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A CLINICO PATHOLOGICAL STUDY OF NECK SWELLINGS EXCLUDING THYROID IN A TERTIARY HOSPITAL

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ABSTRACT :

Background : Neck swellings are common in clinical practice and is of various types - congenital, acquired, inflammatory, neoplastic and miscellaneous. The workup of neck mass is different in children and in adults, due to differing etiologies. In this present dissertation, it has been 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 histopathological correlation and also to summarize the results of different forms of treatment for neck swellings especially tuberculosis.

Methods: The present study involved 100 patients with swellings in the neck excluding thyroid who attended the sree mookambikai Medical College Hospital during the study period from September 2023 and augest 2024.Inclusion criteria are All patients presenting with neck swelling.Exclusion criteria are Those patients with thyroid and its associated swellings. The data was collected in a proforma approved by the guide.After detailed history and clinical examination, fine needle aspiration cytology of involved lymph nodes were performed. Biopsy .

Results: In tuberculosis : 46(55) patients subjected for FNAC. Among them 42 were positive and 4 were negative, these negative patients 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 (sq cell ca/adeno ca): 13 patient were subjected for FNAC. All patients were found to be having positive cytological diagnoses.On Lymph node biopsy :21 patient out of 100 cases were subjected for lymph node biopsyand sent for HPE. Among them 13 were tuberculosis lymphadenitis, 2 were nonspecific lymphadenitis, 6 were lymphomas.

Conclusion:TB was found to be the most commonest cause of cervical lymphadenitis and so as the com monest cause for neck swelling.Most of the cases studied were belonged to lower socioeconomic class.

Keywords: tuberculosis, Lymphnode biopsy.

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INTRODUCTION:

Neck swellings are common in clinical practice and is of various types - congenital, acquired, inflammatory, neoplastic and miscellaneous. 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, neck masses more often represents malignancy. Persistent masses larger than 2cm represents cancer in 80% of the cases.

The study is conducted in mookambikai Medical College, during the study period of September 2023–June 2024 in which all the patients with swelling in neck region were included, excluding thyroid and its associated swellings as thyroid and its associated swellings itself are 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, acute lymphadenitis, chronic non specific lymphadenitis and lymphomas. Swellings like cystic hygroma, branchial cyst are seen less frequently.

In this present dissertation, it has been 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 histopathological correlation and also to summarize the results of different forms of treatment for neck swellings especially tuberculosis.

AIM AND OBJECTIVES OF THE STUDY:

- 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 100 patients with swellings in the neck excluding thyroid who attended the sree mookambikai Medical College Hospital during the study period from September 2023 and augest 2024.Inclusion criteria are All patients presenting with neck swelling.Exclusion criteria are Those patients with thyroid and its associated swellings. The data was collected in a proforma approved by the guide.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.Routine tests like hemoglobin percentage, total count, differential count, erythrocyte sedimentation rate, chest radiographs were done in all patients.

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Sputum examination for acid fast bacilli done for only suspected cases of TB lymphadenitis.

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.Cystic hygromas, branchial cysts 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.

Statistical analysis was done using the statistical package for social sciences (SPSS).Different statistical methods were used as appropriate. Mean ± SD was determined for quantitative data and frequency for categorical variables. The independent t- test was performed on all continuous variables. The normal distribution data was checked before any t-test. The Chi-Square test was used to analyze group difference for categorical variables. A p- value < 0.05 was considered significant

RESULTS:

TOTAL DISTRIBUTION OF NECK SWELLINGS

Disease Distribution	No. of Patients
Tbl	55
Acl	7
Cnl	9
Hodgkins	4
Nhl	2
Msqc	11
Made	2
CH	4
BC	2
Lipoma	4

The majority of cases among the study were tubercular lymphadenitis followed by secondaries in the neck, chronic non specific lymphadenitis.

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DISTRIBUTION OF THE SWELLING

Disease	Right	Left	Both	Front	Total
Tbl	33	15	7	0	55
Acl	4	3	0	0	7
Cnl	4	3	1	1	9
Hodgkins	1	0	3	0	4
Nhl	1	0	1	0	2
Msqc	4	7	0	0	11
Made	0	2	0	0	2
Ch	0	4	0	0	4
Bc	0	1	1	0	2
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 on left side, 13 presented with either side of the neck, 2 patients 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.

CONSTITUTIONAL SYMPTOMS

Symptoms	No. of patients
Fever	27
Cough	24

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Loss of weight	7
Loss of appetite	14

Among the cases of tuberculosis studied only 27 out of 55 cases (49%) presented with fever.24 cases presented with history of cough and 7 cases presented with a history of loss of weight and 14 cases presented with loss of appetite.

Only 5 cases (9.1%) came with a background of positive family history of tuberculosis.2 patients were having past history of tuberculosis with incomplete course of chemotherapy.Out of 6 diagnosed cases of lymphoma, 3 cases presented with fever, 4 cases presented with loss of weight and 3 cases presented with loss of appetite.Patients with secondaries in the neck, 8 cases presented with loss of weight, 5 cases presented with loss of appetite and 2 patients presented with dysphagia.

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.

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

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nodes were involved in 6 patients.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 trianglular group of lymph nodes, submandibular and sub mental groups.

In tuberculosis : 46(55) patients subjected for FNAC. Among them 42 were positive and 4 were negative, these negative patients 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 (sq cell ca/adeno ca): 13 patient 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 biopsyand sent for HPE. Among them 13 were tuberculosis lymphadenitis, 2 were nonspecific lymphadenitis, 6 were lymphomas.

DISCUSSION:

In this study of 100 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 in 1988, among 101 patients tubercular lymph node accounted for 50.49%(51), non specific for 20%(21) metastatic for 15.8%(16), lym- phoma 7.1%(6), others 4.95%(5). Our study results almost matches with the results of study conducted by A.K. Gupta et al.

We encountered 55 patient, (55%) with cervical tubercular lymphadenopathy out of 100 patients. Commonest age group affected in our study was 5-20 years (41.8%) followed by 21-40 year (36.4%) was similar to the study done by Subramaniyam.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)31 and Subramanyam .

49.1%(27) presented with fever, 43.6%(24) cases presented with cough, 12.7%(7) pre- sented with loss of weight and 25.5%(4) cases came with loss of appetite. Patel Mehta observed weight loss in 77% and fever in 73% cases, similarly Dandapat et al31 also noted weight loss in 85% and fever 40% of their patients, so in this respect our observation differ significantly from those of others.

The most common group of lymph nodes affection in this study was that of upper deep jugular, this is

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similar to the finding of Dandapat et al.31 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”.

Fine needle aspiration cytology is a well established diagnostic tool in assessment of cervical masses. In our study we found it a very useful diagnostic tool to identify the patients of tuberculosis lymphadenopathy, accuracy rate was 91.0%.In our study, we successfully treated with short course chemotherapy with minimum six month period of follow up. No patient was found to have a recurrence of local or systemic disease.

In our study second most common cause for cervical lymph node enlargement is metastatic deposits from oropharyngeal carcinoma.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 squamous cell carcinoma in our study were tonsillar fossa63%, post pharynx 27%, larynx 9.1%, which is almost similar to that found by Young Cheng et al in which primary sites were found to be tonsillar fossa 65%, base of the tongue 23%, post pharynx20%, larynx 12%. In our study, no case was found to have any primary in the base of the tongue.

In our study most commonly involved lymph node level was II (upper deep jugular) and IV (posterior triangle group of lymph node). The study results were similar to that of Byers et al74. Oropharyngeal SCC commonly spreads to levels II through IV rather than levels I through III.
FNAC : 13 case of metastatic lymphnode (sq cell ca, met adeno 2) were subjected to FNAC and diagnostic accuracy was found to be 100%. This is in close agreement with 100 percent successful results obtained by Gupta SK et al.

Constitutional symptoms (commonly termed B symptoms) these include fever in 50% (3 cases), loss of weight in 66% (4 cases), loss of appetite 50% (3 cases). The is similar to study conducted by Lister et al. All patients underwent lymph node biopsy and diagnosis was confirmed by histo- pathological study and referred for further management.In our study 4 cases (4%) cystic hygroma, 2 cases (2%) of branchial cyst were reported. These patients underwent surgery. No complications occurred.

CONCLUSION:

TB was found to be the most commonest cause of cervical lymphadenitis and so as the com monest 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 M; F (1:1,5) showing that female predominance and upper deep

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cervical group of lymph nodes were commonly affected.Radiologically, majority of the patients usually did not show the evidence of pulmonary Koch's.ll patients of TB lymphadenitis showed good response to 6 months of chemotherapy.Mantoux test was not employed. Sputum AFB was positive in few cases, how ever negative sputum AFB did not rule out the TB.A part from the other investigation FNAC & histopathological examination were the main tools in diagnosis of the neck swellings.

Patient with secondaries in the neck and lymphoma were referred to oncology centers for chemoradiation.Surgery played a role in other benign neck swellings like branchial cyst, cystic hygroma and lipoma 4 patients of secondaries in the neck underwent FND.

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