

Association of Thyroid and Lymph Node Tuberculosis: A Case Report

Youness Ouahidi^{1*}, Zakaria Chekh Hammoud¹, Hamza Belatik¹, Mounir Hmidi¹, Nabil Touiheme¹, Mohamed Sinaa², Hicham Attifi¹, Ali El Boukhari¹ and Karim Nador¹

¹Department of Otorhinolaryngology-Head and Neck Surgery, Military Hospital Meknes, Morocco

²Department of Pathology, Military Hospital Meknes, Morocco

***Corresponding author:** Ouahidi Youness, Department of Otolaryngology and Cervico-Facial Surgery, Moulay Ismail Military Hospital, Meknès, Morocco

Abstract: *Thyroid tuberculosis is a rare localization of which the clinical symptomatology is nonspecific made by a picture of goiter or thyroiditis with a subacute or chronic course. We report an observation of thyroid and lymph node tuberculosis in a 56-year-old patient presenting a goiter with poly cervical lymphadenopathy. The diagnosis is confirmed by extemporaneous anatomopathological examination on cervical lymphadenopathy and the part of total thyroidectomy. Anti-tuberculosis treatment was initiated with a favorable clinical outcome.*

Keywords: Tuberculosis; thyroid gland; lymph node; histology

INTRODUCTION

Tuberculosis is endemic in developing countries. All the locations of this infection have been described. Tuberculous involvement of the thyroid body is relatively rare, even in endemic countries. Its frequency is estimated at 0.1–0.4% of all disease sites.

It is defined by the presence of Koch's bacillus or the existence of specific histological lesions within the thyroid tissue. The clinical picture is not specific.

Reporting the case of a patient with thyroid and lymph node tuberculosis, and discussing diagnostic and therapeutic modalities.

CASE PRESENTATION

Mrs. BK, 56 years old, with no particular history consults for bilateral cervical poly adenopathies evolving for 4 months. The clinical examination showed a slightly enlarged thyroid gland with on palpation multiple infra centimetric nodules, firm, mobile on swallowing without signs of dysthyroidism, or esotracheal compression or voice disorder. The vocal cords were mobile on nasofibroscopy.

Examination of the cervical ganglionic areas finds adenopathies bilaterally (fig.1), firm mobile in relation to the two planes, without inflammatory signs opposite, the largest is upper right carotid jugulo measuring 2 cm in diameter. The thyroid workup was normal.



Fig 1 : Clinical aspect of left laterocervical adenopathy

Cervical ultrasound found multiple thyroid nodules classified TIRADS IV and V with the presence of laterocervical lymphadenopathy of suspicious appearance. The result of the thyroid fine needle aspiration is classified in category IV of BETHESDA: follicular neoplasia. The remainder of the general examination and the preoperative assessment returned to normal.

The diagnosis of thyroid nodule suspected of malignancy was retained. Other diagnoses were suspected such as lymph node metastasis from cancer, hematologic malignancy, or multifocal tuberculosis. The surgical intervention consists of a total thyroidectomy (fig.2) with an extemporaneous examination on the right lateral cervical lymphadenopathy returning in favor of caseo-follicular lymph node tuberculosis, hence the decision to stop the operation. The postoperative consequences were simple without recurrent involvement or

hypoparathyroidism. The chest x-ray did not show any mediastino-pulmonary lesions. No other location was found.



Fig 2: Total thyroidectomy surgical specimen.

The final pathological examination of the surgical specimen reveals progressive caseo follicular thyroid and lymph node tuberculosis (fig.3). The patient is put on hormone replacement therapy associated with antibiotics with regular monitoring.

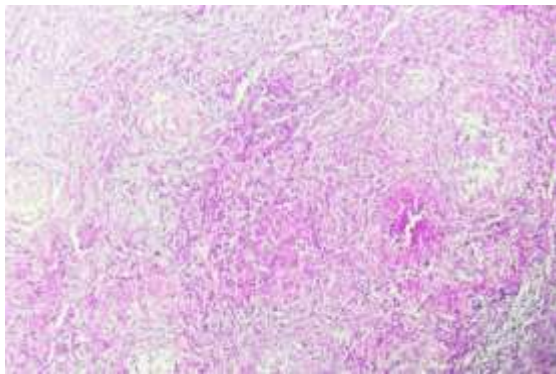


Fig 3: Thyroid parenchyma with epithelioid and gigantocellular granuloma with foci of caseous necrosis

DISCUSSION

Thyroid tuberculosis (TT) is a rare localization even in endemic areas, it represents 0.1 to 0.4% of all localizations [1]. All age groups are affected, the average age is between 30 and 46 years [2]. The female sex seems to be the most affected (70 to 80%), in relation to the frequency of thyroid pathology in women [3].

The tuberculostatic role of thyroid hormones and the good oxygenation of the thyroid parenchyma would explain the rarity of this affection [1]. Thyroid tuberculosis appears to be favored by advanced age, diabetes, malnutrition and HIV infection [2, 3].

The clinical picture is not specific [3], there are few signs that can guide or make the diagnosis, especially since TT can take on all aspects of thyroid disorders [2]. The essential clinical differential diagnosis is that of a neoplastic pathology. We can observe either an isolated nodule, a diffuse or multi-hetero nodular goiter [2, 3], which evolves in a chronic or subacute mode. General signs may be absent [2].

Untreated TT progresses to fistulization in the skin or in a neighboring organ (esophagus, trachea, mediastinum) or to laryngotracheal, esophageal, recurrent or sympathetic compression [4]. Often TT poses a diagnostic problem with cancer due to the association of a cold, adherent, compressive nodule and / or accompanied by cervical lymphadenopathy [4].

The case of our patient illustrates the difficulty of the diagnosis based on simple clinical data: thyroid nodules with cervical lymphadenopathy.

The additional basic examinations are only of interest to guide the diagnosis (IDR with tuberculin, NFS and SV) and / or to search for a second infectious site (x-ray of the lung, bacteriological analysis of sputum, etc.) [2]. Functional thyroid tests are normal in most patients [5].

At the beginning of the course, hyperthyroidism can occur following the destruction of the parenchyma and the massive release of thyroid hormones [6]. Subsequently, hypothyroidism can appear by total destruction of the gland [7].

HIV serology should be carried out systematically, taking into account the frequency of the coexistence of the two infections, HIV and tuberculosis [8].

On imaging, the appearance is not specific [3]. However, the place of the thyroid ultrasound is essential in this diagnostic approach [9], it allows to appreciate the volume of the gland, its echostructure as well as that of the liquid or solid nodule (hypo, hyper or isoechoic) and the existence of possible lymphadenopathy. The presence on CT of a thick-walled lesion contrasting strongly with necrosis in the center is characteristic of tuberculosis [3].

The differential diagnosis of this condition includes, apart from thyroid cancer, all other gland involvement: nodular goiter, Graves' disease and thyroiditis [3].

Fine needle aspiration only has value if it is positive [3]. Tuberculosis is found in 0.6% to 1.15% of fine needle aspiration performed for a thyroid nodule in an endemic area (India) [10]. Testing for BK in thyroid puncture fluid can confirm the diagnosis of TT on direct examination or culture on Loevenstein's medium. However, it is rarely practiced [4]. When microscopic analysis does not reveal necrosis, some authors mention the possibility of diagnostic confirmation by gene amplification (PCR) [5], looking for Wegner's granulomatosis, sarcoidosis, syphilis or infections due to

mycobacteria other than tuberculosis. Pathological examination confirms the diagnosis and thus eliminates a neoplastic association [3]. The problem arises in the presence of epitheliogigantocellular granuloma without caseous necrosis with Sarcoidosis and Wegener's disease mainly.

The treatment for thyroid tuberculosis is medical. Surgery has a place only before the limits of fine needle aspiration [2]. However, it can be indicated in particular anatomical forms such as abscess or when the diagnosis points to a tumor pathology [4]. The excision procedure must be regulated and as limited as possible because the extemporaneous examination of the excisional part will correct the diagnosis [2].

Medical treatment can be started as soon as the diagnosis of TT is made: either after simple puncture and isolation of BK or after thyroid surgery has been resolved [4]. It is based on the combination of four powerful antibiotics: rifampicin (R), isoniazid (H), pyrazinamide (Z) and ethambutole. In disseminated forms, it is recommended by WHO to continue dual therapy (rifampicin and isoniazid) for 7 to 10 months after the two-month quadruple therapy [3].

We followed a nine-month protocol, the four substances being taken regularly six days a week for two months, then the R and H combination for seven months.

The risk of relapse or non-cure despite a well-conducted treatment is 1% [5]. These failures are due to the appearance of strains resistant to antibacillary BK [11]. Epidemiological surveillance of these strains is essential; it must be regular to prevent the spread of resistance.

CONCLUSION

Thyroid tuberculosis is a rare condition, should be mentioned before any thyroid swelling whatever the appearance. The clinical symptomatology is atypical, the definitive diagnosis is histological and / or bacteriological.

Its treatment is above all medical, based on a combination of antibiotics, and possibly surgical depending on the evolving forms. Its occurrence requires the search for a cause of immunosuppression most often acquired.

REFERENCES

1. Zainine R, Sahtout S, El Aoued C, Bachraoui R, Kharrat S, Beltaief N Et.Al. Tuberculose De La Glande Thyroïde : A Propos D'un Cas. J. Tun ORL. 2013 ; 29:74-76.
2. El Malki H O, El Absi M, Mohsine R, Aït Taleb K, Chefchaoui M C, Oulbacha S Et Al. La Tuberculose De La Thyroïde. Diagnostic Et Traitement. Ann Chir 2002 ; 127 : 385-7.
3. Kharrat S, Sahtout S, Temimi S, Ben Miled M, Amari L, Mekni E, Et.Al. Tuberculose De La Glande Thyroïde : A Propos D'un Cas. Revue Tunisienne D'infectiologie - Oct. 2009; Vol.2 : 41 – 43.
4. Moumen M, Touhami M, El Fares F, Benchakroun Y. La Tuberculose Thyroïdienne A Propos De 3 Cas. Médecine Du Maghreb 1992 ; 33 :29-31.
5. Chaulet P, Boulahbal F. Essai Clinique D'une Combinaison En Proportions Fixes De Trois Médicaments Dans Le Traitement De La Tuberculose. Tubercle And Lung Disease 1995;76:407-412.
6. Kataria Sp, Tanwar P, Singh S, Kumar S. Primary Tuberculosis Of The Thyroid Gland: A Case Report. Asian Pacific Journal Of Tropical Biomedicine 2012;2:839-840.
7. Barnes P, Weatherstone R. Tuberculosis Of The Thyroid: Two Case Reports. Br. J. Dis 1979; 73:187-191.
8. Takami H, Kozakai M. Tuberculous Thyroiditis: Report Of A Case With A Review Of The Literature. Endocr J. 1994;41:743-747.
9. Besbes G, Beltaief N, Oukhai M, Ben Miled M, Temimi S, Trabelsi S, Et Al. Les Facteurs Prédicatifs De Malignité Des Nodules Thyroïdiens: A Propos De 412 Cas. J. Tun Orl 2007;19:14-18.
10. Mondal A, Patra Dk. Efficacy Of Fine Needle Aspiration Cytology In The Diagnosis Of Tuberculosis Of The Thyroid Gland: A Study Of 18 Cases. J Laryngol Otol. 1995;109:36-38.
11. Morris S, Bai Gh, Suffys P, Portillo-Gomez L, Fairchok M, Rouse D. Molecular Mechanisms Of Multiple Drug Resistance In Clinical Isolates Of Mycobacterium Tuberculosis. Jid 1995;171:954-960.