



# SOLITARY NODULAR GOITER IN LEFT LOBE -CASE STUDY

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## Abstract

History of the patient and treatment and physical exam, investigation. Definition - Solitary thyroid nodules are defined clinically as a localized thyroid enlargement with an apparently normal adjacent gland. Risk factor- Many risk factors are associated with the development of thyroid nodules and cancer. A family history of thyroid disease, benign or malignant, significantly increases risk. Differential diagnosis-Nodular goiter depends on the stage of the disease. Cystic nodules must be differentiated from cystic papillary carcinomas. causes thyroid nodules - Colloid nodule, Thyroid cysts, Inflammatory nodules, Multinodular goiter, Hyperfunctioning thyroid nodules, Thyroid cancer. Diagnosis - Thyroid blood test, Thyroid ultrasound, Fine-needle biopsy, Thyroid scan. Management and treatment - No treatment/watch and wait, Radioactive iodine, Surgery.

KEY WORDS : definition, Causes, risk factor, diagnosis, management and treatment

History of present illness : a 24 year old female present after admission to the Sree Balaji hospital ENT ward with a complaints of swelling in the anterior aspect of the neck and weight gain for past 1.5 years. Previously in 2023 January she under gone for siddha medicine. At the time she diagnosed solitary nodular goiter in left lobe 3 months she taking medicine after that she find out it was increase in the size. 7/8/2023 she admitted in the Sree Balaji hospital here all the investigation was done after that plan for total thyroidectomy and 16/8/2023 total thyroidectomy done under general anesthesia and she receiving antibiotic, proton Pump inhibitor, anti emetic, analgesic drainage tube present in the anterior aspect of the neck.

Allergies : No known medicine, food or environmental allergies

Past medical history : there is no past medical history

Past surgical history : 2017 and 2023 she underwent for LSCS

## PHYSICAL EXAM

Vitals : temperature – 98.6F, Pulse – 90/mt, respiration rate – 22/mt, blood pressure 110/80mm of Hg

General : she is well appearing but anxious about her condition. Difficult to talk because of the surgical procedure

## Investigation

### CECT- NECK

#### Impression

Solitary thyroid nodule

Multiple cervical lymph nodes as described above.

### USG – NECK

Evidence of neck defined round solid nodule lesion, size 28\*22cm with multiple tiny cystic noted. Solitary nodular present in the left lobe of thyroid.

## DEFINITION

Solitary thyroid nodules are defined clinically as a localized thyroid enlargement with an apparently normal adjacent gland.

### Differential diagnosis :

Nodular goiter depends on the stage of the disease. Cystic nodules must be differentiated from cystic papillary carcinomas, while the differential diagnosis of cellular adenomatoid (hyperplastic) nodules includes follicular neoplasms and follicular variant of papillary carcinomas.

### causes thyroid nodules

- **Colloid nodules:** These are one or more overgrowths of normal thyroid tissue. These growths are not cancer (benign). They may grow large, but they don't spread beyond your thyroid gland. These are the most common type of thyroid nodules.
- **Thyroid cysts:** These are growths that are filled with fluid or are partly solid and partly filled with fluid. Cystic nodules pose a low risk for cancer (malignancy) and are either monitored or biopsied if they're larger than 2 cm.
- **Inflammatory nodules:** These nodules develop as a result of long-term (chronic) swelling (inflammation) of your thyroid gland. These growths may or may not cause pain.
- **Multinodular goiter:** Sometimes an enlarged thyroid (goiter) is made up of many nodules (which are usually benign).
- **Hyperfunctioning thyroid nodules:** These nodules produce extra thyroid hormone, which may lead to the development of hyperthyroidism. Hyperthyroidism requires treatment.
- **Thyroid cancer:** Cancer is the biggest concern when thyroid nodules form. Fortunately, thyroid cancer is very rare — it's found in less than 6.5% of all thyroid nodules.

## Risk factor

Many risk factors are associated with the development of thyroid nodules and cancer. A family history of thyroid disease, benign or malignant, significantly increases risk. Fowler et al found that a family history of thyroid disease was present in 41% of their patients with thyroid nodules.

## Pathophysiology

These nodules have their own regulation and may suppress the rest of the gland. This autoregulation may cause hyperthyroidism and thyrotoxicosis. Hot nodules are fairly common in adults (comprising 20-25% of palpable nodules) and may be associated with Graves disease.

## Types

- **Thyroid Adenoma.** Thyroid adenomas come in different forms and have different names, but they are benign growths of normal thyroid tissue
- Toxic Adenoma
- Thyroid Cysts
- Goiter
- Multinodular Goiter
- Thyroid Cancer.

## Size of solitary thyroid nodules

Thyroid nodules 1.0-1.9 cm in diameter provided baseline cancer risk for comparison (64.8% risk of cancer). The overall prevalence of cancer in nodules 2.0-2.9 cm was 17.6%; in nodules 3.0-3.9 cm it was 10.6%; and in nodules 4.0 cm it was 7%, presenting with statistically significant difference ( $p < 0.001$ )

## Diagnosis

- **Thyroid blood test:** This test checks the levels of thyroid hormone in your blood. The hormone levels are usually normal even if you have nodules, but they can be abnormal in some cases and point to thyroid disease.
- **Thyroid ultrasound:** This is an imaging test that uses sound waves to create pictures of your thyroid gland. It can determine if a nodule is solid or a fluid-filled cyst. (The risk of cancer is higher in solid nodules.) This test also checks on the growth of nodules and helps find nodules that are difficult to feel. In addition, providers sometimes use ultrasound to help guide the placement of the needle during a fine-needle biopsy.
- **Fine-needle biopsy:** With this test, your provider uses a very thin needle to take a sample of cells from one or more thyroid nodules. They then send the samples to a laboratory for evaluation. Most nodules are noncancerous. However, if the test results are inconclusive, your provider may repeat this test. They may also suggest you have surgery to remove the nodules to make an accurate diagnosis.
- **Thyroid scan:** In this test, you take a small amount of radioactive iodine orally. Your provider will check to see how much of the radioactive iodine the thyroid nodules absorb and how much is absorbed by normal thyroid tissue. This will provide further information about the thyroid nodules, helping your provider determine the likelihood of cancer.

## MANAGEMENT AND TREATMENT

- **No treatment/watch and wait:** If the nodules aren't cancerous, you and your healthcare provider may decide that you don't need to be treated at this time. You'll see your provider regularly so they can check for any changes in the nodules.

- **Radioactive iodine:** Your provider may use radioactive iodine to treat hyperfunctioning thyroid nodules and goiters with several nodules. Your thyroid gland absorbs the radioactive iodine, causing the nodules to shrink.
- **Surgery:** Surgery to take out the nodules is the best treatment for nodules that are cancerous, cause obstructive symptoms like breathing or swallowing issues and are “suspicious” (they can’t be diagnosed without being surgically removed and examined).

### prognosis for thyroid nodules

- The type of cancer.
- Your age at diagnosis.
- The size of the nodule/tumor.
- If it’s spread to nearby tissues, such as lymph nodes.
- If it’s spread (metastasized) to distant parts of your body.

### Bibliography

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481656/>
- <https://my.clevelandclinic.org/health/diseases/13121-thyroid-nodule>
- <https://www.aijoc.com/doi/AIJOC/pdf/10.5005/jp-journals-10003-1146>
- <https://thyroidresearchjournal.biomedcentral.com/articles/10.1186/s13044-022-00140-6>

