



## Case Report

# CA Thyroid with Lymph Node Tuberculosis - A Rare Presentation

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## Introduction

Tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis or Koch's bacillus.

Between 15 and 20% of all cases of tuberculosis will present extrapulmonary location, the most frequent being lymph node tuberculosis (LNTB)

The incidence of thyroid cancer has increased in the last decade, with a mortality rate of 0.5 per 100,000 inhabitants, being papillary carcinoma as the most common histological type.

Cervical lymphadenopathy has been found as the initial presentation in 23-56% of thyroid carcinoma cases.

Thyroid carcinoma with cervical lymphadenopathy due to co-existent tuberculosis is common.

## Case Details

-51 year old female K/C/O Ca Thyroid post OP (total thyroidectomy)/ Radioimmunotherapy, meningioma post Radiotherapy K/C/O HTN presented with complaints of

- Swelling in the left post auricular region since 15 days gradually increasing in size , non painful in nature
- Complaints of loss of appetite and loss of weight since 10 days .
- Post menopausal bleed since 5 days .
- Fever (low grade ) since 5 days .

Physical examination revealed a painless palpable lymph node in the post auricular region around 1.1 cm in size, non tender.

### Investigations

#### LFT

T bil = 0.3

D bil = 0.1

I bil = 0.2

#### RFT

Sr creatinine = 0.7

BUN = 19

#### CBP

HB = 10.8

RBC= 4.13

WBC = 8830

### Thyroid Profile

T3 = 2.93 (RAISED )

T4= 255 ( RAISED)

### 2D ECHO

NORMAL

**Bilateral Digital Mammography (22/8/24) - NO ABNORMALITY**

**PET CT SCAN (22/8/24) -**

PET CT on comparing with previous scan Mild metabolic and morphological progression in mildly avid small volume left level II,III,IV,V nodes.

### MRI Spectroscopy + MRI BRAIN (23/8/24)

K/C/O meningioma post rt ca thyroid . small extra axial enhancing lesion in left high parietal region para falcine location .

Irregular enhancement noted in brain parenchyma in b/l high parietal lobes adjacent to the lesion - ? radiation necrosis T2 / FLAIR hyperintensities in b/l high parietal lobes - post RT changes

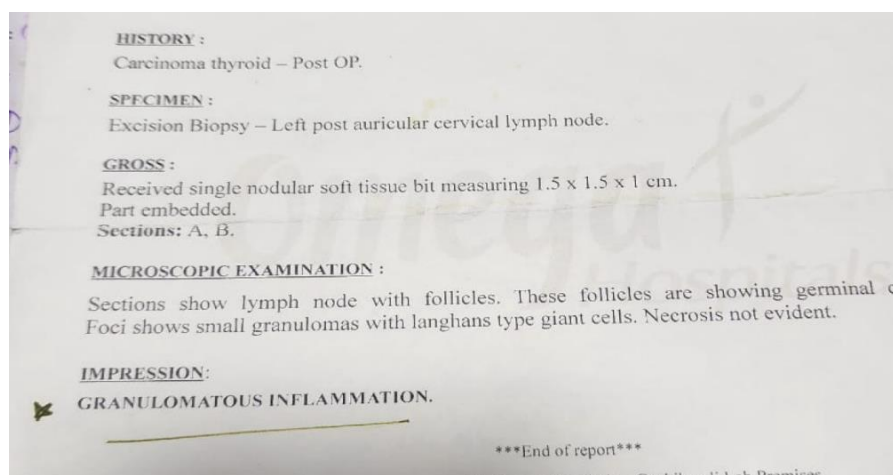
Compared with previous mri there is subtle decrease in size of the lesion in left high parietal region, decrease in enhancement in the parenchyma and b/l high parietal lobes.

### MRI NECK ( 23/8/24) :

Status post total thyroidectomy . thyroid bed unremarkable . mildly enlarged rounded nodes at right level II and left level V regions largest measuring 14 \* 11 mm at level V . compared to previous mri mild increase in the size of the cervical nodes.

**Left level V( post auricular ) lymphnode excision biopsy ( 23/8/24) =** show lymph nodes with follicles . follicles show germinal centre cells foci shows small granulomas with langhans type giant cells

s/o : granulomatous inflammation



**Older Reports**

**MRI BRAIN plain and contrast** (19.09.2023): Known case of Ca. Thyroid. Status post OP & RIT, RT. Small extra-axial irregularly enhancing altered signal intensity lesion measuring 15x14 mm noted in the left high frontal region in the parafalcine location with adjacent dural enhancement. Irregular peripherally enhancing altered signal intensity area noted in the left high fronto-parietal lobes adjacent to the above mentioned lesion with surrounding edema involving left fronto-parieto-occipital white matter with mass effect in the form of midline shift to right, subfalcine herniation and compression of left lateral ventricle, effacement of adjacent sulci - ? Radiation necrosis?? Recurrence. MRA of brain shows hypoplastic left vertebral artery and diffuse contour irregularity of circle of willis arteries S/o Atheromatous changes.

**MRI PNS plain & contrast** (19.09.2023): Known case of Ca. Thyroid. Post OP and RIT, Minimal pansinusitis, Deviated nasal septum to right, Inferior turbinate hypertrophy.

**MRI Pelvis plain & Contrast** (19.09.2023): Known case of Ca. Thyroid. Post OP and RIT, Multiple hypointense lesions in uterus, largest in subserosal location - Likely fibroids, Small follicles in both ovaries

**MRI Abdomen plain & Contrast** (19.09.2023): Known case of Ca. Thyroid. Status post OP. RIT, Known case of left high frontal meningioma status post RT. Tiny calculi in both kidneys.

**MRI Neck plain and contrast** (19.09.2023): Known case of Ca. Thyroid. Post OP and RIT, Status post total thyroidectomy, Subcentimetric rounded multiple nodes at bilateral level II and V, largest in left level V. Thyroid bed unremarkable. There is mild decrease in the size of cervical nodes

-Pt was started on for one year to avoid relapse and was advised to take a high protein diet

-Pt was regularly followed up.

**Discussion**

Cervical lymphadenopathy is a general clinical manifestation in patients with thyroid carcinoma and it has been seen that clinically apparent cervical lymphadenopathy can present as initial manifestation in about 23-56 % of cases.

About 80 % patients of cervical lymphadenopathy with thyroid carcinoma were due to benign disease; out of which 72 % were due to tuberculosis and 8 % were due to reactive hyperplasia, and 20 % had metastasis in lymph node due to thyroid carcinoma .

Ultrasonography is the most initial sensitive diagnostic method for detection of metastatic lymph nodes from thyroid carcinoma and the features which differentiate metastatic cervical lymph nodes from normal or reactive cervical lymph nodes are

-Intranodal cystic necrosis

- Peripheral calcifications

-Absence of an echogenic hilum

-Minimum axial diameter of the lymph node > 7 mm for Level II and > 6 mm for the rest of the neck

-Hyperechogenicity in relation to the adjacent muscles

- The absence of an echogenic hilum

Among them, the most specific is the presence of cystic necrosis and calcification within the lymph node.

-Therefore, only in cases which shows such sonographic findings in cervical nodes ,metastasis from thyroid carcinoma should be suspected before other benign diseases

-Nevertheless, physicians should not overlook the discrimination of metastatic lymph nodes from lymphnode tuberculosis in patients with papillary thyroid carcinoma.

**-The reasons are as follows:**

1. LNTB is usually found in the supraclavicular area or the posterior triangle of the neck and is

frequently the same site for metastasis from thyroid carcinoma .

2. Sonographic findings of LNTB are very similar to those of metastatic lymph nodes in thyroid carcinoma patients. Sonographic features of tuberculosis nodes tend to be hypoechoic and round and usually show intranodal cystic necrosis and calcification similarly to metastatic TC cervical nodes.

Whereas the treatment for LNTB is anti-tuberculosis medication, which is far less complicated than surgery. Although necessary in endemic areas of tuberculosis, this differential diagnosis is also valuable in developed countries because of the increasing incidence of acquired immunodeficiency syndrome and associated tuberculosis.

Therefore, in case of suspicious for metastatic cervical nodes in pre-operative patients with thyroid carcinoma combined lymph node biopsy, FNAC with PCR for detecting mycobacterium tuberculosis should be employed for the differential diagnosis of tuberculosis lymphadenitis especially in endemic regions

The association of thyroid carcinoma and lymph node tuberculosis is not uncommon in developing countries.

### Conclusion

Cervical lymphadenopathy in a patient with thyroid carcinoma does not always indicate metastatic spread of the disease, lymph node tuberculosis should be considered as a differential diagnosis, especially in people living in countries where Tuberculosis is endemic

A complete preoperative evaluation and an appropriate clinical history are cornerstones to provide adequate and timely treatment, to avoid the morbidity of extensive and aggressive surgery such as cervical dissection.

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