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Original Research Paper

Pathology

STUDY OF FINE NEEDLE ASPIRATION CYTOLOGY AS A DIAGNOSTIC TOOL IN HEAD AND NECK LESIONS – OUR EXPERIENCE IN TERTIARY CARE CENTRE, SURYAPET, TELANGANA.

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ABSTRACT

INTRODUCTION: Head and neck region is an anatomic site rich in diverse structures ranging from lymphnodes, salivary glands, thyroid and a host of developmental tissues. These lesions range from infections to malignancies and are seen in all age groups. FNAC is inexpensive, safe, outdoor procedure, with rapid reporting. The present study is aimed to evaluate the diagnostic value of fine needle aspiration cytology in head and neck lesions and to evaluate the pattern of disease in Suryapet, Telangana.

MATERIALS & METHODS: This is retrospective observational study conducted in Department of Pathology, Government Medical College/ Government General Hospital, Suryapet, Telangana from August 2019 to January 2022 (2years 6months). Detailed clinical history was taken and FNAC was performed.

RESULTS: Out of 211 cases, Majority of FNACs done in head and neck region was from lymph nodes 77 cases (36.4%) followed by thyroid 54cases (25.5%), skin and soft tissue 41 cases (19.4%) and least cases from salivary glands 32 cases (15.1%). FNAC was inconclusive in 7 (3.3%) cases with small lesions and inadequate material. Reactive lymphadenitis being the most common lesion in Lymphnodes. Most common lesion in thyroid gland was colloid goitre and pleomorphic adenoma in salivary glands

CONCLUSION: FNAC is simple, ra:pid, cheap outpatient procedure. It should be used as the first line investigation in the diagnosis of head and neck lesions wherever feasible

KEYWORDS : FNAC, Head and neck, Lymph node,

INTRODUCTION

Palpable head and neck lesions are common clinical findings which are routinely encountered by clinicians. Head and neck region is an anatomic site rich in diverse structures ranging from lymphnodes, salivary glands, thyroid and a host of developmental tissues. These lesions range from infections to malignancies and are seen in all age groups. Cancer is among the ten leading causes of death in India, and head and neck neoplasia in India accounts for 23% of all cancers in males and 6% of all cancers in females[1].

FNAC as a diagnostic technique to evaluate head and neck lesions was first introduced by Martin in 1930, a procedure which has since rapidly gained acceptance due to the easy accessibility of target sites and the minimally invasive nature of this method[2]. It is an inexpensive, safe, outdoor procedure, with rapid reporting and requires minimal equipment[3,4]. A timely FNAC plays an important role in early diagnosis[5,6]. FNAC differentiates non neoplastic lesions from neoplastic lesions thus eliminating need of surgical intervention in these lesions which can be treated conservatively[7]. Palpable lesions of head and neck region exclude oropharyngeal, nasal, ocular mucosal lesions and space occupying intracranial lesions[8].

AIMS & OBJECTIVES

The present study is aimed to evaluate the diagnostic value of fine needle aspiration cytology in head and neck lesions and to evaluate the pattern of disease in Suryapet, Telangana.

MATERIALS & METHODS

This is retrospective observational study conducted in Department of Pathology, Government Medical College/ Government General Hospital, Suryapet, Telangana from August 2019 to January 2022 (2years 6months). Patients who presented to various clinical OPD's for palpable head and neck lesions were referred to Cytology department. Detailed clinical history of the patient was taken, physical examination of the swelling was done. Details of any investigations like USG, haematological, serological if done were noted. FNAC procedure was explained and consent taken. Swelling was fixed with one hand, with all aseptic precautions 22-23G needle, 10ml syringe was inserted into the swelling and negative pressure applied. Aspirated material was smeared on the glass slides and fixed in 95% Isopropyl alcohol.. Smears were then stained with Hematoxylin & Eosin stains and assessed by cytopathologist.

RESULTS

Our Study included 211patients with palpable head and neck swellings from various clinical departments underwent FNAC procedure during the study period. Age group of patients ranged from 1month to 79years. Age wise distribution of 211 patients included in this study is shown in table 1. Peak incidence of cases 54 (25%) was noted in 21-30years age group followed by 31-40years (44cases, 21%). Out of 211 patients, 85 (40%) were males and 126 (60%) were females with M:F ratio as 0.6:1

Table1 - Age wise distribution of patients with head and neck lesions

AGE(IN YEARS)	PATIENTS(PERCENTAGE)
<1Yr	2 (1%)
1-10	8 (3%)
11-20	21 (10%)
21-30	54 (25%)
31-40	44 (21%)
41-50	37 (17%)
51-60	24 (11%)
61-70	18 (8%)
71-80	3 (1%)

Site wise distribution of head and neck lesions is shown in table 2. Majority of FNACs done in head and neck region was from lymph nodes 77 cases (36.4%) followed by thyroid 54cases (25.5%), skin and soft tissue 41 cases (19.4%) and least cases from salivary glands 32 cases (15.1%). FNAC was inconclusive in 7 (3.3%) cases with small lesions and inadequate material.

Table 2 – Site wise distribution of Head and neck lesions

SITE	NO OF CASES(PERCENTAGE)
LYMPH NODE	77 (36.4%)
THYROID	54 (25.5%)
SKIN & SOFT TISSUE	41 (19.4%)
SALIVARY GLAND	32 (15.1%)

Among lymph node lesions, reactive lymphadenitis was the commonest accounting for 30 (39%)cases, followed by chronic granulomatous lymphadenitis 22cases(28%), chronic non specific lymphadenitis 18cases (23%), metastastic deposits in lymphnodes 6cases(8%) and 1case (1%) of lympho prolife rative disorder

Table 3- distribution of lymphnode lesions (77cases)

LESIONS	NO OF CASES(PERCENTAGE)
Reactive lymphadenitis	30 (39%)
Chronic non specific	18 (23%)
Chronic Granulomatous	22 (28%)
Lymphoma	1 (1%)
Metastasis	6 (8%)

Thyroid was second most common site in head and neck regionaccounting for 54 (25.5%) cases. Colloid Goitre was the commonest thyroid lesion accounting for 34 cases (63%) , followed by 12(22%) cases of thyroiditis, 5(9%) cases of follicular neoplasm, 2cases(4%) of thyroglossal cyst and 1case(2%) of papillary carcinoma thyroid.

Table 4- distribution of Thyroid lesions (54 cases)

LESIONS	NO OF CASES(PERCENTAGE)
Thyroiditis	12 (22%)
Colloid goitre	34 (63%)
Thyroglossal cyst	2 (4%)
Follicular neoplasm	5 (9%)
Papillary carcinoma of thyroid	1 (2%)

There were 41cases of skin & soft tissues, out of which 24 cases(59%) were lipoma, 16cases(39%) of epidermal cyst and 1 case of benign adnexal tumour.

Table 5- distribution of Skin and soft tissue lesions (41 cases)

LESIONS	NO OF CASES(PERCENTAGE)
Lipoma	24(59%)
Epidermal cyst	16(39%)
Benign adnexal tumour	1(2%)
Malignant	Nil

Among salivary gland lesions, pleomorphic adenoma was the commonest accounting for 19cases(59%), followed by 10 cases(31%) of sialdenitis, 3 cases(10%) of cystic lesion.

Table 6- distribution of Salivary gland lesions (32 cases)

LESIONS	NO OF CASES(PERCENTAGE)
Pleomorphic Adenoma	19(59%)
Sialadenitis	10(31%)
Cystic lesion	3(10%)
Malignancy	Nil

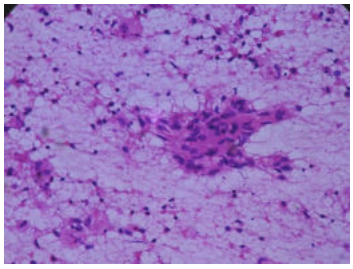

Figure 1 – FNAC of lymphnode showing epithelioid granuloma (H & E, 40X)

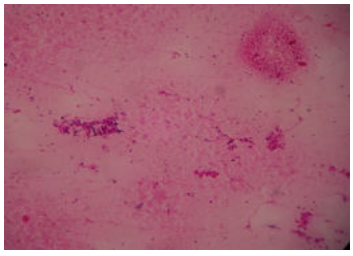

Figure 2- FNAC of throid showing lymphocytic thyroiditis(H & E, 4X)

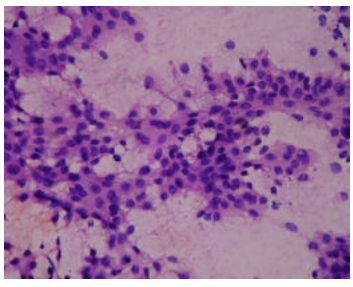

Figure 3- FNAC of thyroid showing intranuclear inclusions, papillary carcinoma of thyroid(H & E, 40X)

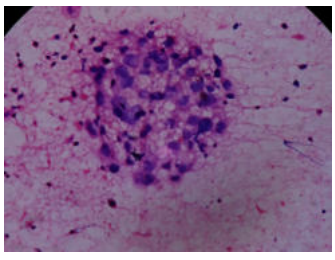

Figure 4- FNAC of lymphnode showing metastatic deposits of epithelial cells against necrotic background.

DISCUSSION

Our present study was carried out over a period of 2.5years accounting for about 211cases in head and neck region. We compared our study with various national and international journals published in the literature . The study included patients from all age groups. Majority of patients were females with male to female ratio of 0.6:1 in comparison with Muddegowda et al [9], SangaviAKB et al[10] and Kapoor S et al[11].

Out of 211 cases, Lymph node was the commonest site(77cases) involved. Reactive lymphadenitis is the commonest in lymphnodes followed by chronic granulo matous lymphadenitis which is in comparison with El Hag et al [10] study in Saudi Arabia, 70% of lesions were in the lymph nodes showing reactive lymphadenitis as the commonest cause constituting 33% cases followed by chronic granulomatous lesion accounting for 21% cases. In contrast to our study, tubercular lymphadenitis was the most common pathological findings followed by reactive lymphadenitis in Bhagat et al[12] and El Haq et al [13]. In malignant neoplasms, metastatic deposits were found in 6cases and 1case of lymphoma.

Thyroid lesions was the next common site of FNAC in head and neck region. Colloid Goitre was the commonest thyroid lesion accounting for 34(63%) cases, followed by 12 (22%) cases of inflammatory lesions like hashimotos thyroiditis, chronic lymphocytic thyroiditis. One case of papillary carcinoma thyroid was detected. In comparison with our study, Muddegowda et al [9] also found colloid Goitre as the predominant finding in thyroid lesions.

In skin and soft tissue lesions, benign lesions were the commonest findings accounting for 24(59%) cases of lipoma, 16 cases(39%) of epidermal cyst and 1 case(2%) of benign adnexal tumour in comparison with Bhagat et al[12] reported neoplastic lesions in 63% cases with lipoma as the predominant benign tumor.

In Salivary gland lesions, pleomorphic adenoma was the commonest accounting for 19cases, followed by 10 cases of sialdenitis in comparison with Bhagat et al[12] found benign pleomorphic adenoma as the predominant salivary gland lesion in his study.

A study done by Shreedevi et al [14] at Andhra Pradesh in 2016 is also similar to our study where predominant cases were lesions from the lymph nodes followed by lesions in the Thyroid gland. In 3.3 % of cases cytology was inconclusive. The causes of unsatisfactory aspirates were smaller lesions, poor handling of material, inadequate aspirate.

CONCLUSION

In our study, Lymph nodes were the commonest site involved in Head &neck region and reactive lymphadenitis being the most common lesion. Metastatic deposits in lymph nodes are the commonest malignant lesion in lymph nodes. Most common lesion in thyroid gland was colloid goitre and pleomorphic adenoma in salivary glands. Majority of lesions were inflammatory with female preponderance. FNAC is simple, rapid, cheap outpatient procedure. It should be used as the first line investigation in the diagnosis of head and neck lesions wherever feasible.

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