

## Case Report

### Primary tuberculosis of thyroid gland

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#### ABSTRACT

We present a case of primary tuberculosis of thyroid gland in a 21 years old female with a solitary swelling of the thyroid gland. Clinically and biochemically, she was euthyroid. After

investigations, subtotal thyroidectomy was done. Histological examination shows tuberculosis of thyroid gland. (Rawal Med J 2013;38:84-85).

**Key words:** Tuberculosis, thyroid, chronic inflammation.

#### INTRODUCTION

Tuberculosis (TB) of thyroid gland is very rare, even in South East Asia where pulmonary tuberculosis is very common. Interestingly, not a single case has been reported from Pakistan. Lebert in 1862 described the 1<sup>st</sup> case of tuberculosis of thyroid gland in disseminated TB. Isolated case of thyroid TB was first described by Bruns in 1893 in a middle aged woman and Schwartz in 1894 successfully drained 1<sup>st</sup> tuberculous abscess from thyroid gland.<sup>1</sup> Most of the time, TB of thyroid is symptom free and is part of miliary tuberculosis. The most distinct feature is granuloma formation which consist of giant cells clustered with foci of degenerating thyroid follicles. Due to resemblance with granulomatous tissue reaction in thyroid tuberculosis, the term of pseudotuberculous thyroiditis arose.<sup>2</sup> As the primary involvement of thyroid is rare, diagnosis is usually depends on histopathology. Sometimes it destroys whole of the thyroid gland and forms an abscess<sup>3</sup> in a patient with known pulmonary TB.<sup>4</sup> Sometimes, FNAC from solitary nodule turned out to be positive for TB.<sup>5</sup> Primary involvement is difficult to explain, latent focus is important. Spread is hematogenous, lymphogenous or directly from larynx or cervical lymph nodes in case of progressive infection.<sup>3</sup>

#### CASE REPORT

This 21 years old unmarried girl from Rawalpindi presented to the surgical outpatient department of Fauji Foundation Hospital with complaint of swelling in front of neck. Clinically, she was euthyroid with pulse rate of 72 beats per minute. No

complaints including cough, fever or weight loss were present. Local examination showed a solitary nodule in the left lobe of thyroid. Thyroid function tests and ESR were within normal range. A chest radiograph did not reveal any abnormality in the lungs. Thyroid scan showed cold nodule and FNAC was consistent with granulomatous thyroiditis. Patient was subjected to sub-total thyroidectomy. Histopathology showed chronic non caseating inflammation most likely TB. No growth of mycobacterium was obtained from the specimen.

#### DISCUSSION

In 19<sup>th</sup> century it was believed that TB never involved thyroid. Other tissues which are resistant to TB are heart, striated muscles and pancreas.<sup>5</sup> Later on, the idea of inherent resistance of thyroid gland changed when five cases of thyroid TB were described by Coller and Huggins (1926) in a series of 1200 thyroid operations.<sup>6</sup> The true incidence of the tuberculous thyroiditis is difficult to determine, as there are considerable differences in the criteria used to establish the diagnosis in these cases.

Tuberculosis may involve thyroid gland in 2 main forms. The more common of these is miliary spread to thyroid gland as a part of generalized dissemination, but this form has never been shown to give rise to clinical thyroid disease. Occasionally, miliary spread may occur in pre-existing thyroid enlargement. Less commonly, focal caseous TB of thyroid may occur, presenting as a localized swelling mimicking carcinoma, rarely as an acute abscess or as a thyroid nodule, as seen in our case. Fibrosis and adherence to adjacent structure may

occasionally give rise to pressure symptoms like dysphagia, dyspnea or recurrent laryngeal nerve palsy. Thyroid TB can be distinguished from sarcoidosis and sub acute thyroiditis by the presence of caseation and demonstration of acid fast bacilli.<sup>6</sup> It is agreed by the pathologists that it is not possible to isolate acid fast bacilli in all the cases.<sup>7</sup> Disorders of thyroid function have seldom been described in association with tuberculous thyroiditis, however, Mosiman recorded seven cases to be clinically thyrotoxic.<sup>7</sup>

Histologically, multiple coalesced and caseated epithelioid cell granulomas along with giant cells are considered to be diagnostic of tuberculous affection of the gland.<sup>8</sup> Pre operative ultrasound and CT can help in diagnosis. Heterogeneous hypo echoic mass is seen on ultra sonogram and peripheral-enhancing low-density abscess with regional lymphadenopathy is demonstrated on CT scan.<sup>9</sup> A case of thyroid TB showed multifocal, heterogeneous, hypo echoic lesions with ill-defined margins in both lobes of the thyroid and several small, oval lymph nodes in the left lower internal jugular chain.<sup>10</sup> Author personally believe that ultrasound or CT are not cost effective for confirmation of thyroid TB, as all reported cases were based solely on histopathology.

Treatment is surgery with ATT and response is good. In case of tuberculous abscess, drainage is sufficient.<sup>11</sup> Repeated puncture drainage and ATT is the least invasive mode of treatment for tuberculous abscess.<sup>12</sup> In summary, TB should be considered in the differential diagnosis of anterior cervical swellings in a country like Pakistan. FNAC can help in confirming the diagnosis but final

confirmation is made by histopathological examination.

**Conflict of Interest:** None declared  
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