

## TUBERCULOSIS OF THYROID GLAND MASQUERADING AS A NEOPLASM OF THYROID GLAND IN POST-COVID ERA

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### ABSTRACT

Tuberculosis involving thyroid gland is a very rare clinical entity even in a country like India where tuberculosis is endemic. In Post-COVID era, tuberculosis programs in India facing tough challenges leading to increasing endemicity. We present a case report of a 52 years female patient, who present to our OPD as cytological diagnosed case of thyroid neoplasm which later finally diagnosed as a Tuberculosis of thyroid gland. In the background of Indian sub continental perspective, tuberculosis of thyroid gland should be our differential diagnosis for each cases of Thyroid neoplasm in spite of the rarity of the disease.

**KEY WORD:** Thyroid Tuberculosis; Thyroid neoplasm; Tuberculosis; Post-COVID tuberculosis.

### INTRODUCTION

Tuberculosis involving thyroid gland is a very rare clinical entity.<sup>[1,2,3]</sup> Incidence of Thyroid neoplasm had markedly increased in last decade, specifically for women [Age specific incidence rate, ASR 3.5 /100000 women, 37% rise in ASR] in comparison to men.<sup>[4]</sup> Prevalence of thyroid tuberculosis firstly recognized and described by Coller and Huggins in 1926 where only 5 cases had been found of thyroid tuberculosis out of 1200 histopathology sample of goiter patient.<sup>[1,3]</sup> In a country like india where tuberculosis is endemic, very few cases have been reported till now of tuberculosis of thyroid.<sup>[1, 4, 5]</sup> There is no solid information regarding the exact prevalence of the disease but the rate is varying between 0.1 to 0.4%,<sup>[3, 4, 6]</sup> Thyroid tuberculosis may present as broader spectrum of manifestations like solitary nodule or diffuse or multinodular goiter or remain asymptomatic as well.<sup>[2, 6]</sup> Fine needle aspiration cytology (FNAC) appears to be useful for diagnosis of tubercular thyroiditis in recent days and the reason beings simple, cheap, rapid techniques for obtaining sample for AFB culture as well as cytology.<sup>[2, 6, 7, 8]</sup>

In era of Post-COVID 19, countries health programs have faced tough challenges leading to significant impact in tuberculosis endemicity in countries.<sup>[9, 10]</sup> So we present a case report of a patient, who present to our OPD as cytological diagnosed case of thyroid neoplasm

which later finally diagnosed as Tuberculosis of thyroid gland.

### CASE DISCUSSION

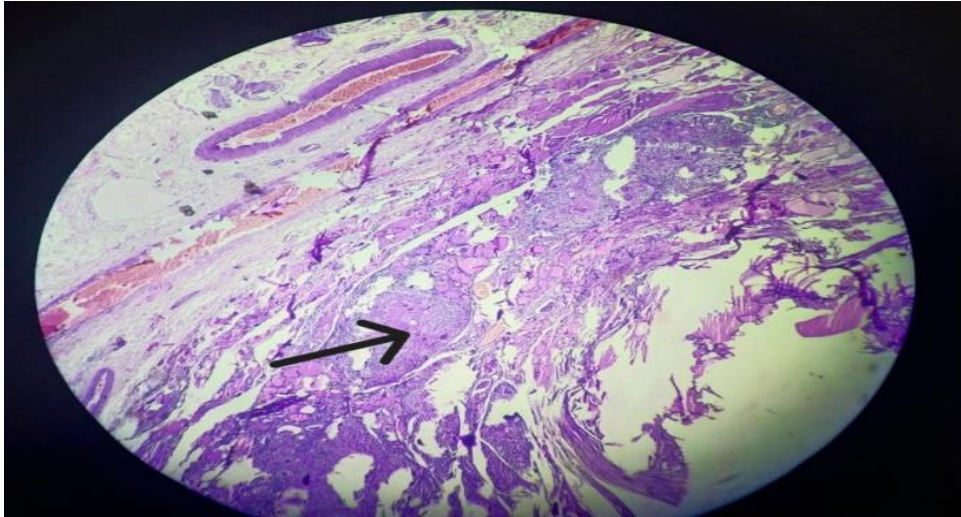
A 52 years old hypertensive female presents with history of long standing neck swelling with recent onset dysphagia to solid food to our OPD. She has a history of tubercular contact 30 years ago otherwise there was no significant past history. Clinically, there is a diffuse swelling in the left lobe of thyroid with another small right lobe nodule of 1×1cm size without any retrosternal extension or palpable neck nodes. There is no clinical and biochemical feature suggestive of hyperthyroidism or hypothyroidism.

On High-resolution ultrasound of neck, multiple TIRADS 3 lesion with one TIRADS 5 lesion of 11×18mm in left lobe noted and there is one TIRADS 4 lesion of 8×12mm in the right lobe of thyroid without any bilateral neck nodes. USG guided FNAC from thyroid swelling gives the impression of HURTLE CELL NEOPLASM OF THYROID GLAND (BETHESDA SYSTEM DIAGNOSTIC CATEGORY- IV).

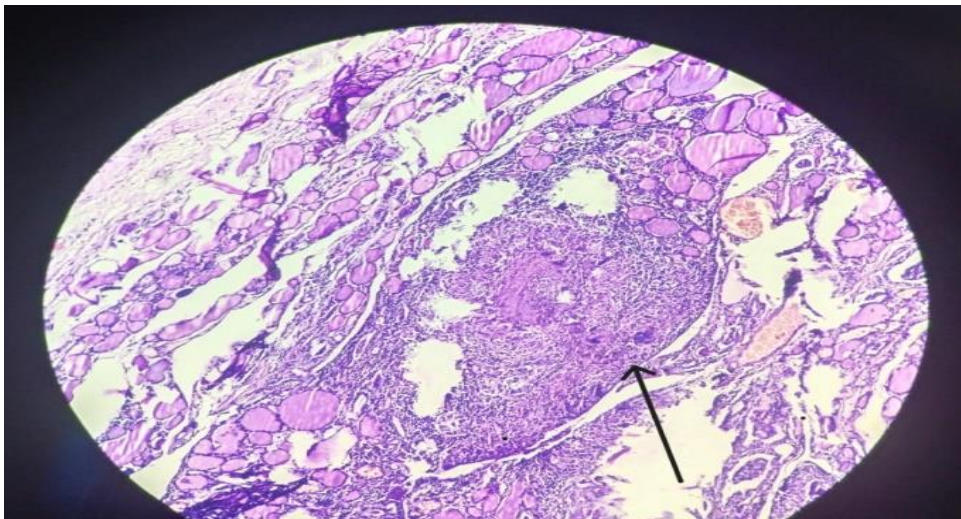
The patient was undergone Total thyroidectomy under general anaesthesia without any lymph node dissection. Her postoperative period was uneventful. On histopathology of the sample shows areas of epithelioid

cells with collection of langhans' giant cells with microcaseating areas suggestive of Granuloma of tubercular etiology(look into Fig:1 & Fig:2). Following that sputum for TrueNat done which comes negative for M. Tuberculosis but on MANTOUX test shows positive

result. From this above mentioned findings she was diagnosed as EXTRA PULMONARY TUBERCULOSIS - TUBERCULOSIS OF THYROID GLAND - DRUG SENSITIVE TUBERCULOSIS and started with respective anti- tubercular drug.



**Fig:1** Histology image of Thyroid Gland with granulomatous lesion(Black arrow).



**Fig: 2** Histopathology image of thyroid gland with thyroid follicles and presence of epithelioid granuloma with microcaseating area (Black arrow) suggestive of tubercular origin.

## DISCUSSION

As thyroid tuberculosis is prevalent in middle age female group, our case also she belongs to early 50's.<sup>[3, 8]</sup> In previous studies, the thyroid function abnormalities may be said to be extremely rare in association with tuberculosis of the thyroid.<sup>[5]</sup> In our case, we found normal thyroid function on two occasions. Although the isolated thyroid gland involvement of disease is extremely rare than the secondary thyroid gland involvement.<sup>[1]</sup> The exact reason behind so rarity of this entity might be hidden by the inherent resistive mechanisms of the thyroid gland. The mechanism could be the bactericidal action of colloid material or the excess of iodine storage in the gland or even the anti -tbc roles exercised by the thyroid gland in the background of highly vascular gland architecture.<sup>[4]</sup>

FNAC provides useful diagnostic tool for Thyroid tuberculosis in previous literatures.<sup>[6, 8]</sup> The diagnosis has to be substantiated by histopathology findings and/or identification of AFB, either on cytological smears or in cultures prepared from biopsy materials.<sup>[5]</sup> For the research of any other foci, x-ray, sputum analysis, may be useful. In our study FNAC report suggestive of HURTLE CELL NEOPLASM OF THYROID GLAND which leads us to proceed with operative management, But later substantiated as a case of Thyroid Tuberculosis on histopathology sampling. As of previously reviewed literature suggests that antitubercular drug is the cornerstone of treatment, surgery has only a limited role<sup>[5]</sup> but in our case we have to proceed with operative management as the FNAC report suggestive of neoplasm.

So, This case report has raised a issue regarding whether Tuberculosis of thyroid gland should be checked for each cases of Thyroid neoplasm in background of Indian scenario. With emerging cases of Multidrug-resistant tuberculosis (MDR-TB) and Extensively drug resistant tuberculosis (XDR-TB) in indian subcontinent during post COVID era<sup>[9, 10]</sup>, tuberculosis should be taken as differential diagnosis for any swelling in all over the body including thyroid gland in spite of the fact that thyroid tuberculosis is rare. Surgeon and Pathologist should be more aware of the tuberculosis during making any diagnosis of any swelling in Body.

**CONFLICT OF INTEREST:** None

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