

**PRE OPERATIVE ULTRASOUND GUIDED FINE NEEDLE ASPIRATION CYTOLOGY OF THYROID SWELLING AND ITS CORRELATION WITH POST OPERATIVE HISTOPATHOLOGICAL EXAMINATION IN NMCH&RC RAICHUR: A PROSPECTIVE STUDY**



**General Surgery**

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**ABSTRACT**

The management of the thyroid swelling is a multi-disciplinary approach and it involves the interaction of various branches of medication like a team involving the surgeons, the pathologists and the radiologists<sup>(3)</sup>.

The most important issue in the management of palpable thyroid lesions is the diagnostic workup which in turn will determine the modality of management and the extent of thyroidectomy<sup>(3)</sup>.

The approach to the assessment and management of thyroid swellings has been revolutionized in the contemporary days as compared to the past with the introduction of investigations like the Fine Needle Aspiration Cytology (FNAC)<sup>(4)</sup>.

There is an ongoing debate as to appropriate evaluation and management of individuals with thyroid lesions. The purpose of this study was to assess the spectrum of diseases affecting thyroid gland by FNAC pre-operatively and comparing it with the post-operative histopathology.

**KEYWORDS**

**AIMS AND OBJECTIVES**

The aims and objectives of the present study were as follows:-

1. To study the cytomorphological features in various thyroid swellings and to provide accurate diagnosis.
2. To correlate the cytological features with histopathological study of all surgically removed thyroid swellings.

**MATERIALS AND METHODS**

The data for the present study was collected from in-patients basis who come to Navodaya Medical College Hospital and Research Centre who presented with a thyroid swelling and met the criteria. The period of study was from September 2017 to February 2019.

The criteria for the study were as follows:-

**INCLUSION CRITERIA.**

- Patients with clinically suspected thyroid diseases as a pre-requisite before surgery in patients with thyroid disease

**EXCLUSION CRITERIA.**

- Pregnant women with thyroid swellings.
- Patients not willing to undergo FNAC.
- Recurrent thyroid swelling after surgery.

**METHOD OF COLLECTION OF DATA:**

This was a time bound prospective study in which patients presenting with clinical suspicion of thyroid disease in Navodaya Medical College Hospital and Research Centre, Raichur were taken into study. After obtaining an ethical clearance from the ethics committee of the study institution the study was started with detailed history and clinical examination.

Patients presenting with clinical suspicion of thyroid and met the criteria were explained about the study.

Those who gave consent in writing to participate in study were included.

A detailed clinical examination was done.

A detailed structured proforma was used to collect this information.

Informed consent was taken in all cases before examination.

Relevant investigations were performed on the patient. All patients underwent Ultrasonography guided FNAC as a basic tool investigation.

Other investigations required included Histo-Pathology following surgical resection, Hb, TC, DC, ESR, Chest X-ray, Thyroid function test.

A pre operative IDL was also done

**IMAGE GALLERY**



**Figure 1 : Clinical Photograph Of MNG**



**Figure 2 : Excised Specimen Of Total Thyroidectomy**

**DATA AND STATISTICAL ANALYSIS**

The data on categorical variables will be presented as n (% of cases) and the values on continuous variables will be presented as Mean  $\pm$  Standard deviation (SD). The significance of difference of distribution of categorical variables across various groups will be tested using Chi-Square test of Fisher's exact probability test.

**OBSERVATIONS AND RESULTS**

**AGE DISTRIBUTION OF THE CASES IN THE STUDY**

In the present evaluation of the age distribution of the cases in the study most cases were in the age group 31-50 years - 36 cases (72%).

**GENDER DISTRIBUTION OF THE CASES IN THE STUDY**

In the present on evaluation of the gender distribution of the cases, 41

case (82%) in the study were females and the rest were 9 case (18 %) males

#### **CLINICAL PRESENTATION DISTRIBUTION OF THE CASES IN THE STUDY**

In the present on evaluation of the clinical presentation distribution of the cases in the study all the cases presented with swelling. 2% of cases had pain and neck heaviness each.

#### **THYROID STATUS DISTRIBUTION OF THE CASES IN THE STUDY**

In the present on evaluation of the thyroid status distribution of the 45 cases (90%) cases in the study were euthyroid, 4 cases (8%) were hypothyroid and 1 case (2%) was hyperthyroid.

#### **DISTRIBUTION OF THE CASES BASED ON THE FNAC FINDINGS IN THE STUDY**

In the present on evaluation of the distribution of the cases based on the FNAC findings in the study 36 cases (72%) were MNG, 4 cases (8%) were Solitary Nodular Thyroid, 3 cases(6%) Follicular Neoplasm of Thyroid, 1 cases (2%) Adenomatous Colloid Goitre, 1 cases (2%) Hashimoto's Thyroiditis and 5 cases (10%) of Papillary Carcinoma Thyroid

#### **DISTRIBUTION OF THE CASES BASED ON THE FNAC CONCLUSION IN THE STUDY**

In the present based on the FNAC findings we had 42 cases were benign and 5 cases of malignancy, 3 cases(6%) of follicular neoplasm that were taken as undiagnosed.

#### **DISTRIBUTION OF THE CASES BASED ON THE TYPE OF SURGERY DONE IN THE STUDY**

In the present on evaluation of the distribution of the cases based on the type of surgery done in the study 42 cases ( 84% ) of the cases in the study underwent near total thyroidectomy, 3 cases (6%) underwent total thyroidectomy. 3 cases (6%) underwent total thyroidectomy with neck dissection , 3 cases (6%) , 1 cases (2%)underwent hemi thyroidectomy.

#### **DISTRIBUTION OF THE CASES BASED ON THE HPE DIAGNOSIS IN THE STUDY**

In the present on evaluation of the distribution of the cases based on the FNAC findings in the study 37 cases (74%) were MNG , Solitary Nodular Thyroid 4 cases(8%) , 1 cases (2%) Follicular Carcinoma of Thyroid, 1 cases (2%) Adenomatous Colloid Goitre, 2 cases (4%) Hashimoto's Thyroiditis and 5 cases (10%) of Papillary Carcinoma Thyroid.

#### **DISTRIBUTION OF THE CASES BASED ON THE HPE CONCLUSION IN THE STUDY**

In the present based on the HPE findings we had 44 cases of benign and 8 cases (16%) of malignancy,

#### **DISCUSSION**

In the past few years there has been a rise in the number of surgeries that are performed on the thyroid. In today's day even as a result of the generation trends they prefer to remove it cosmetic reasons, as compared to the past when people would not bother even it grew to occupy the entire neck.

When we talk about the thyroid swellings the approach to the assessment and management of thyroid swellings has been revolutionized in the contemporary days as compared to the past with the introduction of investigations like the Fine Needle Aspiration Cytology.

FNAC is considered the gold standard diagnostic test in the evaluation of a thyroid swelling, yet there is an ongoing debate as to appropriate evaluation and management of individuals with thyroid lesions.

The purpose of this study was to assess the spectrum of diseases affecting thyroid gland by FNAC pre-operatively and comparing it with the post-operative histopathology.

In the present study the sensitivity was 92.00%. In the present study the diagnostic accuracy was 92.00%

#### **CONCLUSION**

This study reveals high specificity and a low sensitivity for FNAC at

detecting malignancy in thyroid nodules. These findings give good preliminary data on performance of FNAC in thyroid disease in our setting. The sensitivity was 92.00% for FNAC.

#### **LIMITATIONS**

The many pathologists involved in reporting histopathology.

The findings of this study may not be generalisable because of the relatively small numbers used in analysis compared to the relatively big number of patients with nodular thyroid disease.

#### **SUMMARY**

In the present study the sensitivity was 92.00% for FNAC In the present on evaluation of the age distribution of the cases in the study most cases were in the age group 31-50 years 36 cases (72%).

In the present on evaluation of the Gender distribution of the cases, 41 case (82%) in the study were females and the rest were 9 case (18%) males In the present on evaluation of the clinical presentation distribution of the cases in the study all the cases presented with swelling. 2% of cases had pain and neck heaviness each.

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