



A CLINICAL STUDY OF EXTRA-THYROIDAL NECK SWELLINGS

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Abstract

Background: Extra-thyroidal neck swellings comprise a diverse group of congenital, inflammatory, and neoplastic conditions. The neck frequently serves as a site for lymphatic spread of head and neck malignancies, making early diagnosis crucial.

Aim: To study the epidemiological profile, etiological spectrum, and diagnostic utility of fine needle aspiration cytology (FNAC) in extra-thyroidal neck swellings.

Materials and Methods: A prospective clinical study was conducted on 60 patients presenting with extra-thyroidal neck swellings at Uttar Pradesh University of Medical Sciences, Saifai, between February 2018 and August 2019. Patients above 7 years of age with histologically proven non-thyroidal neck swellings were included. Clinical examination, imaging, FNAC, and histopathology were employed for diagnosis.

Results: Of the 60 patients, 36 (60%) were males and 24 (40%) were females. Lymph node swellings constituted the majority (71.66%). Tuberculous lymphadenitis was the most common diagnosis (28.33%), followed by metastatic cervical lymphadenopathy (23.33%). FNAC was diagnostic in most cases. Unknown primary tumors accounted for 35.71% of metastatic neck nodes.

Conclusion: Extra-thyroidal neck swellings are predominantly lymph nodal in origin. Tuberculosis remains a common cause in younger patients, while malignancy must be excluded in older individuals. FNAC is an effective initial diagnostic tool in the evaluation of neck swellings.

Keywords: Extra-thyroidal neck swellings, cervical lymphadenopathy, FNAC, tuberculosis, metastatic neck nodes

Introduction

The neck is a complex anatomical region containing vital structures, including lymph nodes, salivary glands, nerves, vessels, and embryological remnants. Swellings arising in this region pose a diagnostic challenge due to their varied etiology and clinical presentation. Extra-thyroidal neck swellings include all neck masses excluding thyroid gland pathology and encompass congenital, inflammatory, and neoplastic conditions [1,2].

Cervical lymph nodes constitute a significant proportion of neck swellings, as approximately 30% of the body's lymph nodes are located in the neck [11]. These nodes play a crucial role in

immunological defense and often serve as the first site of metastasis in head and neck malignancies [12,13].

Age is an important determinant in the evaluation of neck swellings. In children and young adults, inflammatory and congenital lesions predominate, whereas in patients over 40 years of age, malignancy must be considered until proven otherwise [23]. Tuberculous lymphadenitis continues to be a major cause of cervical lymphadenopathy in developing countries [24,25].

Despite advances in imaging, FNAC remains a simple, minimally invasive, and cost-effective diagnostic tool for the initial evaluation of neck masses [18]. This study aims to analyze the clinical profile, pathological spectrum, and diagnostic accuracy of FNAC in extra-thyroidal neck swellings.

Aims and Objectives

1. To study the epidemiology of extra-thyroidal neck swellings.
2. To analyze the etiological and histopathological spectrum.
3. To evaluate cervical lymph node involvement in malignancy.
4. To assess the incidence of metastatic neck nodes with unknown primary lesion.
5. To determine the diagnostic utility of FNAC.

Materials and Methods

This prospective study was conducted in the Department of Otorhinolaryngology at Uttar Pradesh University of Medical Sciences, Saifai, from February 2018 to August 2019.

Inclusion Criteria

- Patients aged above 7 years.
- Clinically and histologically confirmed extra-thyroidal neck swellings.

Exclusion Criteria

- Thyroid gland swellings
- Purely infective neck swellings

Methodology

All patients underwent detailed clinical history taking and physical examination. Special attention was paid to age, sex, duration, site, size, and consistency of the swelling.

Investigations included:

- Hematological tests (Hb, TLC, DLC, ESR)
- Chest radiograph
- Ultrasonography of neck
- CT scan of neck and thorax where indicated
- FNAC of the swelling
- Excision biopsy in selected cases
- Panendoscopy for suspected malignancy
- Data were recorded using a structured proforma and analyzed descriptively.

Results

Sex Distribution

Out of 60 patients:

- Males: 36 (60%)
- Females: 24 (40%)

Etiological Distribution/ DISTRIBUTION OF EXTRA-THYROIDAL NECK SWELLINGS

Neck swellings	Number	Number of	Total	%
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	of cases Male	cases Female		
Tuberculous Lymphadenitis	10	7	17	28.33%
Secondaries	9	5	14	23.33%
Lymphoma	3	1	4	6.66%
Salivary tumors	3	1	4	6.66%
Reactive hyperplasia	1	2	3	5%
Acute Lymphadenitis	2	1	3	5%
Thyroglossal cyst	2	1	3	5%
Lymph cyst	3	0	3	5%
Dermoid cyst	1	1	2	3.33%
Lipoma	0	1	1	1.67%
Non specific lymphadenitis	0	1	1	1.67%
Sebaceous cyst	0	1	1	1.67%
Paraganglioma	0	1	1	1.67%
AIDS related lymphadenopathy	1	0	1	1.67%
Laryngocele	1	0	1	1.67%
Ossifying fibroma	0	1	1	1.67%
Total	36	24	60	100%

Tuberculous Lymphadenitis

Tuberculosis was the most common cause of neck swelling. Most patients belonged to the 10–30-year age group. FNAC revealed granulomatous lymphadenitis with caseation. Mantoux test was positive in 80% of cases. None of the patients had active pulmonary tuberculosis.

Metastatic Cervical Lymphadenopathy

Fourteen patients (23.33%) had metastatic neck nodes. Most patients were above 40 years of age, with male predominance. Primary sites included oropharynx (28.5%), larynx (14.28%), and hypopharynx. In 35.71% of cases, the primary site could not be identified despite thorough evaluation.

Lymphomas

Four patients were diagnosed with lymphoma. Non-Hodgkin's lymphoma constituted 75% of cases, while Hodgkin's lymphoma accounted for 25%. Diagnosis was confirmed by excision biopsy.

Congenital Lesions

Thyroglossal cysts were midline in location and managed by modified Sistrunk's procedure. Lymph cysts were more common in males and presented as soft, fluctuant swellings.

Discussion

A total of 60 patients of Extra-thyroidal neck swelling are included in this study. The present study demonstrates that lymph node swellings form the majority of extra-thyroidal neck masses around 71.66%, which is consistent with previous studies [12,22]. This finding emphasizes that cervical lymphadenopathy is the most common presentation of neck masses, owing to the abundance of lymph nodes in the cervical region and their role as drainage sites for infections and malignancies. Tuberculous lymphadenitis remains the most common cause of cervical lymphadenopathy in young individuals in developing countries [24].

Lymphomas constituted 6.66% of cases, with Non-Hodgkin's lymphoma being more common than Hodgkin's lymphoma. These patients presented with painless, progressively enlarging lymph nodes.

FNAC was suggestive in some cases; however, excision biopsy was required for definitive diagnosis, underscoring its importance in suspected lymphoproliferative disorders.

The high incidence of metastatic neck nodes in patients over 40 years emphasizes the need for early detection of malignancy. Cervical metastasis often represents advanced disease and significantly affects prognosis [10,13]. The proportion of unknown primary tumors observed in this study is comparable to earlier reports [23].

Among congenital neck swellings, thyroglossal cysts accounted for 5% of cases and were commonly located in the midline. All cases were managed surgically by the modified Sistrunk's procedure, with good outcomes. Lymph cysts constituted another 5%, predominantly occurring in males and presenting as soft, cystic swellings.

FNAC proved to be a valuable diagnostic tool, especially for tuberculous lymphadenitis and metastatic disease. However, excision biopsy remains mandatory for the definitive diagnosis of lymphomas [18].

Congenital neck swellings such as thyroglossal cysts and lymph cysts showed classical presentation and favorable surgical outcomes, as reported in earlier literature [15–17,21].

Overall, the present study highlights that extra-thyroidal neck swellings are predominantly lymph nodal in origin, with tuberculosis and malignancy being the most significant etiologies depending on age group. A systematic clinical approach supported by FNAC and histopathology is essential for accurate diagnosis and timely management.

Conclusion

Extra-thyroidal neck swellings are most commonly of lymph nodal origin. Tuberculosis remains the leading cause in younger patients, while malignancy should be strongly suspected in older individuals. FNAC is a reliable, cost-effective, and minimally invasive diagnostic modality and should be used as a first-line investigation. A systematic clinical approach is essential for accurate diagnosis and appropriate management.

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