



## Ultrasound Guided Fine needle aspiration Cytology evaluation of Solitary Thyroid Nodule – One year study

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### Abstract

**Background:** *Ultrasound guided Fine needle aspiration Cytology decrease is a useful technique with minimum invasion and complication.*

**Objectives:** *To evaluate of solitary thyroid nodule by Ultrasound guided Fine needle aspiration Cytology.*

**Method:** *This prospective study done on 30 patients with solitary thyroid nodule presenting in department of pathology from January 2018 to December 2018 to evaluate of solitary thyroid nodule by Ultrasound guided Fine needle aspiration Cytology. All patients clinically examined, ultrasound thyroid and Ultrasound guided Fine needle aspiration Cytology.*

**Result:** *30 patients were included in our study in ratio female to male (6:1). Ultrasound guided Fine needle aspiration Cytology result showed that colloid nodule with follicular epithelium in 15 cases, colloid nodular goiter in 5 cases, hashimoto thyroiditis in 02 case, adenomatous nodule in 01 case and metastatic lesion in 07 cases in which papillary carcinoma in 06 cases and undifferentiated carcinoma in 01 case.*

**Conclusion:** *Ultrasound guide FNA has a high accuracy in diagnosis of solitary thyroid nodule with cytological features of malignancy.*

**Keywords:** *Thyroid nodule, ultrasound guided FNAC, Thyroid malignancy.*

### Introduction

Solitary nodule is a isolated swelling in one lobe without any abnormality elsewhere. Thyroid nodule can be hyperplastic, colloid, cystic, inflammatory and neoplastic<sup>[1]</sup>. Ultrasound is superior than FNAC only as needle is visualised in the lesion even in non-palpable nodule

### Material and Method

The present study was done on 30 patients with solitary thyroid nodule presenting in department of pathology, M. Y. Hospital, Indore from January 2018 to December 2018 to evaluate of solitary thyroid nodule by FNAC under ultrasound guidance. All patients clinically examined, ultrasound thyroid and Ultrasound guided Fine needle aspiration Cytology.

## Result

### Findings of bone marrow examination

Finding	Number of cases
Colloid nodule	15
Nodular colloid goitre	5
Hashimoto thyroiditis	2
Malignant lesion	7
Adenomatous nodule	1
Total	30

Ultrasound guided Fine needle aspiration Cytology result showed that colloid nodule with follicular epithelium in 15 cases, colloid nodular goiter in 5 cases, hashimoto thyroiditis in 02 case, adenomatous nodule in 01 case and metastatic lesion in 07 cases in which papillary carcinoma in 06 cases and undifferentiated carcinoma in 01 case.

## Discussion

Ultrasound guided Fine needle aspiration Cytology has high diagnostic accuracy in patient whom finding at FNAC can't differentiate between follicular adenoma and carcinoma. Aim of our study is to evaluate FNAC under U/S guidance. Ultrasound guided Fine needle aspiration Cytology result showed that colloid nodule with follicular epithelium in 15 cases, colloid nodular goiter in 5 cases, hashimoto thyroiditis in 02 case, adenomatous nodule in 01 case and metastatic lesion in 07 cases in which papillary carcinoma in 06 cases and undifferentiated carcinoma in 01 case. Linda B et.al<sup>[2]</sup> also found that 67% were benign and 7% were malignant and suspicious carcinoma in 2% , 17% follicular neoplasm, atypia was 1%. Similar study was done by Zubair WB et al study showed benign 63% and malignant 10%<sup>[3]</sup>. In the study done by Miseikyte-Kaubriene, they concluded benign lesion in 59.8% and malignancy in 22.5%<sup>[4]</sup>. All these results in these study correlate with our results.

In our study found nodule in female at age 25-60 Year and in male 25-65 year with female to male ratio 6:1. Similar results were found in the study done by Rabia B et al<sup>[5]</sup> found age for male and female range from 10-70 y with female to male

ratio 4.6:1. Anatomically 55% were in the right lob, 40% in the left lob and 5% in isthmus. Veith FJ et al<sup>[6]</sup> studied that 52% in the right lobe, 39% in the left lobe and 9% in the isthmus.

Ultrasound is a useful method of assessing nodule if cystic or solid, High resolution U/S improved diagnostic accuracy of U/S, by Ultrasound we assessed the nodule size, calcification, margin and vascularity, lymph node involvement and we used it as a guide for fine needle aspiration biopsy<sup>[7,8]</sup>.

## Conclusion

Ultrasound guided FNAC is essential and reliable tool in evaluation and management of patient with solitary thyroid nodule. It is a minimally invasive procedure for pre operative evaluation of thyroid nodules, has accuracy in diagnosis of thyroid nodules and essential tool in evaluation of incidental and no palpable thyroid nodules.

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