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## RESEARCH ARTICLE

### PRIMARY TUBERCULOSIS OF THYROID GLAND: A RARE CASE

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#### ABSTRACT

**Background:** Primary Tuberculosis (TB) of the thyroid gland is an extremely rare condition. In fact thyroid gland was considered immune to the tuberculosis till 1862, when Lebert reported the involvement of the gland in a patient with disseminated tuberculosis. **Case report:** We report a young lady of 21 years of age who presented to ENT out-patient department with history of pain and swelling neck of 3 months duration. FNAC showed presence of histiocytes, epithelioid and giant cells, and was positive for acid fast staining suggesting tuberculosis. **Conclusion:** Though a rare entity, tuberculosis of the thyroid gland should be considered while managing a patient with a thyroid nodule. As anti-tuberculosis therapy is efficacious, proper diagnosis by FNAC and histopathological examination could avoid unnecessary surgical interventions.

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#### INTRODUCTION

Primary Tuberculosis (TB) of the thyroid gland is an extremely rare condition. In fact thyroid gland was considered immune to the tuberculosis till 1862, when Lebert reported the involvement of the gland in a patient with disseminated tuberculosis (Khan *et al.*, 2002). Even in areas where prevalence of tuberculosis is high TB of thyroid is seldom seen (Mondal, 1995). Factors responsible for resistance of thyroid gland for TB have been postulated and are as under:

- Presence of thyroid capsule,
- Rich lymphovascular supply,
- High iodine levels,
- Bactericidal action of the colloid & thyroid hormones

These factors explain why primary TB at this site is seldom encountered (Kataria, 2012). Currently of all TB cases, thyroid gland involvement has been estimated to occur at a frequency of 0.1–0.4% (Rankin, 1932). It may be of primary disease of the thyroid or secondary in origin when associated with tuberculosis elsewhere in the body (Mondal, 1995).

However, it seems that the incidence of thyroid tuberculosis is increasing due to the routine practice of fine-needle aspiration cytology (FNAC) which had an important impact on its diagnosis and management (Bulbuloglu *et al.*, 2006). There are isolated case reports and few case series of thyroid tuberculosis in the literature (Abdulsalam, 2005) ours will add a little more information to it.

**Case report:** We report a young lady of 21 years of age who presented to our ENT out-patient department with history of pain and swelling neck of 3 months duration. There was no other significant medical or surgical history. Neck examination showed 1 x 0.5 cm swelling left lobe of thyroid moving with deglutition. It was not moving with protrusion of tongue. It was firm in consistency, non-tender without any pulsations. There was no cervical lymphadenopathy (Fig 1). Rest of the ENT as well as general examination was normal. Patient was advised to undergo FNAC, USG neck and full thyroid profile. FNAC showed presence of histiocytes, epithelioid and giant cells, and was positive for acid fast staining suggesting tuberculosis. USG neck showed hypoechoic nodal mass arising from the left lower lobe of thyroid gland (Fig 2). Thyroid profile (T3, T4, TSH) was within normal limits. Patient was worked up and investigated (CBC, ESR, MONTAUX TEST, Sputum for AFB & CXR) to rule out primary pulmonary tuberculosis. Except raised ESR (30, Wintrobe's method) rest of the investigations were within normal limits and thus primary pulmonary TB was excluded. Patient was started on Antitubercular treatment (ATT cat 2) and is doing well.

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Fig 1. Showing thyroid swelling lower pole on left side

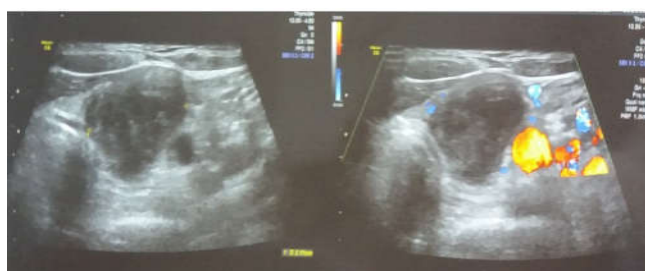


Fig 2. USG neck showing necrotic mass on left lower pole of thyroid

## DISCUSSION

Mean age of onset of Thyroid gland TB is around third to fourth decade of life with slight female preponderance (Bulbuloglu, 2006) which was similar to our case who was female of 21 years of age. The pathology of thyroid gland may be as follows:

- It may simulate miliary TB having multiple lesions throughout the gland.
- Gland enlargement due to caseating granulomas
- Cold abscess with or without multiple sinuses
- Chronic fibrosing tuberculosis, difficult to distinguish from De-Quervein's thyroiditis
- Acute abscess of the gland, which usually is confused with diagnosis of carcinoma (Pandit, 1997).

Differential diagnosis of granulomatous conditions of thyroid on histopathology besides TB are granulomatous thyroiditis, fungal infection, sarcoidosis, granulomatous vasculitis and foreign body reaction. These cases are distinguished from TB by absence of caseating necrosis seen only in tuberculous inflammation (Maitra, 2010).

Although a rare entity, Tuberculosis of thyroid should be kept in mind as a differential diagnosis when evaluating a thyroid swelling. Though the final diagnosis is made on histopathological examination only, strong suspicion & ancillary TB investigations will help to come to diagnosis & will prevent unnecessary surgical intervention (Thyroidectomies or incision and drainages). Anti-Tuberculous drugs are considered as first-line treatment modality, & have been seen to resolute the infection completely (Terzidis, 2007).

## Conclusion

Though a rare entity, tuberculosis of the thyroid gland should be considered while managing a patient with a thyroid nodule, especially in our part of world where tuberculosis is very common. As anti-tuberculosis therapy is efficacious, proper diagnosis by FNAC and histopathological examination could avoid unnecessary surgical interventions.

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