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ENT

KEY WORDS: Neck swelling, Clinical assessment, FNAC, Histopathology, Morbidity and Mortality

CLINICAL ASSESSMENT OF DIFFERENT TYPES OF NECK SWELLINGS AND CORRELATION BETWEEN FNAC AND HISTOPATHOLOGY OF NECK SWELLINGS

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ABSTRACT

Background: Neck swelling is a common clinical presentation among the patients attending ENT clinics. If not managed properly, neck swelling can cause specific morbidity and mortality. Among the neck swellings, thyroid swelling is the commonest one. **Aims & Objectives:** Clinical assessment of different types of neck swellings and correlation between FNAC and histopathology of neck swellings. **Methods:** In this prospective observational study a profile of 60 patients attending the ENT OPD of SMHS hospital, Srinagar from November 2021 to November 2022. The sample size was taken according to convenience sampling. Thorough history of the patients who presented with neck swelling was taken followed by clinical examination which includes number, size, site consistency, mobility on palpation and deglutition, surface texture and tenderness of the thyroid swelling. Ultrasonography of thyroid gland and thyroid hormone profile was done in all thyroid swellings. **Statistical Analysis:** Positive predictable value for thyroid swellings was calculated as TP/ TP + FP * 100 = 57/57 +2 * 100 = 96.6%, where TP is true positive and FP is false positive. **Conclusion:** We found the FNAC test to be very reliable test in thyroid swellings with high sensitivity and specificity.

INTRODUCTION

Neck swellings are one of the commonest clinical presentations encountered by the practicing physicians that can arise from various structures in the neck such as the thyroid gland, major and minor salivary glands, lymph nodes, soft tissues, blood vessels and neural structures adding to the ambiguity of the diagnosis. These are noted incidentally on palpation or observed by another individual. Evaluation of neck swellings must be done in a systematic manner. Especially in the adult population, these masses can present as only manifestation of a serious and potentially malignant pathology. [1]The age and gender of the patient, location, size, onset, duration and progression of the swelling gives important clues in making the differential diagnosis from the clinical point of view. [2] Thorough history taking and physical examination are the important steps in evaluation that will narrow down the diagnostic possibilities. FNAC is performed in the patients in whom clinical examination is insignificant. The history of fine needle aspiration cytology (FNAC) dates back to as early as 1883, when Leyden used needle to obtain cells and tissue fragments from lungs of pneumonia patients to isolate microorganisms.[3] FNAC is being used as a first line of investigation in the diagnosis of palpable masses anywhere in the body especially in head and neck swellings because of the ease of the technique, quickness of diagnosis and being an OPD procedure. The routine use of fine needle aspiration cytology (FNAC) in the assessment of thyroid nodules has reduced the number of patients subjected to thyroidectomy for benign diseases of the thyroid. [4-6] Neoplasia makes a significant differential diagnostic consideration because neck mass is often the first and sole presentation of the metastatic process. [2] Hence, neck masses should be evaluated thoroughly in order to make an accurate diagnosis which helps in planning the further line of treatment.

MATERIAL AND METHODS

The study being a prospective study was conducted among 60 patients attending the ENT OPD of SMHS hospital, Srinagar from November 2021 to November 2022. The sample size was taken according to convenience sampling. Thorough history of the patients who presented with neck swelling was taken followed by clinical examination which includes number, size, site consistency, mobility on palpation and deglutition, surface texture and tenderness of the thyroid swelling. Ultrasonography of thyroid gland and thyroid hormone profile was done in all thyroid swellings. The patients were then subjected to FNAC and only those who got admitted for surgery were included in the study. Informed consent of the patients was taken prior to surgery. Post operatively the histopathological reports were compared with the pre-operative FNAC reports.

Results

Among the study population , the incidence of neck swelling was found to be 19.7% (Table 1) out of which papillary carcinoma was the commonest(72.9%) followed by thyroglossal cyst(15.3%), follicular neoplasia(10.2%) and medullary carcinoma (1.7%)(Table 2). Most of the cases (72%) were found to be females (table 3) and the peak age of incidence was second and third decade of life (table 4). The accuracy of FNAC was found to be 69.6% (table 5)

Table 1: Incidence Of Neck Swelling Among Patients Attending ENT OPD

Total no. of cases	Neck swelling	Percentage
300	59	19.7

Table 2: Incidence Of Types Of Neck Swelling According To FNAC Findings

Types of thyroid swelling	No. of cases	Percentage
Papillary carcinoma	43	72.9
Thyroglossal cyst	9	15.3
Follicular neoplasia	6	10.2
Medullary carcinoma	1	1.7
Total	59	100

Table 3: Sex Distribution Of Neck Swellings

Types of neck swelling	Total no. of cases	Male	Percentage	Female	Percentage
Papillary carcinoma	43	9	20.9	34	79
Thyroglossal cyst	9	5	55.5	4	44.4
Follicular neoplasia	6	2	33.3	4	66.6
Medullary carcinoma	1	0	0	1	1

Table 4: Age Distribution Of Thyroid Swellings

Age	Types of neck swellings			
	papillary	follicular	thyroglossal	Medullary
>15	0	0	7	0
15-24	2	0	2	0
25-34	13	2	0	1
35-44	14	1	0	0
45-54	10	3	0	0
55-64	3	0	0	0
65-74	1	0	0	0

Table 5: Positive Correlation Of Result Of FNAC With Result Of Histopathology Of Different Thyroid Swelling

Types of neck swelling diagnosed by FNAC	No. of cytological diagnosis	Correlation with result of histopatholog		Diagnostic accuracy (%)	Histopathology finding in cases of false cytodiagnosis
		Correct cytological diagnosis	False cytodiagnosis		
Papillary carcinoma	43	41	2	96.6	Folli-cular
Thyroglossal cyst	9	9	0		
Follicular neoplasia	6	6	0		
Medullary carcinoma	1	1	0		

DISCUSSION

In this study, papillary carcinoma was found to be the most common swelling among the neck swellings followed by papillary carcinoma, thyroglossal cyst, follicular neoplasia and medullary carcinoma. Out of 59 cases of neck swellings, females seemed to be affected more than males which is similar to the study done by Ahmad et al where females were more affected than males. [7] Another study done by Rout K et al also showed that females are more affected than males . [8]The peak age of incidence was found to be in 4th and 5th decade of life similar to the study by by Bhansali. [9] However the finding contradicts with the study done by Rout et al where it was found to be in 2nd and 3rd decade of life. [8] Among the 59 cases of thyroid swellings, 57 cases were found to have positive correlation with FNAC and it differed in 2 cases. In this study the diagnostic accuracy of FNAC was found to be 96.6% which is comparable with the study done by Rout et al., [8] Altavilla et al. [10], Handa et al. [11]

CONCLUSION

From the results of this study, it is evident that the neck swellings are inflammatory in nature and affects females more than males. FNAC is a simple and cost effective investigation of thyroid disease with high accuracy and specificity though histopathology remains the gold standard for the final diagnosis. However, a combined approach of ultrasonography and FNAC of neck swellings gives a sensitive, specific and accurate diagnosis of these swellings, and thus simplifies the planning of treatment protocol.

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REFERENCES

1. Evaluation of FNAC of head and neck swellings: a retrospective study Arvind Kumar B. Sangavi , Inder Raj Itagi , Suhas Y. Choudhari1 , Venkatesh U. International Journal of Otorhinolaryngology and Head and Neck Surgery. VOL. 4 NO. 1 (2018): JANUARY-FEBRUARY 2018. DOI: https://doi.org/10.18203/issn.2454-5929.ijohns20175623.
2. The Role of Ultrasonography and Fine Needle Aspiration Cytology in the Diagnosis of Neck Swellings - Our Experience AfshanFathima, ShubhiTyagi, BorlingegowdaViswanatha Department of ENT, Bangalore Medical College and Research Institute, Bangalore, India. Research in Otolaryngology.p-ISSN: 2326-1307 e-ISSN: 2326-1323. 2019; 8(1): 1-5. doi:10.5923/j. otolaryn. 20190801.
3. Accuracy of diagnosis by Fine Needle Non Aspiration Cytology technique in head and neck swellings: Its advantages and disadvantages in comparison to Fine Needle Aspiration Cytology C.P. Manjula1 , Hemalata M.1 , Kusuma Venkates1 and A.C. Alatgi. Diagn Cytopathol. 2019 May;47(5):394-399. doi: 10.1002/dc.24120. Epub 2018 Nov 29.
4. Asp AA, Georgitis W, Waldron EJ, Sims JE, Kidd GS 2 nd (1987). Fine needle aspiration of the thyroid--`d. Use in an average health care facility. Am J Med 83: 489-93.
5. Bottles K, Miller TR, Cohen MB, Ljung BM (1986). Fine needle aspiration biopsy. Has its time come? Am J Med 81: 525-31.
6. Burch HB (1995). Evaluation and management of the solid thyroid nodule. EndocrinolMetabClin North Am 24: 663-710.
7. Ahmad T, Naeem M, Ahmad S, Samad A, Nasir A. Fine needle aspiration cytology (FNAC) and neck swellings in the surgical outpatient. J Ayub Med Coll Abbottabad. 2008;20(3):30-2.
8. Rout K , Ray C N , Behera S K , Biswal R. A Comparative Study of FNAC and Histopathology of Thyroid Swellings. Indian J Otolaryngol Head Neck Surg : 63(4):370–372.
9. Bhansali SK (1982) Fine needle aspiration versus frozen section diagnosis. Arch Otolaryngol Head Neck Surg 112:867–869.
10. Altavilla JG (1997) Fine needle aspiration biopsy & diagnosis of thyroid cancer 98:53–56.
11. Grant WK (1986) Fine needle aspiration biopsy of thyroid, neck mass & lymph node mass, primary case. J LaryngolOtol 3:544–564.