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**Dr. Damodaran AM**  
Associate Professor,  
Department of pathology,  
Kanachur Institute of Medical  
Sciences, Mangalore,  
Karnataka, India

**Dr. Shreesha Khandige**  
Professor and Head,  
Department of pathology,  
Kanachur Institute of Medical  
Sciences, Mangalore,  
Karnataka, India

**Corresponding Author:**  
**Dr. Shreesha Khandige**  
Professor and Head,  
Department of pathology,  
Kanachur Institute of Medical  
Sciences, Mangalore,  
Karnataka, India

## **FNAC Spectrum of head and neck tumors**

**Dr. Damodaran AM and Dr. Shreesha Khandige**

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### **Abstract**

Fine needle aspiration cytology is a relatively painless procedure, speedy and less costly with low risk of complications. FNAC was first used as diagnostic tool in 1904 by Greig and Gray and by Martin and Ellis, who developed its use in the diagnosis of malignancy. Fine needle aspiration cytology (FNAC) is a valuable technique in investigation of nodules and masses arising within the head and neck. The diagnosis of head and neck swelling is a common clinical dilemma. Head and neck lesions are very commonly encountered superficial lump in cytopathology department and swellings in this region rarely go unnoticed. FNAC (fine needle aspiration cytology) is of great value in early diagnosis and differentiation of large number of infective, benign and malignant lesions in head and neck region.

**Keywords:** FNAC, Role of FNAC, Head and neck

### **Introduction**

Fine needle aspiration cytology is a relatively painless procedure, speedy and less costly with low risk of complications. FNAC was first used as diagnostic tool in 1904 by Greig and Gray and by Martin and Ellis, who developed its use in the diagnosis of malignancy [1]. FNAC is particularly helpful because biopsy of this area can be avoided unless all other diagnostic modalities have failed to establish a diagnosis. As such FNAC represent an accurate, inexpensive and rapid investigative technique of head and neck masses [2]. FNAC is now a prerequisite for various neck swellings as the procedure is non-traumatic, easily accessible, inexpensive, excellent compliance and avoids the anaesthetic complications and requirement of open surgical biopsy [3, 4]. There is no evidence that the tumour spreads through the skin track created by the fine hypodermic needle used in this technique [5]. FNAC can be both diagnostic and therapeutic in cystic swellings [6]. Fine needle aspiration cytology is helpful for the diagnosis of salivary gland tumours where it can differentiate between a malignant and a benign tumour with over 90% accuracy [7]. FNAC is particularly helpful in the work-up of cervical masses and nodules because biopsy of cervical adenopathy should be avoided unless all other diagnostic modalities have failed to establish a diagnosis [8]. Fine needle aspiration cytology does not give the same architectural detail as histology but it can provide cells from the entire lesion as many passes through the lesion can be made while aspirating [9]. All neck masses should undergo FNAC and culture if necessary [10]. An early differentiation of benign from malignant pathology greatly influences the planned treatment [11]. This study is intended to study the head neck lesions using the FNAC procedure.

### **Aims and Objectives**

To study the head neck lesions using the FNAC.

### **Materials and Methods**

Thirty cases were studied in the Department of Pathology, Kanachur Institute of Medical Sciences, FNAC was done for the diagnosis of soft tissue tumors and reported.

### **Inclusion criteria**

Only soft tissue tumors

Exclusion Criteria

Patients on chemo or radio therapy.

Inflammatory diseases were not included.

Infections were not included

## Results

**Table 1:** Sex Distribution

Male	19
Female	11

**Table 2:** Age distribution

Mean age	Std deviation
64.17 years	08.28 years

**Table 3:** Site

Lymph node	3
Thyroid	2
Soft tissue	41
Salivary gland	07

**Table 4:** Cytological diagnosis

Metastatic lymph node	16
Lymphoma(malignancy)	2
Thyroid Follicular neoplasm	4
Thyroid Papillary carcinoma	1
Thyroid Anaplastic carcinoma	1
Adenocarcinoma(NOS) of salivary gland	2
Pleomorphic adenoma of salivary gland	1
Schwannoma	1
Basal cell carcinoma	1
Benign adnexal tumour	1

## Discussion

With the increasing costs of medical facilities, any technique which speeds up the process of the diagnosis and limits the physical/psychological trauma to the patients, will be of tremendous value. FNAC helps the surgeons in selecting, guiding and modifying the surgical planning in patients who require surgeries or a general clinical management such as the need of an antibiotic treatment and or a neoadjuvant chemotherapy. The present study was designed to study the role of fine needle aspiration cytology and its utility in paediatric head and neck lesions. It also specifies the spectra of the head and neck lesions in the paediatric age group and correlates the Cytomorphological features with the histomorphological findings, whenever they are available.

The head and neck lesions in children are mostly benign in nature, with a small percentage of malignant lesions which usually present as head and neck masses. A majority of the head and neck masses in children are inflammatory in nature, but other aetiologies include congenital, inflammatory, and euplastic lesions. A persistent adenopathy raises more concerns, especially the enlarged lymph nodes within the posterior triangle or the supraclavicular space, nodes that are painless, firm, and not mobile, or a single dominant node that persists for more than 6 weeks, should all heighten a concern for malignancy. Neoplasms of the head and neck region account for approximately 5% of all the childhood neoplasms of the head and neck. The global literature delineates the common paediatric head and neck tumours as lymphomas (59%), Rhabdomyosarcoma (13%), thyroid tumours (10%), nasopharyngeal carcinomas (5%), neuroblastomas (5%), non-Rhabdomyosarcoma soft-tissue sarcomas (4.5%), salivary gland malignancies (2.5%), and malignant Teratoma (1%).

The most common sites for the occurrence of head and neck masses in the paediatric age group in our study were the lymph nodes, which were mostly inflammatory in nature [reactive hyperplasia and tubercular lymphadenitis]. The other sites of the lesions were the thyroid, the soft tissues and subcutaneous tissues, the eyelids and the orbits and the salivary gland.

## Conclusion

The Head and neck lesions have been successfully studied by FNAC. This study is intended to be useful to the budding pathologists. Prompt diagnosis and timely treatment is the key to succeed in these cases.

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