

A clinico-pathological study of non-thyroidal neck swellings

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Abstract

Background: Neck swellings are of various types - developmental, acquired, inflammatory, neoplastic and miscellaneous. Commonest cause of neck swelling is tubercular cervical lymphadenitis. This study is focused on regional swellings of the neck with exclusion of the thyroid swellings.

Aims and Objectives: To study various etiological factors, clinical presentation and to correlate with FNAC and histopathological report

Materials and Methods: This is a prospective study of nonthyroidal neck swellings diagnosed and treated AT Government Medical College and Hospital, Srikakulam. During The Period from June 2022- October 2023. All histologically proven benign, malignant, congenital and inflammatory non thyroidal neck swellings are included in the study. The study includes 50 cases of non-thyroidal neck swellings.

Results: In our present study, tuberculous cervical lymphadenopathy, is accounting, for 25 out of 50 cases, followed by secondary infections in the neck, lymphadenitis and secondaries. It is observed that congenital neck swellings are least prominent. Tuberculous cervical lymphadenopathy is most prevalent between 4-22 years of age group, with female predominance (1:1.5) and incidence common among rural population. Lymphomas are common in 45-66years old, with male predominance.

Conclusion: It is observed that 80% of non thyroidal neck swellings are of lymph nodal origin. Neck swellings especially tuberculous lymphadenitis and secondaries are more common among the lower social economic status. Tuberculous adenitis is the most common non thyroidal swellings found in the neck (50%). Secondaries neck with unknown primary forms 13% of all secondary lymph nodes of the neck. For

secondaries in the cervical lymphnodes, thyroid is the most common primary. Secondaries neck is more common in males (72%) and 83% of patients are above 40 yrs of age. Hodgkin's lymphoma is more common in 3rd decade and NHL in the 4th and 6th decade. FNAC is a simple, easy to perform diagnostic method with an accuracy rate of 90% in our study. Patients with cancer and secondaries in the neck were referred to oncology centres for chemoradiation.

Keywords: Lymphoma, Swellings, Thyroid.

Introduction

Neck swellings are of various types -developmental, acquired, inflammatory, neoplastic and miscellaneous. Commonest cause of neck swelling is tubercular cervical lymphadenitis. This study is focussed on regional swellings of the neck with exclusion of the thyroid swellings. Only 2-10% is malignant. Study of nonthyroidal neck swellings diagnosed and treated At Government Medical College and Hospital, Srikakulam. During The Period from June 2022- October 2023. All histologically proven benign, malignant, congenital and inflammatory non thyroidal neck swellings are included in the study.

Aims and Objectives

To study various etiological factors, clinical presentation and to correlate with FNAC and histopathological report

Materials and methods

This is a prospective study of nonthyroidal neck swellings diagnosed and treated At Government Medical College And Hospital, Srikakulam. During the period from June 2022- October 2023. All histologically proven benign, malignant, congenital and inflammatory non thyroidal neck swellings are included in the study. The study includes 50 cases of non-thyroidal neck swellings.

Criteria for inclusion

Every patient who presents with neck edoema.

Criteria for exclusion

Those suffering from thyroiditis and accompanying swellings. Data was gathered under a protocol that was authorised by the guide.

Fine needle aspiration cytology of lymph nodes was conducted after a thorough history and clinical examination. When fine needle aspiration cytology was either negative or questionable, lymph nodes were biopsied.

All patients had routine testing such as haemoglobin percentage, total count, differential count, erythrocyte sedimentation rate, and chest radiographs. Sputum examination for acid fast bacilli is only performed in situations of suspected TB lymphadenitis.

Following confirmation diagnosis, all TB patients were treated with short-term chemotherapy and were followed up on a monthly basis for 6 months, with clinical examination and monthly ESR estimation used to monitor progress.

Cystic hygromas, branchial cysts, and lipomas were all surgically removed.

With pertinent investigations, a metastatic work up was performed for an unknown primary. The distribution of age and gender, clinical presentation, diagnostic procedures, and therapy were assessed and compared to standard published literature.

Observation and Results

Data 50 patients presenting with swelling in neck (excluding thyroid) who were out patients and in patients in Government Medical College And Hospital, Srikakulam.

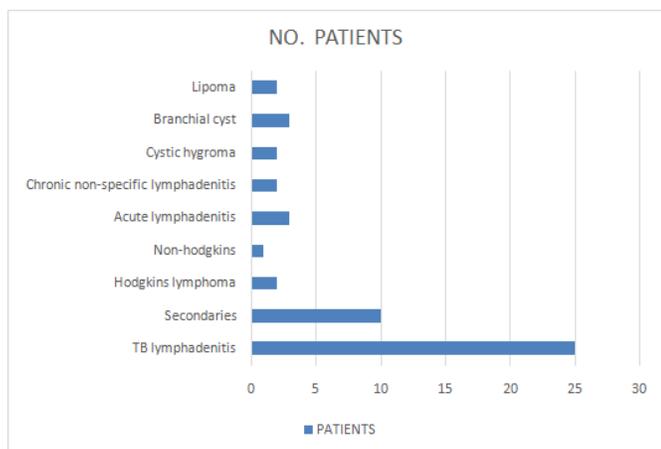
Tuberculosis was the most prevalent cause of lymphadenitis, accounting for 25 of 50 cases. Metastatic/secondary lymphadenitis (10 individuals), chronic nonspecific lymphadenitis (2 patients), lymphomas (3 patients), and acute lymphadenitis (3 patients). This research covered cystic hygroma (2 patients), branchial cyst (3 patients), and lipoma as neck swellings (2 patients).

Table1: Distribution neck swellings

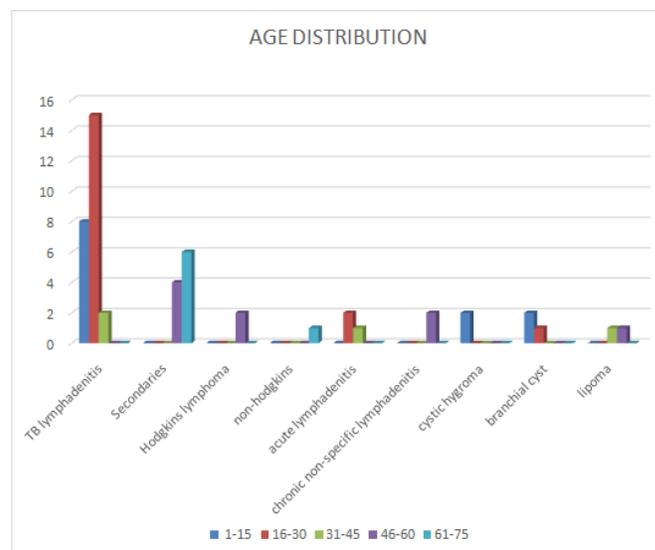
Disease Distribution	No. Patients
Tbl	25
Acl	3
Cnl	2
Hodgkins	2
Nhl	1
Secondaries	10
Cystic Hygroma	2
Branchial Cyst	3
Lipoma	2

The majority of cases in the research were tubercular lymphadenitis, followed by secondary infections in the neck and lymphadenitis.

Distribution of Neck Swellings



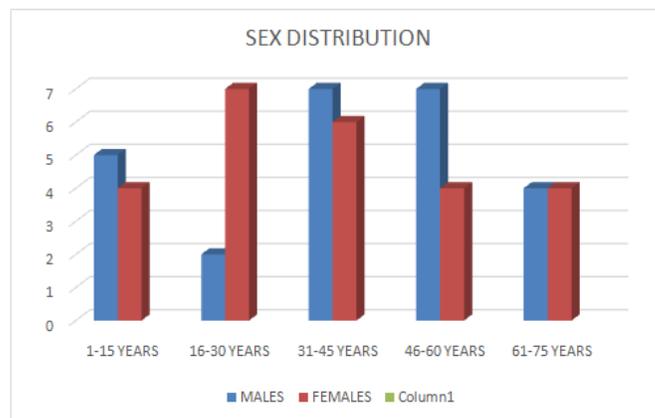
Graph 1: Distribution of Neck Swellings



Graph 2: Age Distribution

Table 2: Sex Distribution

Age	Male	Female
1-15	5	4
16-30	2	7
31-45	7	6
46-60	7	4
61-75	4	4
Total	25	25



Graph 3: Sex Distribution

- Gender distribution There were 50 incidences of neck swelling: 25 men and 25 females (male : female ratio 1:1)

- Tubercular lymphadenopathy was identified in 25 of 50 patients. were males and females, with a M:F ratio of 1:1.
- Ten out of fifty individuals had secondary cancers in the neck (squamous cell carcinoma, adenocarcinoma). There were 5 men and 5 females.
- Cystic hygroma was identified in two of fifty cases, one male and one female, indicating equal sexual distribution (1:1).
- Lymphoma (Hodgkins and non-Hodgkins) was found in 6 of 50 patients.
- There were two males and one female, indicating a masculine preponderance.
- Three instances were found to have a branchial cyst. There were two female patients and one male patient.

Distribution of Swelling

Disease	Right	Left	Both	Front	Total
Tbl	15	8	2	0	25
Acl	1	1	1	0	3
Cnl	0	2	0	0	2
Hodgkins	1	0	1	0	2
Nhl	0	0	1	0	1
M(sq,cc)	3	4	1	0	8
M(ade)	1	1	0	0	2
Ch	1	1	1	0	3
Bc	0	1	1	0	2
Lp	2	0	0	0	2
Total	24	18	8	0	50

Table 3: Distribution of Swelling

Out of 50 patients, 24 (50%) had edoema on the right side neck, 18 on the left side, and 8 had swelling on both sides. In TB, 15 out of 25 patients (60%) exhibited right sided cervical lymphadenopathy, whereas metastatic lymph nodes were observed to mostly impact the left side lymph nodes.

Constitutional Symptoms

Only 13 of the 25 tuberculosis cases evaluated (49%) manifested with fever. 12 instances arrived with a history of cough, 8 cases with a history of weight loss, and 10 cases with a loss of appetite. Out of three lymphoma cases diagnosed, three presented with fever, four with weight loss, and three with appetite loss.

Patients with secondaries in the neck came with 5 cases of weight loss, 3 cases of appetite loss, and 2 cases of dysphagia.

During the course of treatment, all tuberculosis patients were followed at monthly intervals for six months, and progress was determined using clinical examination and ESR estimation. Involvement of lymph nodes at various levels:

In 22 patients with tuberculosis, only the cervical lymph nodes were affected. Cervical lymph node examination indicated numerous matted nodes in 16 cases, single discrete nodes in a few cases, and multiple discrete nodes in three cases. Upper deep jugular lymph nodes were the most commonly affected group lymph nodes, followed by posterior triangular lymph nodes, pre tracheal, submandibular, and submental lymph nodes. Upper deep jugular lymphnodes were increased in almost all patient with lymphomas, cnl and Acl.

Investigations

In the majority of individuals studied, haemoglobin % was around normal. Patients who were admitted were additionally evaluated for total and differential counts, as well as erythrocyte sedimentation rate. The rate of erythrocyte sedimentation is claimed to be increased in chronic inflammatory illness, TB, lymphomas, and secondary neck cancers.

Tuberculosis: ESR increased by 21-40 mm/hour in 20 of 25 individuals. The maximum speed is 96mm/hr.

TBL is normal in just a few cases, as are cystic hygroma and lipoma.

Total numbers peak in 5 cases of TBL, 1 case of NHL, 2 cases of METASTASIS, and 2 cases of ACL.

Lymphocytes are cells that are produced in TBL, ACL, CNL, and/or neutrophil-like cells in practically every inflammatory illness or infection.

Diagnosis

AFB: Sputum AFB was positive in only 10 patients out 25 diagnosed cases tubercular lymphadenitis.

Radiologically: 15 patients showed evidence pulmonary Koch’s, and 2 cases showed evidence malignancy (cannon ball appearance).

Chest X-ray

Diagnosis	Normal CXR	Abnormal CXR	Total
Tbl	12	13	25
Acl	3	0	3
Cnl	2	0	2
Hodgkins	1	0	2
Nhl	2	0	1
M(sqcc)	8	0	8
M(aden)	2	0	2
Ch	2	0	2
Bc	3	0	3
Lp	2	0	2
Total	37	13	50

Table 4: Chest X- Ray

FNAC: FNAC was performed on 25 of 50 instances. Among the 13 patients, 1 had acute lymphadenitis, 1 had chronic non-specific lymphadenitis, 8 had metastatic squamous cell carcinoma, and 2 had metastatic adenocarcinoma.

In tuberculosis, 13 individuals were positive and 4 were negative; patients who were negative received lymph node biopsy to confirm their diagnosis.

Lymph node biopsy: 21 patients out of 50 were submitted to lymph node biopsy and HPE. Thirteen of the cases were TB lymphadenitis, two were nonspecific lymphadenitis, and six were lymphomas.

Medical treatment: Chemotherapy was administered to all diagnosed cases of tubercular lymphadenopathy for 6 months.

Surgical excision was used in two cases of cystic hygroma, three cases of branchial cysts, and two cases of lipoma.

Cases of lymphoma (3) and secondary lymphoma in the neck (10) were referred to a cancer centre for chemoradiation.

Complications and subsequent care Only six patients with tuberculosis had complications after lymph node biopsy. Four incidences of abscess development were observed. In two cases, wound infection was discovered.

All tuberculosis patients were followed at monthly intervals for six months during the course of chemotherapy, and progress was measured using clinical examination and ESR estimation.

Conclusion

1. Tuberculosis was discovered to be the most common cause of cervical lymphadenitis, as well as the most common cause of neck swelling.

2. The majority of the patients analysed belonged to the lowest socioeconomic class. If living standards increase, the incidence of tuberculosis may decrease.
3. Although all tuberculosis patients exhibited few constitutional symptoms, a few patients did arrive with fever, cough, weight loss, and loss of appetite.
4. In TB lymphadenitis, the sex ratio was M; F (1:1.5), indicating that females predominated and upper deep cervical group lymph nodes were usually afflicted.
5. Radiologically, the majority of patients did not exhibit indications of pulmonary Koch's.
6. All TB lymphadenitis patients responded well after 6 months of chemotherapy.
7. The Mantoux test was not used. Sputum AFB was positive in a few patients, although negative sputum AFB did not rule out tuberculosis.
8. FNAC and histological inspection were important techniques in the diagnosis of neck swellings.
9. Patients with cancer and secondaries in the neck were referred to oncology centres for chemoradiation.
10. Surgery was used to treat benign neck swellings such as branchial cysts, cystic hygromas, and lipomas. FND was performed on four secondary neck patients.
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