

## **ABSTRACT**

### **Background**

Solitary thyroid nodules have a higher risk of malignancy than multiple nodules. It is generally recommended that all thyroid nodules >1 cm in size should undergo evaluation as the incidence of malignancy is increasing. Size of the nodule has no proven relation with the malignancy risk prediction. Fine-needle aspiration cytology is recommended to be a cost-effective procedure in the initial assessment and management of thyroid nodules. The challenge of management is to identify benign nodules and to accurately diagnose and treat malignant disease early.

### **Objectives of the Study**

- ✓ The purpose of this study is to assess the role of clinical evaluation and investigations in diagnosing malignant thyroid tumours presenting as solitary thyroid nodule.
- ✓ To correlate the pre operative tissue diagnosis of follicular neoplasms in Solitary nodule with intra-operative frozen section and post-operative HPE reports.
- ✓ To identify the type of malignancy arising from Solitary nodule and calculate the incidence of patients requiring completion thyroidectomy.

## **MATERIALS AND METHODS**

### **Study Centre**

Institute of General Surgery, Madras Medical College and Rajiv Gandhi Government  
General Hospital, Chennai

### **Duration of Study**

May 2017 to October 2018

### **Study Design**

Prospective study (Observational)

### **Sample Size**

50 {  $n = Z^2 \frac{1-\alpha}{2} P(1-P) / e^2$  P=3% e= 5% Z=1.96 }

### **Inclusion Criteria**

- All patients presenting with a Solitary nodule discovered by a doctor on routine neck palpation or by the patients during self-examination were enrolled into the study.
- Solitary thyroid nodule patients who are clinically and biochemically euthyroid are alone included in the study

### **Exclusion criteria**

- Patients with multinodular goitre / diffuse goitre and those who are hyperthyroid are excluded from the study.

- Patients not consenting for the Research study were also excluded.
  
- Pregnant women
- Age < 18 or >80 years

### **Results:**

Commonest presentation of solitary thyroid nodule was asymptomatic. The Peak incidence of solitary nodule was observed in 3rd to 4th decade, constituting 80% of the cases studied. Females predominated in number over males in occurrence of solitary nodule in ratio of 4:1. Only 8% of all clinically diagnosed solitary nodules turned out to be multi-nodular goiter. USG features suspicious of malignancy were present in 16 out of 50 patients sent for Ultrasonogram neck which represents 32% of cases. The common cause of solitary nodule was papillary carcinoma (38%). Incidence of malignancy in solitary thyroid nodule was 68%. Male to female ratio in case of malignant nodule was 1:5. Incidence of carcinoma in males presenting as solitary nodule was higher (25%) compared to that of females (10.87%). The most common cause of malignancy was papillary carcinoma (38%) followed by follicular carcinoma (36%).

### **Interpretation and Conclusion:**

- Solitary nodule of thyroid are more common in females

- USG can be accurately used to detect patients with malignancy who clinically present as solitary nodule of thyroid.
- The most common cause of malignancy in solitary nodule is papillary carcinoma followed by follicular carcinoma.
- Proper correlation of USG with FNAC can be used to predict malignancy preoperatively and hence managed with total thyroidectomy +/- neck dissection.
- Use of intra operative frozen section for NIFTP Non Invasive Follicular Thyroid Neoplasm with Papillary like Features / Follicular Variant Of Papillary Thyroid Carcinoma (FVPTC) is still debatable.
- With the advent of high end sonograms, nearly 80% of the malignancies are picked up and hence the need for completion thyroidectomy is circumvented.
- Similarly benign appearing nodules could be managed with conservative surgery where the post operative complications of much radical surgery can be avoided

**Key words:** solitary nodule, malignancy, papillary carcinoma