

# Tuberculosis of the thyroid gland: A report of two cases

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## INTRODUCTION

Tuberculosis (TB) of the thyroid is a rare disease, especially the primary form of the disease. Most of the cases are accompanied by other loci of the disease in the body. Sometimes associated with regional lymph nodes, thyroid TB can mask a thyroid tumor, which poses a diagnostic and therapeutic issue. We report two cases of thyroid TB we observed at our clinic with a good therapeutic response in both cases.

## CASE REPORTS

The patients were observed at the Soavinandriana Hospital (CENHOSOA).

### Case 1

The first case was a 57-year male who had been followed for approximately 14 years for a chronic goiter. A recent ultrasound examination, made in the context of his follow-up, showed voluminous thyroid nodules

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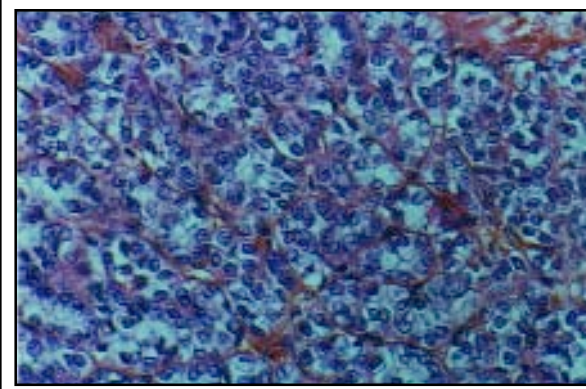
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with several calcifications and a round, heterogeneous right-sided jugulocarotid lymph node. After being admitted in our department, an interstitial retractile infiltrate of the right apex was found on the chest x-ray, associated with an interlobar pleuritis. It was then decided to do a subtotal thyroidectomy and the histopathological examination of a thyroid tissue sample showed definite tuberculoid type granulomatous formations with caseous necrosis and three nodules consistent with features of papillary carcinoma (Figure 1). A tuberculin test was negative. A secondary total thyroidectomy with bilateral resection of lymph nodes was then performed. The lymph nodes demonstrated an appearance of non-specific inflammation. He was treated by a pharmacological anti-TB treatment with a good response and a favourable follow-up.

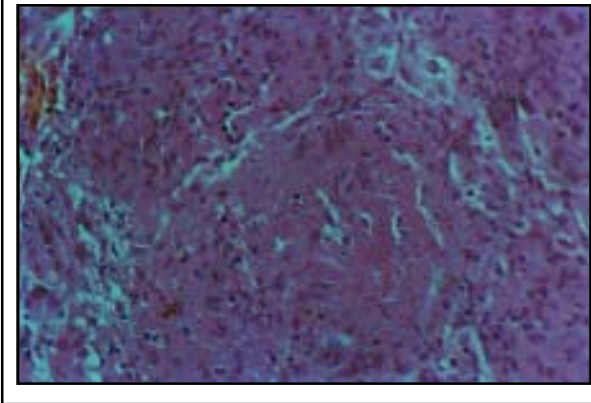
### Case 2

The second case was 40-year old female patient who presented with a multinodular goiter and left latero-cervical multiple lymph nodes, associated with a dys-

**Figure 1: Papillary carcinoma of the thyroid.**



**Figure 2: Tuberculosis of the thyroid gland.**



phony resulting from a left vocal cord paresis. Imaging examinations were normal. A cervical ultrasound showed several enlarged jugulocarotid lymph nodes as well as hypoechogenic and highly vascularised thyroid nodules. The patient underwent a total thyroidectomy with a bilateral cervical lymph nodes resection. Pathological results showed tuberculoid-like granulomatous lesions with epithelioid follicles consisting of Langhans giant cells within the thyroid gland and (Figure 2) lymph nodes. Tuberculin test was negative. The response to treatment was good with a progressive normalisation of the patient's voice after the 3rd week, and a return to normal after the 5th week. This patient remained in a stable condition during a 14-month follow-up and there was no evidence of disease recurrence.

In both our cases, the treatment was pharmacological and identical. The anti-tuberculosis treatment protocol lasted for 8 months (2 months of initial treatment and 6 months of maintenance therapy): 2 RHZE + 6 HT (R: rifampicin, H: isoniazid, Z: pyrazinamide, E: ethambutol, T: thiacetazone)

## DISCUSSION

Thyroid tuberculosis is a relatively rare condition, even in countries in which it is endemic. Mecibah et al. [1] have reported 3 cases per million on samples collected after thyroidectomy. There are approximately 200 cases of tuberculosis of the thyroid reported throughout the medical literature [10]. There are no specific symptoms of thyroid tuberculosis [2]. Various manifestations can be observed: an isolated nodule or a nodule associated with miliary tuberculosis and cervical lymph nodes, with or without evidence of thyro-

toxicosis [3]. Tuberculous abscesses of the thyroid gland are very rare but a high risk complication of TB of the thyroid gland. Signs of compression or presence of lymph nodes suggest lymph node metastasis of thyroid cancer [4].

A careful history and clinical examination of the patient must be obtained as most of the signs are epidemiological (contact tracing) and clinical (signs of tuberculosis infection, military tuberculosis, fistulation of a cold abscess).

This must be completed by an intradermal tuberculin reaction which can be positive. Tuberculosis should be considered in the differential diagnosis of any thyroid swelling associated with biological signs of inflammation, whatever the appearance. One pitfall would be to focus immediately on a cancer and perform a thyroidectomy. The diagnostic approach must include a preliminary tuberculin test [3].

Chest X-ray could lead to the suspicion of an old or recent history of tuberculosis [5], as in our first case. Ultrasound examination, as performed on both our patients, provides a great deal more information about thyroid nodules and parenchyma (echogenicity, calcifications) as well as about the state of cervical lymph nodes.

Simple and fast, fine-needle aspiration, followed by a cytobacteriological examination [2-3, 6] or by PCR [7], can confirm the diagnosis of tuberculosis. Discovering acid-fast bacilli (AFB) or epithelioid granuloma with necrosis [3, 5, 8] using such an approach would avoid to perform a lobectomy.

Surgery followed by pathological examination of the operative material must be regarded only as the final step of the diagnosis of a thyroid mass.

Diagnosis of thyroid tuberculosis is often a pathological finding [3, 8]. Neither of our patients benefited from performing a tuberculin test, as we made the diagnosis of tuberculosis only after obtaining the pathological results.

Presence of tuberculous granulomata and multinuclear giant cells was observed in both our cases. The presence of caseous necrosis (case 1) as well as the visualization of lesions in the lymph nodes reinforced suspicions (case 2). However, the discovery of AFB would have enabled a firmer confirmation of these diagnoses.

The potential association of a TB and a thyroid cancer [5] should lead to look for a TB in a case with a suspicion of cancer and vice-versa. The tests of thyroid

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function are normal in the majority of patients [4]. Thyrotoxicosis or hypothyroidism are exceptional, but can be found [9].

Apart from thyroid cancer, the differential diagnosis includes the following conditions: nodular goitre, Graves'-Basedow's disease and thyroiditis [2].

The treatment of tuberculosis of thyroid gland is usually medical [2- 3]. The protocol of anti-tuberculosis treatment, which we have used, lasted for 8 months, according to recommendations of National Tuberculosis Programme of Madagascar. Occasionally, limited surgery is necessary (abscess drainage, excision of necrosis or partial thyroidectomy), followed by classic specific multi-chemotherapy to achieve complete recovery [3-4].

### CONCLUSION

Tuberculosis is a rare cause of nodular and multinodular goiter. This condition should be considered, especially in countries with endemic tuberculosis in order to spare a heavy therapeutic burden, as in the case of a suspected malignant pathology.

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