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Incidental Discovery of Thyroid Tuberculosis on Isthmolobectomy Example: Clinical Case

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Abstract **Case Report**

Thyroid tuberculosis remains a rare clinico-histological entity. The clinical symptomatology is non-specific, mainly made by a goiter or thyroiditis with a subacute or chronic evolution. The diagnosis of certainty is confirmed by pathological examination of the thyroidectomy specimen. Anti-bacillary treatment of classic tuberculosis allows complete cure.

Keywords: Thyroid; tuberculosis; goiter; granuloma; necrosis.

INTRODUCTION

Thyroid tuberculosis (TT) remains a rare condition even in tuberculosis endemic countries as is the case in our country. The frequency of thyroid involvement is estimated between 0.1 and 0.4% of all locations of the disease [1, 2]. This pathology can take on several clinical aspects, which makes the diagnosis even more difficult. We report a case of T.T which we compare with data from the literature, emphasizing the diagnostic difficulties.

OBSERVATION

This is a 54-year-old patient who underwent a left isthmo-lobectomy in 2006 (without documentation), admitted for consultation for left basicervical swelling measuring more than 6 cm, of soft consistency and regular boundaries, mobile in relation to both superficial and deep plans, without inflammatory signs compared with a negative crochet sign. Biologically, the patient is in euthyroidism with a TSH of 2.9 m IU/L and a T4 of 16 p mol/L. Cervical ultrasound made the diagnosis of a right totolobar nodule classified Eu TIRADS III (Figure 1). Surgical treatment was planned and the patient underwent a right isthmolobectomy (Figure 2). The anatomopathological study of the surgical specimen showed a thyroid parenchyma with preserved morphology comprising scattered granulomas (Figure 3), with epithelioid cells and Langhans-type giant cells, of variable size, confluent and centered by outlines of caseous necrosis (Figure 4).

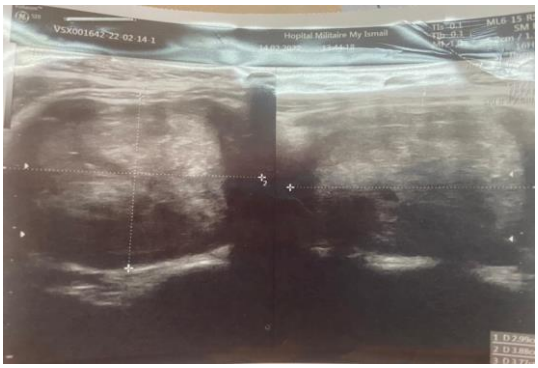

Figure 1: Ultrasound image showing a hyperechoic nodule classified TIRADS III

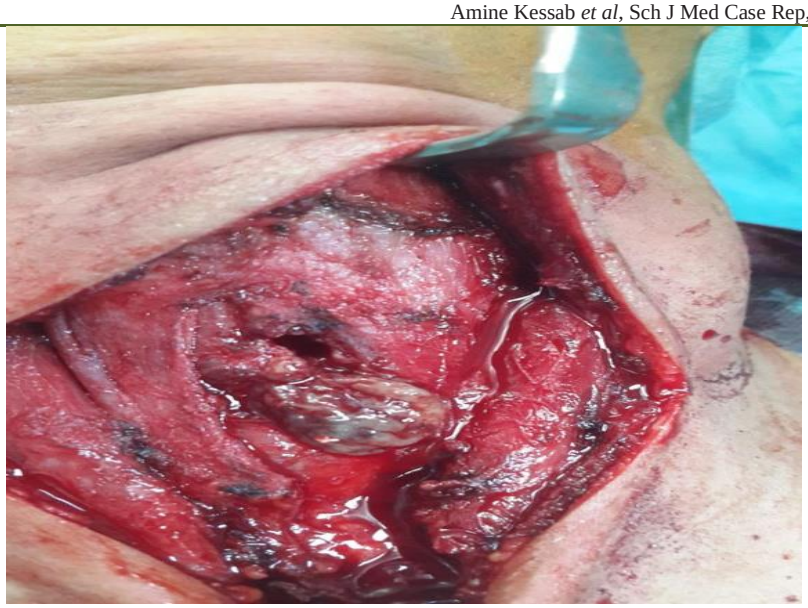

Figure 2: Image showing the thyroid nodule during the surgical procedure

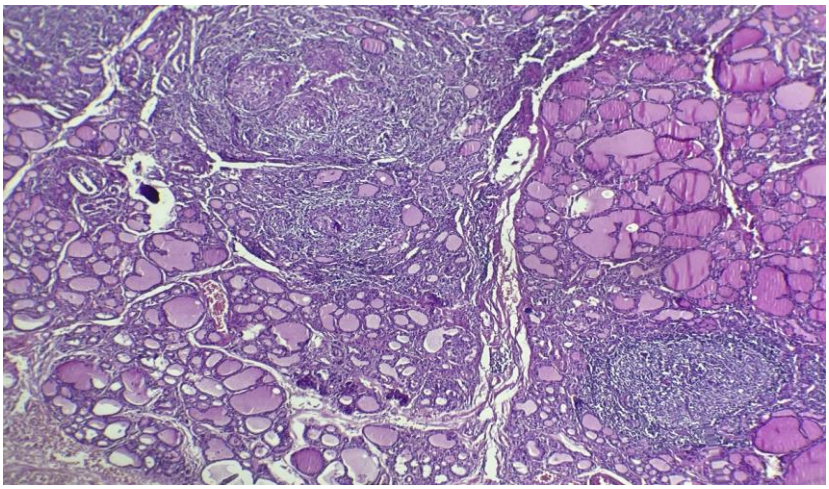

Figure 3: Histological image showing the thyroid parenchyma filled with scattered and confluent Gx10 granulomas

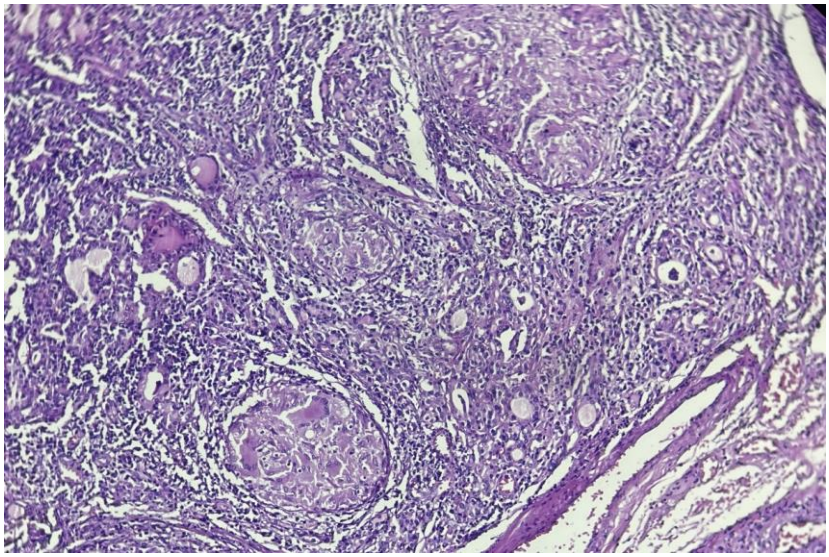

Figure 4: Histological image showing the tuberculous character of the granuloma with central caseous necrosis Gx20

DISCUSSION

Thyroid tuberculosis is a rare form of extrapulmonary tuberculosis initially described by Lebert in 1862. It is a long-known pathology reported in the literature in the form of clinical cases. Its frequency is estimated between 0.1–1% in clinical series. It is defined by the presence of Koch's bacillus (BK) or the existence of specific histological lesions in the thyroid tissue [3, 4].

Data from the literature note a female predominance of this condition, approximately 80 – 85%, this predominance can be explained by the high frequency of thyroid pathology in women [5].

On the ethiopathogenic level, the thyroid gland is normally resistant to tuberculosis infection (encapsulated gland with rich vascular and lymphatic network and bactericidal power of iodine and thyroid hormones). However, the existence of thyroid modifications with vascular disorders could constitute a desensitization factor to bacillary damage, which was the case in our patient [5].

The clinical signs of thyroid tuberculosis remain difficult to assess, apart from elements of clinical or biological orientation such as a notion of tuberculosis contagion or a history of tuberculosis, especially since it can take on all the clinical aspects of a thyroid damage (multiheteronodular goiter, acute, subacute thyroiditis, isolated nodule, cervical abscess).

The practitioner's attention must be drawn if a concomitant or aftereffect tuberculosis focus is present [4]. Hyperthyroidism can occur following the destruction of the parenchyma and the massive release of thyroid hormones. Subsequently, hypothyroidism can appear due to total destruction of the gland. Certain clinical elements, without being specific, allow us to suspect this diagnosis such as the socio-economic level of the patient, the short history of the disease, the painful nature of the tumor, the existence of a febrile syndrome or a skin fistulization.

Neither ultrasound, nor CT scan, nor nuclear magnetic resonance show specific signs of tuberculosis. Gallium scintigraphy performed by some authors only provides non-specific images of tuberculosis. However, on CT scan the presence of a thick-walled lesion contrasting strongly with necrosis in the center is characteristic of tuberculosis. The cytopuncture recommended by certain teams, given the strong suspicion of thyroid tuberculosis, is only of value if it is positive. Some authors mention the possibility of diagnostic confirmation by gene amplification (PCR) after culture of glandular cell homogenate or collection of pus from a possible fistulous orifice. The extemporaneous examination is sometimes difficult to interpret with carcinomas. In fact, only the histopathological study of the surgical specimen allows on the one hand the diagnosis and on the other hand to eliminate a neoplastic association. The presence of epithelial-gigantocellular granulomas is a presumptive argument. Caseating necrosis constitutes the specific lesion.

It is the detection of tuberculosis bacilli in biopsy samples that allows a definitive diagnosis to be made [6]. HIV serology is systematically recommended by certain authors, given the frequent association with tuberculosis and AIDS.

Untreated T.T progresses towards fistulization in the skin or in a nearby organ (esophagus, trachea, mediastinum) or towards laryngo-tracheal, esophageal, recurrent or sympathetic compression [5].

The treatment of thyroid tuberculosis is medicosurgical. Cervicotomy allows, on the one hand, the anatomo-pathological diagnosis and on the other hand the good dissemination of anti-bacillary treatment. The latter is always indicated. It can be started preoperatively, one week before surgery in cases where there is a strong suspicion of tuberculosis, or postoperatively after confirming the diagnosis.

There are six anti-tuberculosis drugs used. Some are both bactericidal and sterilizing (HRSZ), others essentially bacteriostatic (Ethionamide, Ethambutol). This treatment can be used either in a short regime of 6 to 9 months or in a classic regime of 12 months [5, 6].

The objectives of the latter are: firstly the sterilization of the tuberculosis focus thanks to the sterilizing action of certain bactericidal anti-tuberculosis drugs (HRZ), but also the prevention of secondary resistance by the combination of several antibacterial drugs. In disseminated forms, it is recommended by the WHO to continue dual therapy (rifadine and isoniazid) for 7 to 10 months after the two-month quadruple therapy. The risk of relapse or non-recovery despite well-conducted treatment is 1%. These failures are due to the appearance of BK strains resistant to bacillary antis [6].

CONCLUSION

Thyroid tuberculosis is exceptional; its diagnosis is made difficult by non-specific clinical signs, which must be considered in the face of any thyroid nodule with long-term fever, even in an immunocompetent patient. The definitive diagnosis is histological and/or bacteriological.

Its treatment is medico-surgical, based on a thyroidectomy (when necessary) and anti-bacillary poly-chemotherapy which, if started early, can allow recovery.

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