuberculosis was observed in 55 out of 100 cases of cervical lymphnode enlargement, the commonest age group affected was 5-20 years. Secondaries in the neck accounted for 13 out of 100 case of cervical lymphnode enlargement, the age group affected was above 40 years. Lymphoma was observed in 6 out of 100 cases of cervical lymphadenopathy. The commonest age group affected was 41-60 yrs. Cystic hygroma was diagnosed in 4 out of 100 cases. The age range being was 5-15 years. Branchial cyst was diagnosed in 2 out of 100 cases

Sex distribution of the 100 cases of neck swelling : fifty were males and fifty were females (male : female ratio 1:1.55 out of 100 cases were diagnosed to have tubercular lymphadenopathy. 21 were males and 34 were females with M:F ratio-being 1:1.5, showing

female predominance. Secondaries in the neck were diagnosed in 13 out of 100 cases (sq cell carcinoma, adenocar- cinoma). Out of which 11 were males and 2 females, showing male predominance. Cystic hygroma was diagnosed in 4 out 100 cases in which 2 were male patients and 2 females, showing equal sexual distribution (1:1).Lymphoma (Hodkins & Non Hodkins) was diagnosed in 6 out of 100 cases. 5 patients were males and 1 female, showing male predominance. Branchial cyst was diagnosed in 2 cases. Both patients were females. FNAC : 75 out of 100 cases were subjected for FNAC among them 46 (TBL), 7 (acute lymphadenitis) 9 chronic non specific lymphadenitis, 11 metastatic squamous cell carcinoma, 2 metastatic adenocarcinoma .In tuberculosis : 46(55) patient subjected for FNAC among them 42 were positive and 4 were negative, these negative patient underwent lymph node biopsy to confirm the diagnosis. Acute lymphadentis : 7 patient underwent FNAC all cases were diagnosed to have acute lymphadenitis.

Out of 9 patients of chronic non specific lymphadenitis, 7 were diagnosed on FNAC, where as in 2 patients FNAC showed negative smear. These 2 patients were subjected for lymph node biopsy. Secondaries in the neck: 13 patients were subjected for FNAC. All patients were found to be having positive cytological diagnoses. Lymph node biopsy :21 patient out of 100 cases were subjected for lymph node biopsy, sent for HPE. Among them 13 were tuberculosis lymphadenitis, 2 were nonspecific lymphadenitis, 6 were lymphomas. Medical treatment: All diagnosed cases of tubercular lymphadenopathy were subjected for 6 months chemotherapy. Surgical treatment: 4 case of cystic hygroma 2 case of branchial cysts, 4 cases of lipoma underwent surgical excision.4 patients underwent Functional Neck dissection[4]. Cases link lymphoma (6), secondaries in the neck (11) were referred to cancer center for chemo radiation. Complications and follow up. Complications were seen in only 6 patients having tuberculosis following lymph node biopsy. Abscess formation was observed in four cases. Wound infection was noticed in two cases.

All patients of tuberculosis were followed at monthly interval for six months during the course of chemotherapy and progress was assessed by clinical examination as well as ESR estimation[5].Table 1. Total distribution of neck swellings

Disease Distribution	No. of Patients
Tuberculous lymphadenitis (Tbl)	55
Acute lymphadenitis(Acl)	7
Chronic non specific lymphadenitis(Cnl)	9
Hodgkins lymphoma	4
Non Hodgkins lymphoma(Nhl)	2
Metastatic Squamous cell CA(Msqc)	11
Metastatic adenocarcinoma(Made)	2
Cystic hygroma(Ch)	4
Brachial cyst(Bc)	2
Lipoma (Lp)	4

Age distribution

Table 2 Age distribution

	1-20	21-40	41-60	61-80
Tuberculous lymphadenitis (Tbl)	23	20	11	1
Acute lymphadenitis(Acl)	7	0	0	0
Chronic non specific lymphadenitis(Cnl)	7	1	1	0
Hodgkins lymphoma	0	1	2	1
Non Hodgkins lymphoma(Nhl)	0	1	1	0
Metastatic Squamous cell CA(Msqc)	0	0	8	3
Metastatic adenocarcinoma(Made)	0	0	1	1
Cystic hygroma(Ch)	4	0	0	0
Brachial cyst(Bc)	2	0	0	0
Lipoma (Lp)	2	0	2	0
TOTAL	45	23	26	6

CC – 0.63, P Value – 0.000

Sex distribution

Table 3. Sex distribution

Age	Male	Female	Total
1-20	23	22	45
21-40	9	14	23
41-60	14	12	26
61-80	4	2	6
Total	50	50	100

CC-0.138 p value-0.587

Distribution of the swelling

Table 4. Distribution of the swelling

Disease	Right	Left	Both	Front	Total
Tuberculous lymphadenitis (Tbl)	33	15	7	0	55
Acute lymphadenitis(Acl)	4	3	0	0	7
Chronic non specific lymphadenitis(Cnl)	4	3	1	1	9
Hodgkins lymphoma	1	0	3	0	4
Non Hodgkins lymphoma(Nhl)	1	0	1	0	2
Metastatic Squamous cell CA(Msqc)	4	7	0	0	11
Metastatic adenocarcinoma(Made)	0	2	0	0	2
Cystic hygroma(Ch)	0	4	0	0	4
Brachial cyst(Bc)	0	1	1	0	2
Lipoma (Lp)	2	1	0	1	4
Total	49	36	13	02	100

CC-0.595 P Value-001

Out of 100, 49(49%) patients were having swelling on right side of the neck, and 36 for left side, 13were presented with either side of the neck, 2 patients were presented with swelling in front of the neck. In tuberculosis 33 out of 55 (60%) presented with right sided cervical lymphadenopathy where as metastatic lymph node were found predominately affecting left side lymph nodes.

Table 5. level of lymph node involvement

Diagnosis	1	2	3	4	5	Total
Tbl	4	39	2	0	10	55
Acl	6	1	0	0	2	7
Cnl	1	4	2	0	3	9
Hodkins	0	1	0	0	3	9
Nhl	0	2	0	0	0	2
Msqcc	0	4	2	3	0	11
Madeno	0	0	0	2	0	2
Total	11	51	6	5	17	90

Tuberculosis: cervical lymph node alone were involved in 49 patients, cervical and axillary lymph nodes were involved in 6 patient.

Examination of cervical lymph nodes revealed that multiple matted nodes in 16 cases, single discrete nodes were present in 30 cases, and multiple discrete nodes were seen in 9 cases. Most common group of lymph nodes involved were the upper deep jugular followed by posterior triangle group of lymph nodes, submandibular and sub mental groups[7].

DISCUSSION

Tuberculosis "captain all these men of death" as referred to by John Bunyan in the 18th century, is still the biggest health challenge of the world. It is known that 1.5% of India's population is affected with tuberculosis[8]. In this study of 50 cases, tubercular lymphadenopathy predominated and accounted for 55%. Secondaries in the neck accounted for 13%, acute and non specific lymphadenitis 16%, lymphoma 6%, others 10%. Study conducted by A.K. Gupta et al, among 101 patients tubercular lymph node accounted for 50.49%(51)[11], non specific for 20%(21) metastatic for 15.8%(16), lymphoma 7.1%(6), others 4.95%(5). Our study results almost matches with

the results of study con- ducted by A.K. Gupta et al. Tuberculosis was the commonest cause of lymphadenitis, accounting for 55% of patients. Other cases of cervical lymphadenopathy were metastatic 13%, Chronic nonspecific lymphad- enitis 9%, lymphomas 6%, acute lymphadenitis 7%. Other swellings of the neck included in this study were cystic hygroma 4% branchial cyst 2% lipoma 4%.The distribution of neck swelling in our study was observed commonly between the age group of 1 to 20 yrs (45%). Whereas the distribution for the age group 21 to 40 yrs, 41 to 60, 61 to 80 were found to be 23%, 26%, and 6% respectively. There were 50 male and 50 females (M: F ratio was 1:1) The ratio of male to female in this study was 1:15, showing female predominance which is similar to that found by Dandapat et al (1:1.1)[9] and Subramanyam (1:1.3)[10].Tuberculosis male to female ratio was observed to be 1:1.5 with 87.3% of patients belonging to lower socio economic class. The time interval between onset of symptoms and time of presentation varied from 1 to 36 months. The main complaint at the time of presentation was swelling in the neck, majority of the patients were having cervical lymphadenitis due to tuberculosis (55%), secondaries in the neck (13%), lymphomas (6&), acute lymphadenitis (7%) and chronic nonspecific lymphadenitis (9%). Rest of the patients presented with neck swellings (10%) Cervical lymph nodes alone were involved in 90 patients (90%), Cervical and axillary lymph nodes were involved in 6 patients (6%).Examination of cervical lymph nodes revealed multiple matted notes in 16 cases (17.7%), multiple discrete nodes were seen in 9(10%) cases, single discrete nodes were in 46 cases (55.1%), firm lymph nodes were found in 6 cases (6.6%) and consistency was hard in 13cases(14.4%).Most common group of lymph node involvement was the upper deep jugular group, observed in 61 cases (67.7%), followed by posterior triangle group of lymph nodes seen in 17 cases (18.8%).The most common group of lymph nodes affection in this study was that of upper deep jugular, this is similar to the finding of Dandapat et al. Associated lung involvement as detected by chest radiography was seen in (45.5%) (25 cases) the figure is similar to 40%-50% described in the text book "Clinical Tuberculosis"[13]. It is well accepted that oropharyngeal SCC shows marked tendency for lymphatic spread, even at early stage. In our study 13 (13%) case were included 11 male patients and 2 female patient. Primary site of distribution for oropharyngeal sq cell ca in our study were tonsillar fossa 63%, post pharynx 27%, larynx 9.1%, whichis almost similar to that found by Young Cheng et al[14]Fine needle aspiration cytology revealed a positive diagnosis in 69 out of 75 cases (92%). In some cases lymph node biopsy was needed to confirm the diagnosis. Sputum for acid fast bacilli was positive in only 14 cases (25.5%) out of 55 diagnosed cases of T B lymphadenitis. In 100 cases, 21 cases were subjected for lymph node biopsy and sent for histopathological examination to confirm the diagnosis. Patients with tuberculosis lymphade- nitis showed good response to short course chemotherapy but the follow up was poor after completion of chemotherapy. Complication were seen in only 3 patients having tuberculosis following lymph node biopsy. Abscess formation was observed in one case, wound infection was noticed in two cases. Cystic hygroma & branchial cyst were noted in pediatric age group and underwent surgical excision with uneventful post operative period. Secondary in the neck & lymphomas were referred to cancer center for chemoradiation but those patients were lost for follow up[15].

CONCLUSION

TB was found to be the most commonest cause of cervical lymphadenitis and so as the commonest cause for neck swelling. Most of the cases studied were belonged to lower socioeconomic class. If standards of living are improved the incidence of tuberculosis may decrease .All the patients with tuberculosis did not show much constitutional symptoms, but few patients presented with fever, cough, loss of weight, loss of appetite. The sex

ratio in TB lymphadenitis was showing that female predominance and upper deep cervical group of lymph nodes were commonly affected. Radiologically, majority of the patient's usually did not show the evidence of pulmonary Koch's. All patients of TB lymphadenitis showed good response to 6 months of chemotherapy. Mantoux test was not employed. Sputum AFB was positive in few cases, however negative sputum AFB did not rule out the TB.

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