



CYTO-HISTOPATHOLOGICAL CORRELATIONS OF PALPABLE HEAD AND NECK LESIONS IN TERTIARY CARE CENTER: ONE YEAR STUDY

Pathology

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ABSTRACT

Fine Needle Aspiration Cytology (FNAC) of head and neck masses is a quick, safe, and cheap technique in the diagnosis. It is well-accepted procedure in diagnosing various swellings and is of great value in the head and neck regions because of the multiplicity of accessible organs and heterogeneous pathologies encountered. The head and neck lesions encountered in routine daily practice are thyroid, lymph nodes, salivary glands, and miscellaneous swellings. **Aim:** 1. To evaluate the utility of aspiration cytology of palpable head & neck masses as a first line diagnostic tool. 2. To correlate aspiration cytology of palpable head & neck masses with histologic result for evaluating diagnostic accuracy, sensitivity, and specificity of the procedure. **Material and methods:** A retrospective study was conducted in department of Pathology of Katihar medical college and hospital from December 2020 to November 2021 and included 100 patients with head and neck swelling. FNAC were done from palpable head and neck regions. **Result:** There were 100 FNAC cases enrolled out of which thyroid swellings (n=40) were the most common lesions followed by lymph node (n= 38), salivary gland (n=17) and other miscellaneous lesions (n= 5). **Conclusion:** FNAC is highly accurate, sensitive, and specific and reliable procedure for screening and diagnosis of palpable masses of head and neck regions.

KEYWORDS

FNAC, Head & neck, thyroid, lymph node

INTRODUCTION

Fine Needle Aspiration Cytology (FNAC) of head and neck masses is a quick, easy, safe, and cheap technique in the diagnosis and has been a well-accepted procedure in diagnosing various swellings. [1]. FNAC is now being considered as a valuable diagnostic aid because of the early availability of results, simplicity, minimal trauma, and absence of complications. FNAC is of great value in the head and neck regions because of the multiplicity of accessible organs and heterogeneous pathologies encountered. [2]

The common head and neck lesions encountered in routine daily practice are from thyroid, lymph nodes, salivary glands, and soft tissue tumors. These lesions may be inflammatory or neoplastic. Neoplastic can be either benign or malignant. Now, FNAC is a globally accepted diagnostic procedure. [3]

The common pathologies encountered in head and neck lesions are in lymph node are Reactive lymphadenitis, Metastatic deposits, Lymphomas, in Thyroid lesions Goiter, Lymphocytic thyroiditis or malignancies, Salivary gland common lesions seen are Pleomorphic adenoma, Sialadenitis and other malignant tumors. The other less common lesions are Bronchial cyst, Thyroglossal cyst, Cystic hygroma, and carotid body tumors. [4]

MATERIAL AND METHODS

A retrospective study was conducted in department of pathology of Katihar medical college and hospital from December 2020 to November 2021 and included 100 patients. After explanation of procedure and taking consent of patient, FNAC was done using 5/10ml disposal syringe and 22/24-gauge needle taking all aseptic precautions. Both aspiration and non-aspiration techniques were used wherever required.

Smears were stained with Pap, H&E, Leishman and Zeihl- Neelsen stain. Histopathological correlation was done in available specimen.

Inclusion Criteria

Patients with palpable head and neck swellings for FNAC in department of Pathology were included.

Exclusion Criteria

Patients presenting with non-palpable swellings, lesions were excluded from study.

Statistical Analysis:

Data were computed in Microsoft's Excel 2019 and analysis done in SPSS 26.0.

RESULTS

The present study included 100 cases of head and neck lesions ranged

from 1 to 79 years of age in which 47% were males and 53% were females. Maximum incidence was observed in 31-40 years (25%) followed by 11-20 years (21%) and 21-30 years (20%). Among the head and neck swelling, thyroid gland swelling was the most common observation 40% followed by lymph node swelling 38% and salivary gland swelling 17% and miscellaneous swellings 5% as shown in Table 1.

In 40 FNAC cases of thyroid gland swellings whereas only 9 samples were available for HPE and all of them were consistent with FNAC finding. Data shown in Table 1 and Fig 2 shows papillary carcinoma of thyroid. 38 FNAC cases of lymph node swellings whereas only 13 samples were available for HPE and among them 10 sample was consistent with FNAC, samples were inconsistent with FNAC as shown in Table 1. Fig 1 shows NHL

In this study we obtained 17 FNAC cases of salivary gland swellings and 6 samples were available for HPE and all of them were consistent with FNAC finding and 5 FNAC cases of miscellaneous swellings whereas only 2 samples were available for HPE and all of them were consistent with FNAC finding.

DISCUSSION

In routine clinical practice head and neck swellings are commonly encountered presentation. The present study included 100 cases of head and neck lesions ranged from 1 to 79 years of age in which 47% were males and 53% were females. Maximum incidence was observed in 31-40 years (25%) followed by 11-20 years (21%) and 21-30 years (20%).

In our study thyroid gland swelling was the most common observation (40%) followed by lymph node swelling (38%) and salivary gland swelling (17%) and miscellaneous swellings (5%).

Like the present study **Muddegowda HP et al** found thyroid swellings to be the commonest lesion. [5]

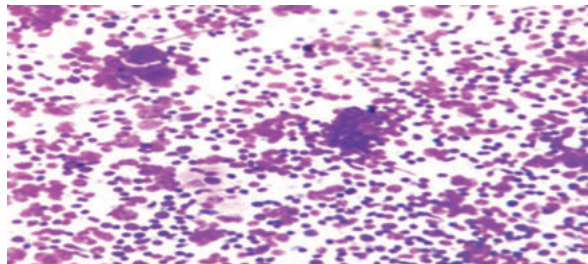


Fig 1. Showing Non-Hodgkin's lymphoma NHL (40x Giemsa)

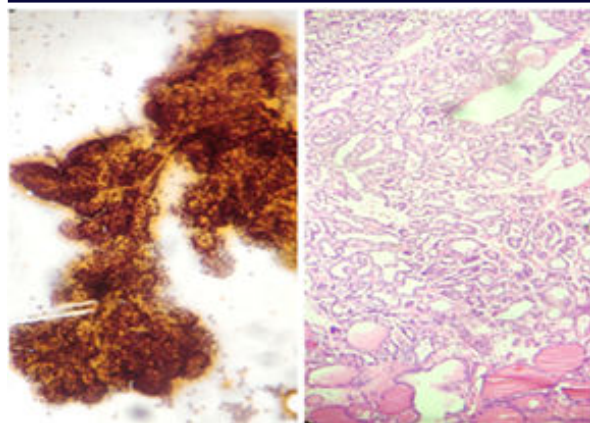


Fig 2. showing Papillary carcinoma of thyroid (10x Pap), Papillary carcinoma of thyroid (10x H&E)

The maximum number of aspirates was from the thyroid (n=155, 40.8%) followed by lymph nodes (n=150, 39.5%), skin, soft tissue, miscellaneous (n=41, 10.8%) and salivary glands (n=34, 8.9%) as reported by **Thapa et al.**^[9]

Khokle et al in their study reported thyroid gland was the most affected lesion (40 cases) followed by lymph node swelling (28 cases), salivary gland swelling (17 cases) and other swellings (15 cases).^[7]

Poorey VK et al in their study observed out of 179 cases, 104 cases (58.10%) were of lymph node, 35 cases (19.55%) of thyroid gland, 17 cases (9.49%) of salivary gland, 12 cases (6.70%) of soft tissue and 11 cases (6.14%) of miscellaneous groups present.^[5]

Pathak et al in their study reported lymph nodes (128 cases) showed the highest incidence followed by

Table 1 Cytopathological Correlation With Histopathology

FNAC diagnosis	No. of case	No. of cases with surgical biopsy	Diagnosis consistent with cytology	Diagnosis inconsistent with cytology	Accuracy
Nodular goitre	13	03	03	-	100%
Colloid goitre	10	05	05	-	100%
Lymphocytic thyroiditis	07	-	-	-	-
Granulomatous thyroiditis	04	-	-	-	-
Papillary carcinoma	03	01	01	-	100%
Follicular neoplasm	02	-	-	-	-
Medullary carcinoma	01	-	-	-	-
Hurthle cell carcinoma	01	-	-	-	-
Reactive lymphadenitis (RL)	14	05	03	02	60%
Granulomatous Lymphadenitis (GL)	06	02	02	-	-
Metastatic squamous cell carcinoma	05	01	01	-	-
Narcotizing Lymphadenitis	03	-	-	-	-
Atypical Lymphoid hyperplasia	03	03	02	01	66.67%
Tubercular Lymphadenitis	02	-	-	-	-
Chronic Lymphadenitis	01	-	-	-	-
Suppurative Lymphadenitis	01	-	-	-	-
Non-Hodgkin's Lymphoma (NHL)	02	01	01	-	100%

Hodgkin's Lymphoma (HL)	01	01	01	-	100%
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thyroid gland (40 cases), soft tissues (27 cases) and salivary glands (14 cases).^[6] Similar observations were reported by **Chawla N et al.**^[13] They found that 41.7% of cases were of reactive nonspecific lymphadenitis and 31.7% cases were of tubercular lymphadenitis among lymph node lesions, 5.3% cases were of abscess however **Sharma R and Mathur DR** and **Kumar H et al** found tubercular lymphadenitis were the commonest lesion followed by chronic nonspecific lymphadenitis.^[10,11] In our study of salivary gland swellings Pleomorphic adenoma was the most common finding followed by sialadenitis. **Kishore H et al** found among 54 salivary gland lesions, 51 were benign and 3 were malignant.^[12]

Epidermal inclusion cyst (55%) was the most common finding among miscellaneous swelling followed by lipoma (35%) and 2 samples were inadequate for opinion.

Suryawanshi et al reported epidermal cyst comprised maximum benign lesions and then lipoma like our study.^[10] **Singal et al** found the lipoma as the common soft tissues lesion followed by epidermal cyst.^[14]

Pathak et al in their study reported 12 (60%) cases of epidermal cyst which was the most common soft tissue lesions followed by lipoma.^[6] Out of 30 cases according to FNAC finding 27 were consistent with histopathological findings. 67% FNAC cases of lymph nodes were consistent with HPE findings, thyroid gland, salivary gland and miscellaneous swellings were found 100% consistent with HPE.

CONCLUSION

FNAC is safe, reliable, quick, inexpensive, and minimally invasive technique in the diagnosis of head and neck lesions. It serves as an alternative diagnostic procedure to histopathological examination in the diagnosis and management of palpable head and neck lesion.

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