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**

\[ n = \frac{Z^2 \cdot (1-\alpha/2 \cdot P \cdot (1-P))}{e^2} \]

\[ P=3\% \quad e=5\% \quad Z=1.96 \]

**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