

Original Research Article

Fine Needle Aspiration Cytology of Head and Neck MassesNalini Nallagutta¹, Dr. Sridhar Reddy Erugula¹, Shreya Gour¹, Ayesha Sameera², Dr. Jesudass Govada³, Rosaiah Kotikalapudi⁴¹Dept. of oral. Pathology, MNR dental college and hospital, Sangareddy, Telangana-502294²Consultant oral pathologist. Hyderabad.³Associate professor, dept of paedodontics with preventive dentistry, Govt dental college and hospital, RIMS, Kadapa-516002⁴Sandor Lifesciences Pvt. Ltd., 8-2-326/5/3F, Plot No. 1, Road No. 3, Banjara Hills, Hyderabad -500034, India.***Corresponding author**

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Abstract: The aim of current study is to make clinico-pathological correlation of head and neck lesions and to assess the frequency of incidence at different sites among them. A retrospective study was conducted for a period of 6 months. Fine-needle aspiration diagnosis was correlated with details of relevant clinical findings and investigations. A total of 40 patients with the swellings of head and neck underwent fine-needle aspiration cytology (FNAC). The aspirated tissue was smeared and stained with H & E. Out of 40 fine-needle aspiration procedures, 84.2% (Female), 15.7% (Male) were of thyroid, 71.4% (Male), 28.5% (female) were of lymph node, 50% from salivary gland, 57.1% (Male), 42.8% (Female) from oral cavity, 60% (Male), 40% (Female) from miscellaneous swellings. Fine needle aspiration cytology could differentiate the infective process from neoplastic lesions and avoids unnecessary surgeries. Thus FNAC can be recommended as first line of investigation in diagnosis of head and neck lesions.

Keywords: FNAC, thyroid lesions, colloid goitre, aspirated material, lymph node, neoplastic lesions

INTRODUCTION

Fine Needle Aspiration Cytology (FNAC) is a simple and a rapid diagnostic technique. It is now being considered as a valuable diagnostic aid because of the early availability of results, its simplicity, minimal trauma and the absence of complications. FNAC is also widely used in the head and neck regions, such as in the thyroid, lymph nodes, major salivary glands, and other neoplasia. In the head and neck regions, FNAC is of great value because of the multiplicity of accessible organs and heterogeneous pathologies encountered [1, 2]. An early differentiation of benign from malignant pathology greatly influences the planned treatment.

Ultrasound examination of thyroid gland and the neck region is a basic diagnostic imaging method providing information on structure of parenchyma of thyroid gland, on its relationship to its surroundings and on regional lymph nodes, it is not reliable enough for the diagnostics of malignant focal lesions. On that account FNAC method is often accompanied by cytological examination of found lesions. Material is obtained by fine needle aspiration biopsy under

ultrasound guidance (FNAC) [3]. FNAC of the head and neck region is a generally well-accepted technique that has high specificity [4]. The aim of current study is to make clinic pathological correlation of head and neck lesions and to assess the frequency of incidence of different sites among head and neck lesions.

MATERIALS AND METHODS

In this study, FNAC was performed in 40 patients presented with lesions in the head and neck regions. All patients were asked about history related to neck swelling and relevant questions to the etiological cause along with present, past, and family history of tuberculosis and history of sexual exposure for syphilis and AIDS. Patients were explained about the procedure and its advantages and their oral consent was taken and with ethical committee permission [1, 5]. The area to be aspirated was cleaned with spirit and a 23-gauge needle with syringe was inserted at convenient angles to the lesions and multiple hits were made within the lesion, with sufficient negative pressure; the needle was removed and the pressure was applied to the area of aspiration to avoid bleeding or hematoma formation.

The technique was performed in the outpatient department with minimal trauma to the patient without any risk of complication. The aspirated material was smeared on minimum two clean glass slides and later, they were either wet-dried or air-dried as per the staining procedure adopted. Smears were stained by Haematoxylin and eosin stain and special stains were carried out as and when required.

RESULTS

Table-1: Relation between involvement of organ and sex incidence

ORGAN INVOLVED	NO. CASES	MALE		FEMALE	
		NO	%	NO	%
Thyroid	19	3	15.7	16	84.2
Lymph Node	7	5	71.4	2	28.5
Salivary Glands	2	1	50	1	50
Oral Cavity	7	4	57.1	3	42.8
Miscellaneous	5	3	60	2	40

Table-2: Distribution of inflammatory and neoplastic lesions

ORGAN INVOLVED	INFLAMMATORY	CYSTS	NEOPLASTIC	
			Benign	Malignant
Thyroid	3		15	1
Lymph Node	6	-	-	1
Salivary Glands	-	-	1	1
Oral Cavity	-	5	2	-
Miscellaneous	5	-	-	-

Out of 40 cases of thyroid lesions, 15 cases (37.5%) were having benign neoplastic lesions.

Totally, 19 cases (15.7%) were having inflammatory lesions, which include Hashimoto's thyroiditis, one case of anaplastic carcinoma and this study includes one case of malignant thyroid lesion.

DISCUSSION

In this study, FNAC was performed in head and neck lesions of 40 patients. It was observed that the incidence of thyroid lesions was the highest in 19 cases than other lesions in head and neck regions, colloid goitre being the most common lesion [6-8].

Out of two salivary gland lesions, a case of Bilateral Warthin's tumor in HIV patient and Adenoid Cystic Carcinoma were found. In oral cavity, we were not able to arrive at confirmatory diagnosis [9]. However, keratinised squamous suggested KCOT and giant cells suggested giant cell lesion.

Out of 7 cases lymph node lesions, single case of tuberculosis and metastatic squamous cell carcinoma were found [10]. Out of 40 FNAC procedures, 19 cases are of thyroid lesion with female preponderance (84.2%). Highest incidence of benign thyroid lesions

This study was performed on 40 cases, and it was found to be the thyroid lesions were highest in 19 cases comparatively with other lesions in head and neck regions. Among all lesions, the colloid goitre was appeared to be the common lesion. Out of 40 fine-needle aspiration procedures, 84.2% (Female), 15.7% (Male) were of thyroid, 71.4% (Male), 28.5% (female) were of lymph node, 50% from salivary gland, 57.1% (Male), 42.8% (Female) from oral cavity, 60% (Male), 40% (Female) from miscellaneous lesions.

diagnosed in our study was colloid goitre (78.9%) and malignant lesions were anaplastic carcinoma.

In cases like old age people with regional lymphadenopathy, the needle aspiration biopsy reveals characteristic vesicular appearance of the nuclei. It would also be supportive diagnosis of anaplastic carcinoma and some studies were mentioned that the presence of anaplastic carcinoma would indicate the case as stage IV [11].

CONCLUSION

Fine needle aspiration cytology could differentiate the infective process from neoplastic tumors and it could avoid unnecessary surgeries as well. Thus FNAC can be recommended as preliminary line of investigation process in diagnosis of head and neck lesions.

Conflicts of interest

There are no conflicts of interest.

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