Original Research Article

Clinical evaluation of non-thyroidal neck swellings

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Abstract

Introduction: This study was carried out to study the findings of fine needle aspiration cytology in non-thyroidal neck masses, to study histopathological findings and to determine the frequency of cervical node involvement in malignancy.
Materials and methods: This case series was conducted in the Thanjavur Medical College Hospital, Thanjavur on in-patients as well as patients attending the out-patient's department during the period from November 2017 to October 2018. All histology proven benign, malignant, congenital and inflammatory non-thyroidal neck swelling were included in the study. A thorough clinical examination was carried out and physical findings were recorded in details. The FNAC and histological findings were noted. A Performa was prepared to asses no-thyroidal neck swellings.
Results: A total of 100 participants were included in the study Neck swellings especially with tuberculous adenitis and secondaries were more common among the lower socio-economic status. Tuberculous adenitis was the commonest non-thyroidal swellings found in the neck followed by secondary metastatic lymph nodes.
Conclusion: FNAC is a simple non-invasive and easy to perform diagnostic method and biopsy is to be avoided until full investigation of the mass is completed.

Key words

FNAC, Neck swellings, Malignancy, Non-thyroidal.

Introduction

The head and neck is an intricate anatomical region and many of its structures have highly complex and important physiological functions**.** Of the numerous afflictions of the numerous affliction of this area of particular interest to the general surgeon is congenital, development, inflammatory, and neoplastic lesions [1]. In the study, emphasis is placed on regional swellings of the neck, with the exception of swellings of thyroid origin.

Several classifications have been proposed to enable a comprehensive differential diagnosis of neck swellings. The age group of the patient is a crucial factor that should be taken into consideration. Younger patients tend to present with inflammatory or congenital swellings. Swellings present in individuals over the age of forty, on the other hand, should be presumed to be malignant, either a primary of the other head and neck or metastasis from a tumor below the clavicle [2]. Approximately 30% of the body's lymph nodes are located in the cervical region as the lymphatic drainage of this zone is highly predictable [3].

This study was carried out to study the findings of fine needle aspiration cytology in non-thyroidal neck masses, to study histopathological findings and to determine the frequency of cervical node involvement in malignancy.

Materials and methods

This case series was conducted in the Thanjavur Medical College Hospital, Thanjavur on in patients as well as patients as well as patients attending the out patients department during the period from November 2017 to October 2018. All histology proven benign, malignant, congenital and inflammatory non-thyroidal neck swelling were included in the study. A thorough clinical examination was carried out and physical findings were recorded in details. The FNAC and histological findings were noted. A Performa was prepared to asses no-thyroidal neck swellings.

Fine needle aspiration biopsy (FNAB): This is a simple, safe, and cost- effective procedure with minimal risk of complications. It quickly provides information useful to the clinician. Metastatic neck masses can also be accurately diagnosed without neck masses can also be accurately diagnosed without fear of disseminating a malignancy.

Results

The total number of cases in the series of the study 51% was males and 49% were female about 30% participants belonging to 40+years followed by 21% belonging to 21-30 years (**Table - 1**). Most patients hailed from in and around Thanjavur and where of the lower socioeconomic stratum. They were mostly Hindus. All patients had a presenting symptom of swelling in the neck. The commonest neck swelling found was lymph nodal enlargement, mostly of tuberculous origin (27%), with or without associated disease of other Lymphoid tissue. The next most common lymph node swelling was secondary metastatic involvement (26%) produced by primaries in the oral cavity, especially in the buccal mucosa. The other neck swellings found in the study included dermoid cysts, lipomas, lateral aberrant thyroid, papillary carcinoma of thyroid, salivary gland tumors, lymphomas, carotid body tumors, lymphomas, carotid, papillary carcinoma of thyroid, salivary gland tumors, lymphomas, carotid body tumors, and schwannomas (**Table - 2**, **Figure - 1**).

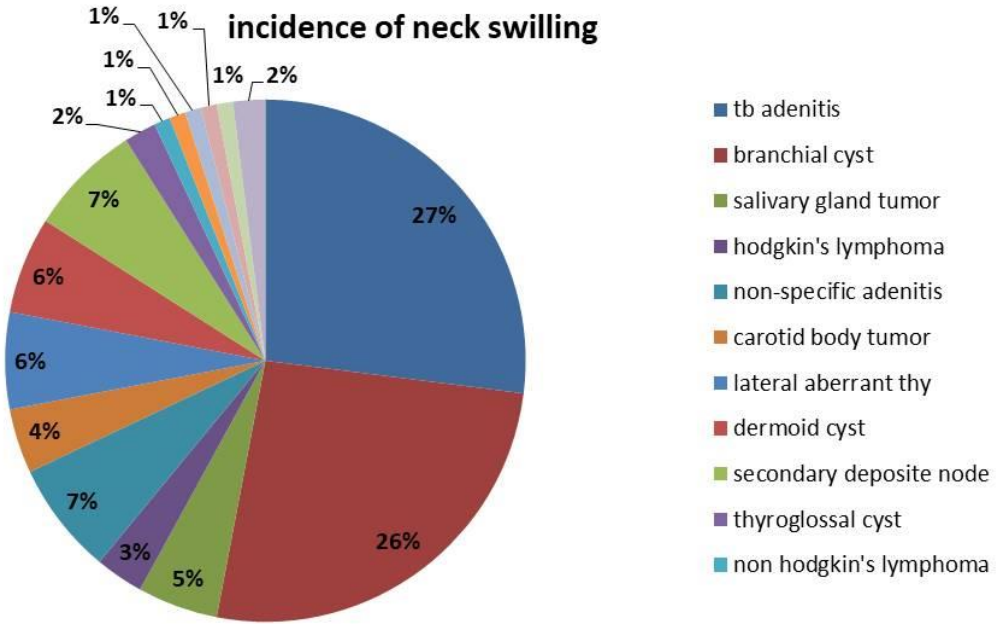
Table - 1: Descriptive analysis of baseline parameters.

Parameter	Frequency	Percentage
Age group (Years)		
0-10	17	17%
11-20	16	16%
21-30	21	21%
31-40	16	16%
40+	30	30%
Gender		
Male	51	51%
Female	49	49%

Table - 2: Age and gender distribution of non-thyroidal neck swellings.

Diagnosis	Gender		Age group (Years)				
	Male	Female	0-10	11-20	21-30	31-40	<40
TB adenitis (N(%))	13 (13%)	14 (14%)	3 (3%)	5 (5%)	11 (11%)	5 (5%)	3 (3%)
Secondary deposit node(N(%))	16 (16%)	10 (10%)	0 (0%)	1 (1%)	3 (3%)	6 (6%)	16 (16%)
Bronchial cyst (N(%))	1 (1%)	4 (4%)	3 (3%)	0 (0%)	2 (2%)	0 (0%)	0 (0%)
Thyroglossal cyst (N(%))	1 (1%)	2 (2%)	0 (0%)	2 (2%)	0 (0%)	1 (1%)	0 (0%)
Salivary gland tumor (N(%))	5 (5%)	2 (2%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	6 (6%)
Non-Hodgkin's lymphoma (N(%))	3 (3%)	1 (1%)	2 (2%)	1 (1%)	0 (0%)	0 (0%)	1 (1%)
Hodgkin's lymphoma (N(%))	4 (4%)	2 (2%)	1 (1%)	1 (1%)	2 (2%)	2 (2%)	0 (0%)
Reactive hyperplasia (N(%))	1 (1%)	5 (5%)	4 (4%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)
Non-specific adenitis (N(%))	2 (2%)	5 (5%)	2 (2%)	2 (2%)	1 (1%)	1 (1%)	1 (1%)
Lipomas (N(%))	1 (1%)	1 (1%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)
Carotid body tumor (N(%))	1 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)
Schwannoma (N(%))	1 (1%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)
Lateral aberrant thyroid (N(%))	0 (0%)	1 (1%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)
Lymph cyst (N(%))	0 (0%)	1 (1%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)
Dermoid cyst (N(%))	1 (1%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Normal (N(%))	1 (1%)	1 (1%)	0 (0%)	1 (1%)	1 (1%)	0 (0%)	0 (0%)

Figure - 1: Incidence of neck swilling.



In secondary neck nodes staging status was N_1 or N_2 and the commonest level of involvement was level I nodes. In most cases, primaries were detected the primary had failed to be detected in only four cases. No statistically significant relationship was found between FNAB results and definitive histopathological diagnosis ($p > 0.05$).

Discussion

FNAB is a reliable, cheap, widely used simple method to evaluate palpable, as well as non-palpable lesions that can be detected radiologically [4]. When supported by clinical and radiological findings; is a method that can prevent unnecessary surgery, and can distinguish

benign and malignant lesions with high accuracy rate [5, 6].

Neoplastic non-thyroid neck mass is a common problem in surgical practice. In the current study, the commonest neck swelling found was lymph nodal enlargement, mostly of tuberculous origin (27%), with or without associated disease of other Lymphoid tissue followed by secondary metastatic involvement (26%) produced by primaries in the oral cavity, especially in the buccal mucosa. This is in stark contrast to the trend seen in western countries, where most of the primaries are of unknown origin, the others being of lung, thyroid, and breast origin [7]. The other neck swellings found in the study include dermoid cysts, lipomas, lateral aberrant thyroid, papillary carcinoma of thyroid, salivary gland tumors, lymphomas, carotid body tumors, lymphomas, carotid, papillary carcinoma of thyroid, salivary gland tumors, lymphomas, carotid body tumors, and schwannomas. Our study findings were similar to the study by Ahmad, T., et al. [8] where tuberculous lymphadenitis was the commonest diagnosis (36%) followed by reactive/non-specific lymphadenitis (18%). Other pathologies were malignant neoplasms (14%), cysts (10%), benign neoplasms (8%) and sialadenitis (6%).

In the study by Alam, K., et al. [9] benign lesions were found to be more common than the malignant variety, the commonest being soft tissue tumors (46.87%). Lymphomas were the commonest tumors (22.6%) in the malignant category.

In secondary neck nodes staging status was N_1 or N_2 (as opposed to N_0 in Western Countries) and the commonest level of involvement was level I nodes. No statistically significant relationship was found between FNAC results and definitive histopathological diagnosis ($p > 0.05$). Our study findings were in accordance to the study by Ozdas, T., et al. [10] where the histopathological examination and FNAC showed similar results. In patients presenting with a neck mass, the diagnosis should be made based on the medical history, physical examination, radiologic imaging and FNAB results, treatment decisions should be based on those findings [10].

Conclusion

Any patients above the age of forty presenting with a swelling in the neck should be thoroughly investigated. Neck swellings especially with tuberculous adenitis and secondaries are more common among the lower socio-economic status. Tuberculous adenitis is the commonest non-thyroidal swellings found in the neck followed by secondary metastatic lymph nodes. Oral cavity cancers are the commonest primary lesions, producing metastatic cervical lymphadenopathy more so with buccal mucosal cancers. FNAC is a simple non-invasive and easy to perform diagnostic method and biopsy is to be avoided until full investigation of the mass is completed.

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