



ORIGINAL RESEARCH PAPER

Surgery

TUBERCULOSIS OF THE THYROID GLAND: A CASE REPORT

KEY WORDS: Thyroid gland, Tuberculosis.

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ABSTRACT

Thyroid gland tuberculosis is a rare condition, and primary thyroid involvement is even more uncommon. Initially they used to believe that thyroid gland is immune to tuberculosis and the reasons for the relative immunity include bactericidal attribute of the colloid, extensive vascularity and high iodine content of the gland. Our patient is a 36 years lady, housewife by occupation. Ultrasound (USG) neck was done which reported that right thyroid lobe was mildly enlarged with a poorly margined irregularly oval heterogeneous

INTRODUCTION

Tuberculosis of thyroid is very rare entity and was first reported by Lebert in 1862 in a disseminated tuberculosis patient. [1]. Tuberculosis of thyroid is reported rarely even in countries of high incidence of tuberculosis [2]. Initially they used to believe that thyroid gland is immune to tuberculosis and the reasons for the relative immunity include bactericidal attribute of the colloid, extensive vascularity and high iodine content of the gland [2]. Most cases are of disseminated type and primary tuberculosis of thyroid is even rarer [3]. Sometimes thyroid tuberculosis can mask a thyroid tumor, which poses diagnostic and therapeutic issues.[4]. Thyroid involvement can be symptom free as seen in generalized miliary spread, diffuse or localized swelling of the gland [5]. It can also present as thyroid abscess or thyroiditis in pulmonary tuberculosis patients [6]. We present a case of a 35 years lady who presented with painful thyroid swelling for the last 45 days, which on histology was proved to be tuberculosis of thyroid.

Case Report

Our patient is a 36 years lady, housewife by occupation was apparently well 45 days back when she started having difficulty which used to increase on lying down. She also experienced pain on the right side of neck associated with difficulty in swallowing. There was no history of any symptoms suggestive of hypothyroidism or hyperthyroidism. She was not having loss of appetite or loss of body weight. She took anti tubercular treatment twice in year 2001 and again in 2012 for pulmonary tuberculosis. She underwent an excisional biopsy of right lower cervical lymph node which reported granulomatous lymphadenitis.

On examination she was afebrile, Pulse rate was 78 per minute which was normal in volume and regular, blood pressure was 120/90 mmHg, respiratory rate was 20, SPO2 98/min. Rest systemic examination were essentially normal.

On local examination, there was a single globular swelling measuring 4 cm x 2.5 cm in front of the neck on the right side. There was no local rise of temperature, swelling was tender and firm in consistency. Swelling was moving with deglutition. On palpation, noncervical lymph nodes noted bilaterally.

Ultrasound (USG) neck was done which reported that right thyroid lobe mildly enlarged with a poorly margined irregularly oval heterogeneous subtle hypoechoic area, measuring approximately 15mm x 10mm x 11mm, with severe probe tenderness seen in mid part- possibility of evolving abscess. Few small subcentimeter lymph nodes with mild probe tenderness are also seen adjacent to right thyroid lobe suggesting reactive lymphnodes. Left thyroid lobe as well as thyroid isthmus appeared normal in size, shape, position and morphology with no focal abnormality.

CECT neck was done on which reported mildly enhancing hypodense lesion measuring approximately 17mm x15mm x 10mm in right lobe of thyroid along with sub-centimetric lymph nodes. She underwent ultrasound guided FNAC of lesion in right gland thyroid lobe which was suggestive of lymphocytic thyroiditis. She was started on conservative treatment in the form of antibiotics and anti-inflammatory medication. Despite of 12 days of conservative treatment, her symptoms worsened and so decision of hemi-thyroidectomy, frozen section and proceed was taken.

Preoperative routine investigations were within normal limits. Her thyroid profile was also normal. Pre-anaesthetic checkup was done and she was cleared for surgery.

Operative finding: Right thyroid lobe was of size 4 cm x 2.5 cm, hard in consistency and was densely adherent with oesophagus and recurrent laryngeal nerve on the postero-medial aspect. Left thyroid lobe was normal in size, soft in consistency and no nodules were noted over it. Right thyroid lobe along with isthmus was excised and sent for frozen section biopsy which reported chronic thyroiditis. Post-operative period was uneventful and she was discharged.

HPE: Histopathological examination of the biopsy revealed granulomatous thyroiditis suggestive of tuberculosis. she was subsequently started on anti-tubercular treatment.

DISCUSSION

Tuberculosis of thyroid is rarest medical condition whether it is primary or secondary. Primary tuberculosis of thyroid gland is even rarer. Secondary involvement of thyroid gland is more common as a part of miliary tuberculosis. The scientific literature reported about 200 cases of TB in the thyroid gland, most were having primary focus outside the thyroid gland (Ghosh and pajito). In histologically diagnosed thyroid lesions, TB thyroid accounts for around 0.1 to 0.4 %3. Das et al conducted a study including in which they did fine needle aspiration cytology of thyroid lesions in 1283 patients and diagnosed 8 cases of TB thyroiditis (0.6%). In another study done by Rokitsky he published that out of 20,758 surgically resected cases of thyroid glands, only 21 cases of thyroid tuberculosis was diagnosed (0.1%).

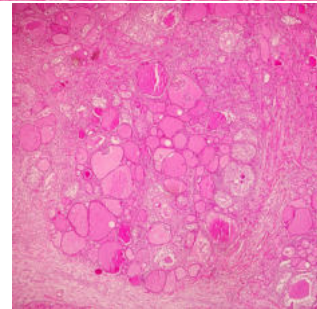
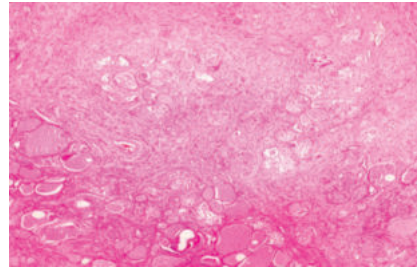
It is noted that some tissues of our body are resistant to tuberculosis infection as compare to other tissues and one among them is thyroid gland. There are many factors attributed to this resistance to TB infection and its rarity in thyroid gland. Well-developed capsule of thyroid gland makes difficulty in entry of TB bacilli. High iodine content and thyroid hormones are responsible for the anti-tubercular action.

Isolated involvement of thyroid gland presents as localized

swelling which may mimic as thyroid carcinoma. It may also presents as goitre with caseation, or as a cold abscess with no features of inflammation or as chronic fibrosing tuberculosis or very rarely as an acute abscess. (Uzma Majid and Najmul Islam) S. Girgin, E. Gedik& H. Büyükbayram). Clinically most of the cases are asymptomatic. Symptomatic patients present with complaints of swelling, local pain, dysphagia and features of local inflammation if it presents as acute thyroiditis or abscess.

Features of pulmonary or military tuberculosis can be present in such patients having secondary involvement of thyroid gland. Most of the patients with TB thyroiditis are euthyroid, but thyrotoxicosis followed by hypothyroidism was also reported though rare because of destruction of thyroid follicles leading to release of thyroid hormones followed by depletion of hormones. (2820288). One should have a high index of suspicion for involvement of thyroid gland in patients having past history of pulmonary or cervical lymphnode tuberculosis. Routine blood investigations, Chest X-ray may help in diagnosis if patient has pulmonary TB. ESR may be raised and helps in diagnosis and sometimes maybe normal even in TB thyroiditis. USG neck is the first investigation if patient comes with swelling along with thyroid function tests. USG findings of TB thyroiditis can be varied according to its presentation. USG findings can be homogenous if it is goitre, heterogenous and hypoechoic mass mimicking neoplasm or anechoic with internal echos sometimes in case of acute abscess. USG guided FNAC and histological diagnosis is confirmatory [13–15].

The characteristic findings of cytopathology includes granulomas, Langerhans giant cells, caseous necrosis and peripheral neutrophil infiltration. 16 CT neck can also be useful in diagnosis of TB thyroiditis. Recent studies suggested that MRI neck in case of chronic TB inflammation of thyroid appears to have intermittent signal intensity but similar appearance is also seen in malignancy. It appears hypointense and hyperintense in T1 and T2 weighted images respectively in case of abscess. Treatment of tuberculosis is almost similar to treatment of other forms of tuberculosis. It mainly depends up on the presentation. If patient is asymptomatic with goitre or with chronic TB necrosis, only anti-tubercular treatment (ATT) is considered. ATT includes 6 months course of HRZE for 2 months and HRE for 4 months in case of primary TB and 8 months course of HRZES for 2 months, HRZE for 1 month and HRE for 5 months in case of secondary TB or relapse case. There is complete resolution of TB. Surgical treatment thyroidectomy is indicated in cases of thyroiditis with mechanical obstruction, underlying malignancy or thyroiditis with hyperthyroidism which is resistant to medical treatment. Surgical drainage is done in case of acute abscess. If patient had undergone total thyroidectomy, no ATT is needed. In cases of subtotal thyroidectomy, near total thyroidectomy or lobectomy, 6 month course of ATT is recommended in all cases of TB thyroiditis following surgical intervention. In case of thyroiditis of TB causing cervical pain and upper lobe atelectasis of lung, 3 months course of oral steroids are recommended and then evaluated for the response of treatment. Thyroid function tests are done during and after the treatment in order to assess the thyroid function.



CONCLUSION

Thyroid TB is a rare entity and in this primary TB thyroid is even rarer. Clinical presentation, past history of TB and raised ESR can help in coming to correct diagnosis. USG guided FNAC is confirmatory test of choice. Imaging studies have low sensitivity of diagnosis. ATT is treatment of choice, but in cases of acute abscess and thyroiditis, surgical intervention is required.

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