

Case Report

A rare case of thyroid tuberculosis

Sivakumar Thirunavukkarasu, Atreya M. Subramanian*

Department of Surgery, Government Stanley Medical College and Hospital, Chennai, Tamil Nadu, India

Received: 19 April 2018

Accepted: 24 May 2018

***Correspondence:**

Dr. Atreya M. Subramanian,
E-mail: atreya11@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Thyroid tuberculosis although known to be a rare entity provides a diagnostic challenge to the clinician. Clinically, radiologically and even histologically proving to be difficult to arrive at a diagnosis. Its incidence according to literature is 0.1-0.4%. Tuberculosis may be found at multiple sites but incidence in the thyroid, pancreas, striated and cardiac muscle is extremely rare. Herein, we discuss a case of a 60 year old female complaining of a swelling in the front of the neck (more on the right side) since 45 days. Clinically it appeared to be a thyroid swelling. An ultrasound showed a bulky right lobe with heterogeneous echoes. FNAC showed features suggestive of a follicular adenoma. Intraoperatively a firm thyroid was palpable and total thyroidectomy was done. Histopathological examination was done revealing langhan giant cells and an area of caseous necrosis, confirming tuberculosis. The patient was started on thyroid replacement therapy and anti-tubercular therapy. The patient had no significant complications in the 6 months follow up period. In tuberculosis endemic areas, one must maintain a high index of suspicion for thyroid swellings which may show foci of tuberculosis, especially if they have an elevated ESR and other foci of tuberculosis.

Keywords: Caseous necrosis, Langhan giant cells, Thyroid swelling, Tuberculosis, Thyroidectomy

INTRODUCTION

Isolated thyroid tuberculosis is a rare entity even in settings where the prevalence of tuberculosis is high. The diagnosis is made even more difficult by the fact that it can present as an abscess, a diffuse swelling or a solitary nodule. Due to this myriad of presentations, a thorough work up of the patient including radiological and histological diagnosis is essential.

The first case of tubercular involvement of the thyroid gland was made by Lebert in 1862, in a case of disseminated tuberculosis.¹ From its inception misdiagnosis of this condition has been common and even mistaken for malignancy.² Since 1952, two studies involving fine needle aspiration cytology (FNAC) were conducted and lesions compatible with thyroid tuberculosis were found in 8 out of 1283 and in 18 out of 1565 cases, respectively.^{3,4} The exact number of cases

reported is difficult to determine, but to our knowledge at least 186 cases can be found cumulatively in the English language literature, four of which were children. According to literature the frequency of tuberculosis in thyroid is 0.1%-0.4% in histologically diagnosed specimens.¹ Similarly, the true incidence of tuberculous thyroiditis is difficult to estimate possibly due to escape of the etiologic diagnosis.⁵

Tuberculosis may affect the thyroid gland via either the haematogenous or the lymphogenous route or by direct invasion from the larynx or cervical lymph nodes.⁶ Yet, there are many reported cases in the literature with isolated thyroid tuberculosis with no evidence of enlarged nodes or other foci of infection.

The other less common mode of spread is secondary to a disseminated form of tuberculosis. The low incidence of thyroid TB (isolated or part of disseminated disease) can

be attributed to the bactericidal action of the colloid, high vascularity and high iodine content of the gland.²

Tuberculous thyroiditis may present as one of the followings

- Acute thyroiditis
- Solitary nodule thyroid /Diffuse thyroid swelling/cold abscess
- A subacute course resembling subacute granulomatous thyroiditis (De Quervain's) or that of chronic non-suppurative thyroiditis or secondary to miliary TB presenting with multiple sinuses.^{7,8,9}

Thus, suspecting thyroid tuberculosis clinically is always difficult.

CASE REPORT

A 60 year old lady presented with complaints of a swelling in the anterior aspect of the neck (more on the right side) since 45 days which gradually increased in size.

The patient did not have any obstructive symptoms, or symptoms consistent with hyper/hypothyroidism. She did not experience any chronic cough, weight loss or low-grade fever. She denied any previous history of tuberculosis or tuberculosis exposure. She was a diabetic and hypertensive but well controlled with medication and had a hysterectomy for a fibroid uterus 16 years back.



Figure 1: Patient clinical photo

Clinically it appeared to be a 3x3 cm swelling which moved with deglutition. On palpation it was firm in consistency with no discernable lymphadenopathy. Basic blood investigations were normal including thyroid profile.

An ultrasound showed a few nodules in both lobes of the thyroid with a bulky rt lobe with heterogenous echoes. FNAC showed features suggestive of a follicular

adenoma. Due to presence of thyroid nodules in both lobes a total thyroidectomy was planned.

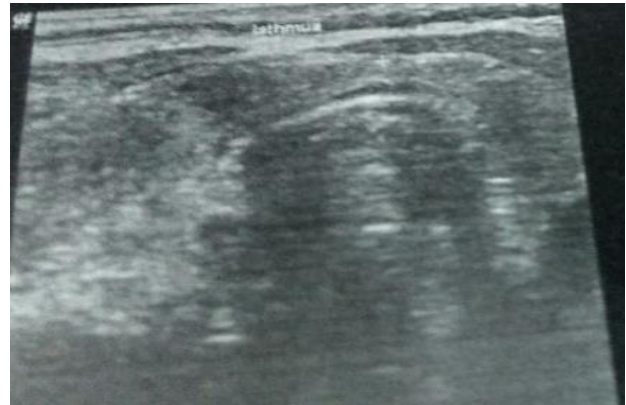
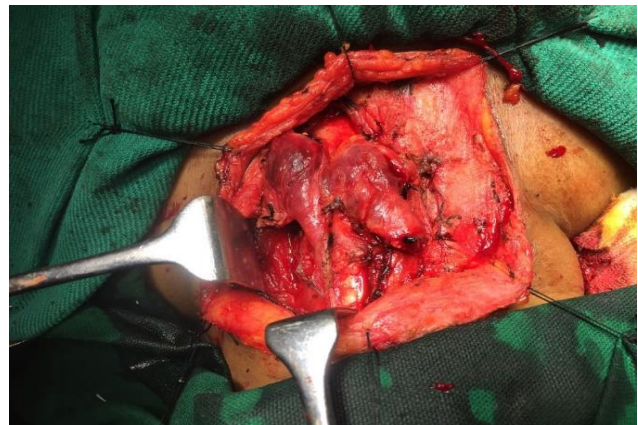
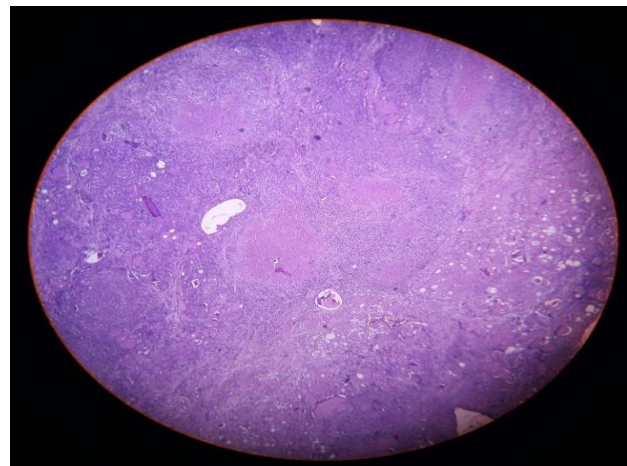


Figure 2: Ultrasound photo.



On table picture showing a bulky right lobe with a pyramidal lobe

Figure 3: Intra operative photo



Light microscopy showing areas of caseous necrosis

Figure 4: Histopathological photo

Intraoperatively, a firm thyroid was palpable with a pyramidal lobe and total thyroidectomy was done as planned. No other complications were noted intraoperatively. The patient had transient hypocalcemia

which improved by post-operative day 3 and calcium gluconate infusion. The drainage tubes were removed on post-operative day 3, sutures were removed on post-operative day 7. Histopathological examination was done revealing langhan giant cells and an area of caseous necrosis, confirming tuberculosis. The patient was started on thyroid replacement therapy and anti-tubercular therapy. The patient had no significant complications in the 6 months follow up period.

DISCUSSION

Thyroid tuberculosis presents a diagnostic dilemma, on standard blood investigations most patients are euthyroid, though few patients with thyroiditis may present with thyrotoxicosis or hypothyroidism.⁵ An elevated ESR is in favour of thyroiditis though is not elevated in most cases. In the event of a clinical picture of thyroiditis with a negative antibody panel, a mantoux maybe done to evaluate for TB thyroiditis as one of the differential diagnosis. An ultrasound generally shows a picture similar to that of multinodular goitre or an isolated collection suggestive of cold abscess. The definitive diagnosis still lies with histology, an FNAC mostly diagnoses the condition, demonstrating the presence of caseous necrosis. There are instances where FNAC is unable to demonstrate the presence of AFB (as in this case) and is diagnosed as colloid goitre (case reported by Sharma et al) or hurthle cell adenoma (case reported by Majid et al).^{7,9} In cases where frank pus exudes on FNAC, culture may be done which confirms the diagnosis.⁷

In a case of tubercular abscess, drainage is generally sufficient, though repeated aspirations with ATT (anti-tubercular therapy) are the least invasive mode of management.¹⁰ Incision and drainage coupled with ATT is the treatment of choice for a fluctuant abscess.¹¹ Surgical removal of the gland is necessary when there is evidence of nodular goitre or preoperative diagnosis is suggestive of a more sinister etiology. If the preoperative diagnosis itself is confirmatory of TB one can proceed with ATT alone which has shown to provide good patient outcomes and the avoidance of unnecessary surgery.¹⁰⁻¹³

Tuberculosis though, still remains an important health problem especially in developing countries. It was observed that certain tissues are relatively resistant to tuberculosis, i.e., heart, striated muscles, thyroid and pancreas.¹⁴ Though this might be true which explains the rare presentation of TB at such sites, cases are still encountered. Tubercular thyroiditis though extremely rare must be kept as one of the differential diagnosis especially in an endemic area. Due to a multitude of presentations, coming to a diagnosis of Tb thyroiditis remains a challenge with the diagnosis hinging on FNAC and histopathology.¹⁵ In cases where the diagnosis is clear on FNAC, ATT seems to be sufficient, though surgery is necessary in cases presenting as goiters wherein

preoperative diagnosis with FNAC is suggestive of other etiologies and later confirmed on histopathology.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Sant PK, Parul T, Sneha S, and Sanjay K. Primary tuberculosis of the thyroid gland: a case report Asian Pac J Trop Biomed. 2012;2(10):839-40.
2. Zivaljevic V, Paunovic I, Diklic A. Tuberculosis of the thyroid gland: a case report. Acta Chi Belgica. 2007;107(1):70-2.
3. Mondal A, Patra DK. Efficacy of fine needle aspiration cytology in the diagnosis of tuberculosis of the thyroid gland: a study of 18 cases. The J Laryngol Otol. 1995;109(1):36-8.
4. Das DK, Pant CS, Chachra KL, Gupta AK. Fine needle aspiration cytology diagnosis of tuberculous thyroiditis. A report of eight cases. Acta Cytol. 1992;36(4):517-22.
5. Konstantinos T, Panagoula T, Erasmia K, Maria A. Thyroid tuberculosis. Hormones. 2007;6(1):75-9.
6. Balasarkar D, Dhaireswar J, Satoskar RR, Awsare N, Mahey R, Kumar V. Primary thyroid tuberculosis. Available from: URL: http://www.bhj.org/journal/special_issue_tb/SP_13.HTM.
7. Majid U, Islam N. Thyroid tuberculosis: a case series and a review of the literature. J Thyroid Res. 2011;2011.
8. Simkus A. Thyroid tuberculosis. Medicina (Kaunas). 2004;40(3):201-4.
9. Barindra S, Deepak K, Dwijaraj S, Debnath K, Santa N. Primary Tuberculosis of the Thyroid Gland - a rarity. J Indian Acad Clin Med. 2006;7(4):363-4.
10. El Malki HO, el Absi M, Mohsine R, Ait Taleb K, Chefchaoui MC, Oulbacha S, et al. Tuberculosis of the thyroid. Diagnosis and treatment. Ann Chir. 2002;127(5):385-7.
11. Talwar VK, Gupta H, Kumar A. Isolated tuberculous thyroiditis. J Indian Acad Clin Med. 2003;4(3): 238-9.
12. Milcu SM, Spandonide T, Saim A. Tuberculous thyroiditis cured by drug therapy. Endocrinol. 1981;19(4):261-3.
13. Orlandi F, Fiorini S, Gonzatto I, Saggiorato E, Pivano G, Angeli A, et al. Tubercular involvement of the thyroid gland: a report of two cases. Horm Res Paediatr. 1999;52(6):291-4.
14. Avinash A, Amita P, Joshi S, Ogale SB, Sheode JH. Tuberculosis of thyroid gland. Indian J Tuberculosis. 1997;44:205-8.
15. Shahid M, Syed RH, Muhammad SA. Primary tuberculosis of thyroid gland. Rawal Med J 2013;38:84-5.

Cite this article as: Thirunavukkarasu S, Subramanian AM, Gupta A. A rare case of thyroid tuberculosis. Int Surg J 2018;5:2679-81.