Original Research Paper

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Surgery

# A CLINICAL STUDY OF SOLITARY THYROID NODULE

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**KEYWORDS :**

## INTRODUCTION:

A solitary thyroid nodule (STN) is defined as a palpable discreet swelling in an other wise normal thyroid gland. Found to affect 4-7% of total population with female to male ratio being 4:1. majority of STN are benign. Benign causes include colloid goiter. and dominant nodule of multi nodular goiter. Incidence of malignancies is around 5-10%. A systemic approach is needed to evaluate and treat STN.

## AIMS AND OBJECTIVES:

To evaluate age and sex distribution
To evaluate etiology and clinical presentation
To evaluate incidence and type of malignancy in STN
To evaluate treatment modalities.

## MATERIALS AND METHODS:

**Type of study:** Prospective
**SAMPLE SIZE:** 80 patients diagnosed clinically as STN
**INSTITUTION:** GOVERNMENT GENERAL HOSPITAL, KAKINADA.

**Time of study:** June 2019 to May 2020

## INCLUSION CRITERIA:

1) Patients found to have STN on clinical examination.
2) Patients giving consent for participation in study.

## EXCLUSION CRITERIA:

1) Patients with thyroid enlargement except STN
2) Patients not giving consent for study

Thorough clinical examination was done in all cases.
All cases were subjected to USG neck, FNAC and thyroid profile.
FNAC and Thyroid profile are the main line of investigations.

Patients whose FNAC reported as colloid nodule/ Follicular Adenomawere posted for Hemi thyroidectomy.

Patients whose FNAC findings reported as MNG and Papillary carcinoma were posted for Total thyroidectomy. Neck dissection was done depending on status of neck nodes in Papillary carcinoma.

Post operative specimens were sent for HPE.
Patients were followed for recurrance by clinical examination and radiological investigations

## RESULTS:

Age and Sex: Peak incidence is seen at 3rd and 4th decades of life with majority of patients between 30-39 years.

Female patients far outed males with 69 females and 11 males.

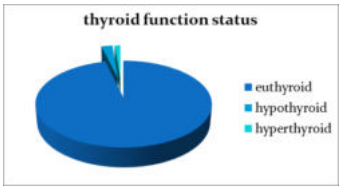
| AGE | FEMALES | MALES | TOTAL |
|---|---|---|---|
| 10-19 | 2 | 0 | 2 |
| 20-29 | 16 | 1 | 17 |
| 30-39 | 33 | 5 | 48 |
| 40-49 | 10 | 3 | 13 |
| 50-59 | 7 | 2 | 9 |
| 60-69 | 1 | 0 | 1 |
| TOTAL | 69 | 11 | 80 |

**Clinical features:**

| CLINICAL FEATURES | NUMBER |
|---|---|
| SWELLING | 80 |
| PAIN | 0 |
| HOARSENESS | 0 |
| PRESSURE SIGNS | 0 |
| TRACHEAL DEVIATION | 0 |
| LYMPHADENOPATHY | 0 |

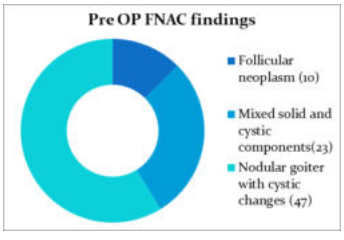
Most common clinical feature on presentation was swelling infront and lower part of neck seen in all of the cases on admission

**Thyroid Function Status:**




Eu thyroid: 77
Hypo thyroid: 02
Hyper thyroid : 01
Preoperative FNAC:

Pre op FNAC was done in all patients ; nodular goiter with cystic changes being the most common finding accounting to almost 60% of the cases.




**Etiology:**
All cases were confirmed by post operative HPE.
Most common etiology was noted to be MNG.
Carcinoma was seen in 10 patients.

**Types of Malignancy:**

| TYPE OF CARCINOMA | NUMBER |
|---|---|
| PAPILLARY CARCINOMA | 9 |
| FOLLICULAR CARCINOMA | 1 |
| MEDULLARY CARCINOMA | 0 |
| ANAPLASTIC CARCINOMA | 0 |
| LYMPHOMA | 0 |
| OTHERS | 0 |
| TOTAL | 10 |

| ETIOLOGY | NUMBER | PERCENTAGE |
|---|---|---|
| ADENOMA | 23 | 28.75 |
| MNG | 47 | 58.75 |
| CARCINOMA | 10 | 12.5 |
| LYMPHOCYTIC THYRIODITIS | 0 | 0 |
| TOTAL | 80 | 100 |

Papillary carcinoma was noted to be the most common cause of carcinoma of the 10 cases

**Treatment Modalities:** SURGERY

| Hemi Thyroidectomy | Total Thyroidectomy | Completion Thyroidectomy |
|---|---|---|
| • Colliod goiter<br>• Follicular Adenoma | • MNG<br>• Papillary carcinoma ( with/without neck dissection) | • Post op HPE suggestive of Malignancy |

**DISCUSSION:**

In my study the peak incidence is seen in 3rd to 4th decades with higher incidence in females with 7:1 ratio with males which is similar to studies done by yamashita et al.

All evaluated patients complained of swelling in front of neck as their primary symptom with 96% of total patients being eu-thyroid state.

Patients with hyperthyroidism and hypothyroidism states prior to surgery were controlled with medical management and then taken up for surgery.

All patients underwent FNAC ( direct visualization / USG guided) as primary investigation.

Present study found that predominant etiology in our case series was MNG amounting to 58% of total cases which is similar to studies done by Bennedback et al.

Next common etiology is found to be follicular neoplasm (28%) of all cases and malignancies being (12.5%) of total cases in which papillary carcinoma being most common.

Treatment for all cases initially started with hemi-thyroidectomy, in those patients whom MNG was found on operative exposure and in patients with preoperative FNAC suggestive of papillary carcinoma underwent total-thyroidectomy with or without neck dissection.

Patients whom malignancy was detected in postoperative HPE underwent completion thyroidectomy

**SUMMARY:**

STN is defined as discrete swelling in an otherwise impalpable gland with prevalance of 4-7% in adult population with female preponderance

Importance of STN lies in its risk of malignancy compared with other thyroid swellings (10-20% of STN`s are malignant).

Conditions that present with STN are Dominant nodule of MNG, Follicular adenoma, Thyroid cyst, Thyroid carcinoma and localised form of thyroiditis and colloid goiter.

FNAC is single most useful investigation which can detect most of these conditions.

Surgery is main stay of treatment after optimising patients to euthyroid state.

Patients were taken to surgery of which hemi-thyroidectomy, total-thyroidectomy and completion thyroidectomy depending upon preoperative FNAC and post operative HPE.

**CONCLUSION:**

STN is a common clinical entity that occurs more commonly in females with peak clinical incidence in between 30- 40 years.

Usually presents with painless swelling infront of neck.

FNAC and Thyroid profile are most important investigations that help in diagnosis.

MNG is most common cause of STN.Surgery is treatment of choice in all cases.

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