

Preliminary diagnosis of head and neck lesions – A Boon

Prasanthi Cherukuri¹, Vasundara G²

ABSTRACT

Introduction: Fine needle aspiration cytology is an outpatient procedure done for all superficial swellings seen. The first and foremost investigation which comes to the clinician's choice in the evaluation of palpable head and neck lesions is FNAC. The most commonly encountered head and neck lesions are from thyroid, superficial lymph nodes, salivary glands and superficial growth of skin and soft tissue.

Aim: Role of FNAC and its utility in the preliminary diagnosis of palpable head and neck lesions.

Material and methods: The present study is a retrospective study conducted in the Department of Pathology, Gitam Institute of Medical Sciences and Research. 252 outdoor as well as indoor patients with palpable head and neck lesions were referred to the cytology department for FNAC as a preliminary diagnostic procedure. Diagnosis was made based on the cytomorphology of the smears.

Results: Outdoor as well as indoor patients who attended the cytology department with palpable head and neck lesions were tested. The age group of the patients ranged from 5 months to 80 years, the male to female ratio was 1:3.3. Out of the 252 cases, thyroid was the most predominant site and constituted 127 cases (50.3%). Next most common site was lymph nodes which constituted 63 cases (25%). Aspirations from salivary glands constituted 22 cases (8.7%). The balance 40 cases (15.8%) were from soft tissues and miscellaneous swellings.

Conclusion: Head and neck lesions being the most common superficial swellings, can always be evaluated preliminarily by fine needle aspiration technique.

Keywords: FNAC, aspiration, head and neck lesions

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INTRODUCTION

Fine needle aspiration cytology (FNAC) is an outpatient procedure done for all superficial swellings. It is the first investigation choice in the evaluation of palpable head and neck lesions. Martin introduced this technique in 1930 and the procedure which is inexpensive, is being frequently used in the evaluation of swellings of this region.^(1,2) It also helps to evaluate inflammatory, benign and malignant lesions.

The most commonly encountered head and neck lesions are from thyroid, superficial lymph nodes, salivary glands and superficial growths of skin and soft tissue. FNAC is a painless, non traumatic, easily performable procedure which gives an immediate diagnosis in the outpatient clinic itself. It eliminates the need for surgical intervention in lesions which can be treated conservatively. It helps in early diagnosis and guides the clinician in treatment of such lesions. The sensitivity and specificity of the procedure has improved with the help of radiological guidance for deep seated lesions. FNAC can be done for all ages as well as for the sick and debilitated patients. FNAC today is one of the most important diagnostic modalities used universally in the initial assessment of patients presenting with palpable head and neck region masses.⁽³⁾ An early differentiation of benign from malignant pathology is beneficial as it greatly influences the planned treatment⁽⁴⁾

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AIM

Preliminary diagnosis of palpable head and neck lesions.

MATERIAL AND METHODS:

This was a retrospective study conducted in the department of Pathology, Gitam Institute of Medical Sciences and Research. 252 outdoor as well as indoor patients with palpable head and neck lesions were referred to the cytology department for FNAC as a preliminary diagnostic procedure. FNAC was done after ex-

plaining the procedure and taking an informed consent of the patient using both aspiration and non-aspiration techniques as and when required. Smears were prepared, stained using haematoxylin and eosin or PAP stains. Scanty cellular smears were evaluated by repeated aspirations. Diagnosis was made based on the cytomorphology of the smears.

RESULTS:

The age group of the patients ranged from 5 months to 80 years, the male to female ratio is 1:3.3. (Table -1)

Out of the 252 cases thyroid was the most predominant site and constituted 127 cases (50.3%), next most common site was lymphadenopathy which constituted 63 cases (25%), aspirations from salivary gland constituted 22 cases (8.7%), the rest 40 cases (15.8%) were from soft tissue and miscellaneous swellings (Table-2). Thyroid being the most predominant lesion constituting 127 cases (50.3%) with age range from 10yrs to 80yrs, 17 cases (13.3%) were inflammatory, 102 cases (80.35%) were benign, two cases were malignant

Table 1: Distribution in relation to age and sex

Age	Male	Female	Total	%
<1 to 10yr	7	12	19	7.5
11 - 20yrs	10	14	24	9.5
21 -30 yrs	7	54	61	24.2
31 – 40 yrs	6	52	58	23
41 – 50 yrs	9	34	43	17
51 - 60 yrs	14	17	31	12
61 – 70 yrs	4	7	11	4.3
71 – 80 yrs	2	3	5	1.9

Table 2: Distribution of lesions in relation to site

Site	No of cases	%
Lymph node	63	25
Thyroid	127	50.3
Salivary gland	22	8.7
Soft tissue and miscellaneous	40	15.8

Table 3: Distribution of various thyroid lesions (n= 127)

Thyroid lesions	No. of cases	%
Inflammatory	17	13.3
Benign		
1. Colloid goitre	16	12.5
2. Nodular goitre	70	55.1
3. Cystic lesions	5	3.9
4. Follicular neoplasm	11	8.6
Malignant		
1. Papillary carcinoma	2	1.5
Inconclusive	6	4.7
Total	127	

and six cases inconclusive. Out of 102 cases (80.35%) of benign thyromegaly 16 cases (12.5%) were of colloid goitre, 70 cases (55.1%) nodular goitre, cystic lesions were 5 (3.9%) and follicular neoplasm constituted 11 cases (8.6%). The two malignant cases were of papillary carcinoma thyroid (Table-3).

Out of 63 cases of lymphadenopathy, 29 cases (46%) were of reactive lymphadenitis, 23 cases (36.5%) inflammatory, 5 cases (7.9%) were malignant and six (9.5%) were inconclusive. Out of 23 cases (36.5%) of inflammatory etiology, 12 cases (19.4%) were of tuberculosis and out of five cases (7.9%) of malignant lymphadenopathy four cases (6.3%) were metastatic deposits and one was a lymphoproliferative disorder (Table-4).

Out of 22 cases of salivary gland 7 cases were of inflammatory etiology, one (4.5%) was a cystic lesion, 11 cases (50%) were benign, Pleomorphic adenoma (Image-1) being the most predominant lesion, one (4.5%) was malignant lesion(Image -2) and 2 cases (9%) were inconclusive (Table-5).

Soft tissue and miscellaneous swellings constituted 40 cases, out of which 3 cases(7.5%) were inflammatory, 17 cases (42.5%) were benign and 15 cases(37.5%) were cystic lesions, one (2.5%) was squamous cell carcinoma and four cases(10%) were inconclusive (Table-6).

Table 4: Distribution of various lymph node lesions(n=63)

Lesions	No of cases	%
Reactive lymphadenitis	29	46
Inflammatory		
1. Non specific	11	17.5
2. Tuberculosis	12	19
Malignant		
1. Metastasis	4	6.3
2. Lymphoma	1	1.5
Inconclusive	6	9.5
Total	63	

Table 5: Distribution of salivary gland lesions (n=22)

Lesions	No of cases	%
Inflammatory		
1. Abscess	3	13.6
2. Sialadenitis	4	18.1
Cystic lesion	1	4.5
Benign		
1. Sialadenosis	2	9
2. Pleomorphic adenoma	7	31.8
3. Warthins tumour	1	4.5
4. Basal cell adenoma	1	4.5
Malignant	1	4.5
Inconclusive	2	9
Total	22	

DISCUSSION:

FNAC is regarded as a minimally invasive, cost effective technique with diagnostic accuracy in the range of 90-99%.⁽⁸⁾ The ad-

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vantages of FNAC are that it is safe, gives a rapid report, is sensitive and specific for the diagnosis of malignancy requires little equipment, causes minimal discomfort to the patient, is an outpatient procedure, reduces the incidence of exploratory procedures, allows a definitive diagnosis on inoperable patients, does not result in fibrosis, does not require wound healing and is readily repeatable and cost effective.⁽⁹⁾

The present study included 252 patients with a male to female ratio of 1:3.3 which correlated with Vedashree et al⁽⁷⁾ where the male to female ratio was 1:1.3.

Thyroid being the most predominant lesion in our study constituted 127 cases (50.3%) and this correlated with a study done by Veda Shree et al⁽⁷⁾ but this was in contrast to a study done by Kishor H et al⁽⁵⁾ where the most common lesion in their study was lymph node (39.58%) followed by thyroid (31.25%)(Table-7).

Of the 127 cases (50.3%), 17 cases (13.3%) were inflammatory, 102 cases (80.35%) were benign and 2 cases(1.5%) were malignant which correlated with Kishor et al⁽⁵⁾ where inflammatory cases were 28.8%, benign cases were 69.97% and malignant cases were 1.1%.

Out of the 127 thyroid cases, colloid goitre along with nodular goitre constituted the predominant lesion amounting to 86 cases

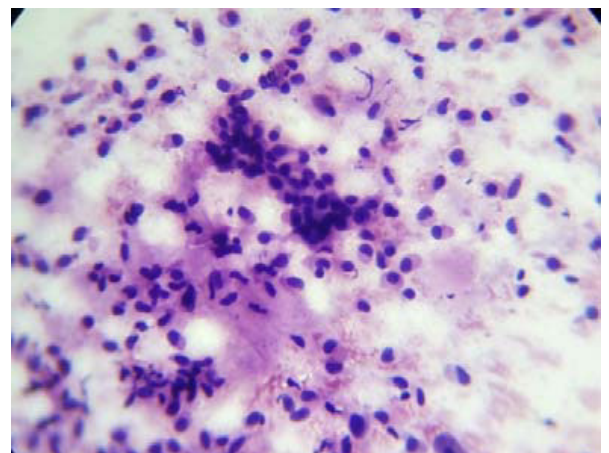
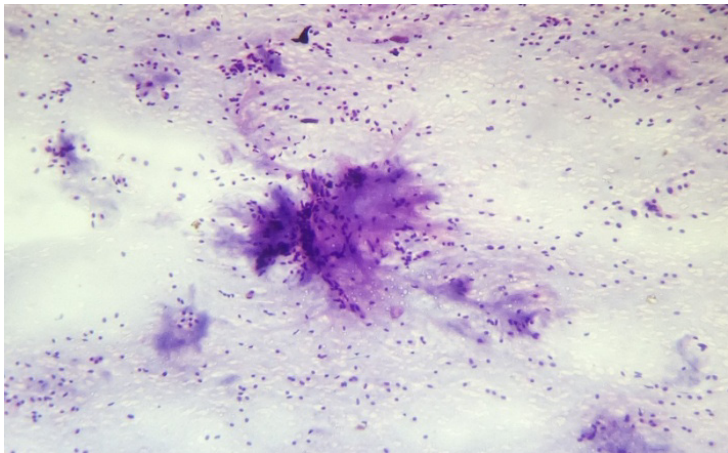


Image 1: Pleomorphic adenoma (H&E)

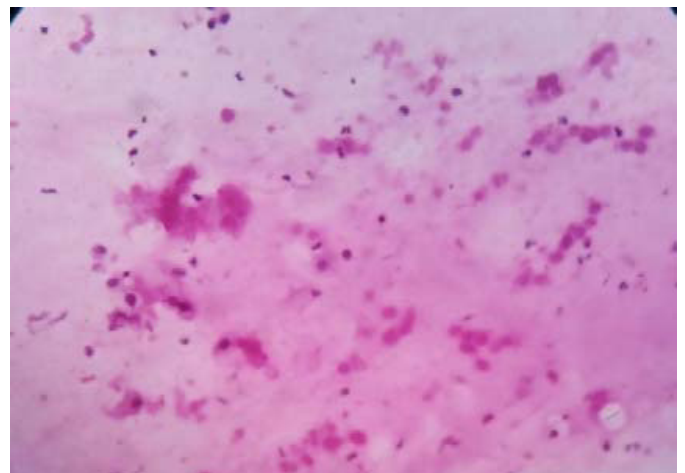
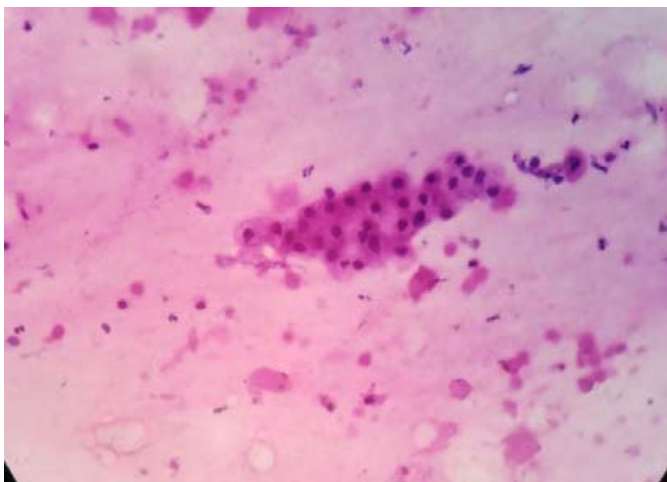


Image 2: Mucoepidermoid carcinoma(H&E)

(67.6%) which correlated with a study done by Arvind Kumar et al (10) where nodular goitre along with adenomatous goitre constituted 45.45%. Fine-needle aspiration plays an indispensable role in the evaluation of euthyroid patients with a thyroid nodule. It reduces the rate of unnecessary thyroid surgery for patients with benign nodules and appropriately triages patients with malignancy to the required surgery.⁽³⁾

Out of 63 lymphadenopathy cases (25%), reactive lymphadenitis was the most predominant lesion constituting 46% followed by tuberculous lymphadenitis constituting 19%. This is similar to a study done by Arvind et al⁽¹⁰⁾ where reactive lymphadenitis constituted 33.3%. Another study done by Veda shree et al⁽⁷⁾ also showed similar findings with reactive lymphadenitis being the most predominant lesion constituting 34.48%.

Out of 22 cases (8.7%) of salivary gland lesions, the most predominant lesion was of pleomorphic adenoma (Image-1) amounting to 7 cases (31.8%) followed by sialadenitis 4 cases (18.1%). This was in contrast to a study done by Kishor et al⁽⁵⁾ where the predom-

inant lesion was sialadenitis (66.66%) and pleomorphic adenoma (24.07%). A similar study done by Arvind et al⁽¹⁰⁾ also showed sialadenitis being the most predominant lesion constituting 41.1%.

Out of soft tissue and miscellaneous swellings, cystic lesions constituted 15 cases (37.5%), followed by 14 cases (27.5%) of lipomatous lesions. This was similar to studies done by Kishor et al⁽⁵⁾ and Arvind Kumar et al.⁽¹⁰⁾

CONCLUSION:

Superficial head and neck swellings can mostly be evaluated preliminarily by fine needle aspiration technique. 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, is of tremendous value.⁽¹¹⁾

FNAC is an excellent first line method for investigating the patients presenting with head and neck lesions.⁽¹²⁾ It is inexpensive and can be done as an outpatient procedure. It gives quick results and allows the clinician to plan his treatment effectively.

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Table 6: Distribution of soft tissue and miscellaneous lesions(n=40)

Lesion	No of cases	%
Inflammatory	3	7.5
Benign		
1. Pilomatricoma	1	2.5
2. Lipoma	11	27.5
3. Fibrolipoma	3	7.5
4. Adenexal tumour	1	2.5
5. Nerve sheath tumour	1	2.5
Cystic lesions		
1. Epidermal cyst	10	25
2. Retention cyst	1	2.5
3. Thyroglossal cyst	2	5
4. Infective	2	5
Malignant		
Squamous cell carcinoma	1	2.5
Inconclusive	4	10
Total	40	

Table 7: Comparison with other studies in relation to site

Site	My study	Veda shree et al	Kishor et al
Lymph node	25%	40.2%	39.58%
Thyroid	50.3%	48.6%	31.25%
Salivary gland	8.7%	23.75%	18.75%
Skin and soft tissue	15.8%0	23.75%	7.29%