

DIAGNOSTIC ACCURACY OF THE FNAC IN STUDY OF THE LESIONS IN THE ANTERIOR TRIANGLE OF NECK IN CORRELATION WITH HISTOPATHOLOGY.

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Abstract

Method: The study consists of 516 patients with palpable anterior triangle neck masses coming to the Department of Pathology.

Result: Out of total 516 patients, 122 patients of thyroid lesions came for FNAC. Female were more affected than males with male: female ratio of 1:4.9. Most commonly affected age group was 16-30 years of age.

Conclusion: Out of the 516 FNAC, maximum number were from lymph node consisting of 360 cases (69.86%), 122 cases (23.64%) were thyroid lesions, 34 cases (6.50%) were miscellaneous lesions from the submandibular salivary gland, soft tissue and subcutaneous tissue of anterior triangle of neck region.

FNAC is important diagnostic test for differentiating inflammatory from malignant lesions so that unnecessary surgical biopsy can be avoided and helps in proper management of the patients.

Keywords: Diagnostic, FNAC, Lesions, Ant. Triangle & Histopathology.

Introduction

Anterior triangle neck masses are quiet superficial and easily accessible to fine needle aspiration. It serves reliable & accurate diagnosis in most of the cases^[1]. FNAC is useful as routine procedure because it is simple, quick and cost effective method, also unnecessary surgical procedure can be avoided^[2].

The sternocleidomastoid divides the neck into anterior and posterior triangles; the muscle itself is in neither triangle. The submental, submandibular, carotid and muscular triangles divide the anterior triangles^[3].

ANTERIOR TRIANGLE

The boundaries of this triangle are as follows:

- Anterior: midline of the neck
- Posterior: anterior border of Sternocleidomastoid muscle
- Superior: lower border of mandible.
- Roof: skin, superficial fascia, platysma & investing layer of deep fascia.

Contents of anterior triangle

- **Muscles:** Digastric, Stylohyoid and Mylohyoid, Superior belly of Omohyoid, Strap muscles.

- **Vessels:** External carotid artery and branches (except posterior auricular), Internal and Anterior jugular veins and tributaries.

- **Nerves:** Internal and External laryngeal nerves, Nerve to Mylohyoid, Hypoglossal nerve.

- **Viscera:** Thyroid gland and Larynx, Submental and Submandibular glands.

- **Others:** Jugular chain of lymph nodes.

Anterior triangle is further divided into Submental, Submandibular, Carotid and Muscular triangles.

Material & Method

The study consists of 516 patients with palpable anterior triangle neck masses coming to the Department of Pathology at Patliputra Medical College and Hospital, Dhanbad. The period of study was 1.5 years (July 2016 to Dec 2017).

Outdoor as well as indoor patients from Department of Surgery, ENT, Medicine, TB hospital & Cancer Hospital with palpable anterior triangle neck swellings were referred to Department of Pathology for FNAC.

- Study Centre – Department of Pathology in Patliputra Medical College and Hospital, Dhanbad.
- Duration – July 2016 to Dec 2017 (1.5 years).
- Study sample – Patients with anterior triangle neck masses.

Ethical consideration- Prior to the sampling, all the cases were explained about the procedure to be done and a written consent has been taken. Consent of the patients below the age of 16 years was given by their parents.

Inclusion criteria-

- All patients with palpable anterior triangle neck masses of both sexes and all age group.

Exclusion criteria-

- Suspected masses of vascular origin / pulsatile swelling.
- Swelling in other parts of neck.
- Patients with bleeding disorders.

Results

THYROID LESIONS

Table 1: Age wise distribution of thyroid lesions in males and females

Age Group (in yrs)	Male		Female	
	No. of Patients	%	No. of Patients	%
0-15	02	10.0	01	1.0
16-30	04	19.0	43	43.0
31-45	06	32.0	37	35.0
46-60	05	27.0	16	16.0
>60	03	12.0	05	5.0
Total	20	100	102	100

Out of total 516 patients, 122 patients of thyroid lesions came for FNAC. Female were more affected than males with male: female ratio of 1:4.9. Most commonly affected age group was 16-30 years of age.

Table 2: Thyroid Lesions

Thyroid lesions	No. of Cases	%
Colloid Goiter	22	18.0
Benign lesion thyroid	44	36.0
Benign cystic lesion thyroid	29	23.7
Thyroiditis	03	2.0
Granulomatous thyroiditis	05	4.1
Hashimoto thyroiditis	01	0.4
Follicular neoplasm	14	13.5
Papillary carcinoma thyroid	01	0.8
Anaplastic carcinoma thyroid	01	0.4
Medullary carcinoma thyroid	01	0.4
Poorly differentiated carcinoma	01	0.4
Total	122	100

Table 3: Comparison of organ wise distribution of lesions of present studies with other studies

Author	Lymph node	Thyroid	Other
Savitri Chauhan et al (2012) ^[4]	200	70	26
Md Atiqur Rehman et al ^[5] (2012)	170	63	29
Adhikari RC ^[6] (2013)	33	18	08
Present study	403	151	63

Thus finding of present study correlate well with other studies.

Discussion

In our study histopathological correlation could be done in 50 cases of lymph node lesions, out of which 45 found to be correctly diagnosed on cytology. Sensitivity for diagnosis of tuberculous lesions was found to be 84.0% and specificity was found to be 80.0%^[7].

Statistical method (Mann-Whitney Test): For lymph lode lesions P value <.001, showed that there is a significant difference between the mean rank of age group and type of tumour. Malignancy is more common in higher age group.

Amongst these 122 cases of thyroid, histopathological correlation could be obtained in 10 patients. Of these 17 cases came out to be correctly diagnosed when the diagnosis was compared with histopathology. The sensitivity came out to be 66.6%, and the specificity came to be 80%^[8].

Statistical method (Kruskal-Wallis Test): P value = 0.037, showed that there is a significant difference between the mean ranks of age group and type of tumour.

Malignancy is more common in higher age group; inflammatory and benign lesions are common in lower age group.

Conclusion

Out of the 516 FNAC, maximum number were from lymph node consisting of 360 cases (69.86%), 122 cases (23.64%) were thyroid lesions, 34 cases (6.50%) were miscellaneous lesions from the submandibular salivary gland, soft tissue and subcutaneous tissue of anterior triangle of neck region.

FNAC is important diagnostic test for differentiating inflammatory from malignant lesions so that unnecessary surgical biopsy can be avoided and helps in proper management of the patients.

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