



Intra-thyroid Metastasis Revealing Bronchial Cancer

Kamel F*

Chu ibn Sina University, Morocco

***Corresponding author:** F Kamel, Chu ibn sina university, Building 8 app 12 Sala Aljadida, Morocco, Tel: 0628850451; Email: Farah1kamel@gmail.com

Case Report

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Abstract

Thyroid metastases are rare. They may exceptionally reveal the primary cancer. Several hypotheses have been proposed to explain the low rate of thyroid metastases. The diagnosis is sometimes difficult to establish because the lesions are most often asymptomatic. Ultrasound and scanner are not specific. Histological examination and immune histochemical analysis is the key to diagnosis. Curative management depends on the histological type and the resect ability of the primary tumor. We report the case of a patient who presented with cervical swelling associated with dysphonia; clinical examination found a thyroid nodule confirmed by cervical ultrasound associated with a forearm mass. The patient underwent a left isthmolobectomy and then a right totalization. Histological examination was in favor of an intra-thyroid metastasis of an adenocarcinoma of pulmonary origin. The extension work-up showed pulmonary nodules and bone metastases. The patient underwent chemotherapy with good progression. Finally, the diagnosis of thyroid metastases must always be evoked in front of a swelling of the thyroid gland especially in the presence of a history of neoplasia.

Keywords: Intra-Thyroid Metastasis; Bronchial Cancer; Case Report

Introduction

Thyroid metastases are rare. They most often appear during the follow-up of a treated patient but can exceptionally be revealing of the primary cancer. This situation has been rarely reported in the literature.

We report the case of a patient with bronchial cancer revealed by an intra-thyroid metastasis.

Observation

This is an 83-year-old patient, chronic smoker, who presented with left cervical swelling associated with dysphonia. Clinical examination found a hard, well-limited thyroid nodule in the left lobe, associated with a mass in the right forearm that was hard with irregular contours and painful on palpation. The rest of the clinical examination

was unremarkable. The biological work-up did not reveal any dysthyroidism. A thyroid ultrasound showed a large left thyroid nodule slightly plunging into the retroclavicular region and classified as EU-TIRADS 4. A left isthmolobectomy was performed. The anatomopathological examination of the surgical specimen was in favour of a moderately differentiated adenocarcinoma, hence the right totalization fifteen days later. The final histological examination showed an intra-thyroid metastasis of an adenocarcinoma of pulmonary origin. The immunohistochemical complement affirmed the pulmonary origin with negative anti-thyroglobulin antibodies, positive anti-CK7 antibodies, negative anti-CK20 antibodies, positive anti-TTF1 antibodies, and positive anti-NAPSIN A antibodies.

A cervico-thoraco-abdomino-pelvic CT scan found bilateral pulmonary nodules, the largest of which was apical on the left with a long axis of 15mm, associated with

mediastinal adenopathy (Figure 1). An MRI of the right forearm showed an aspect in favour of a secondary location (Figure 2). After the various investigations, the diagnosis

of metastatic pulmonary adenocarcinoma was retained, hence the indication for adjuvant chemotherapy with a good evolution.

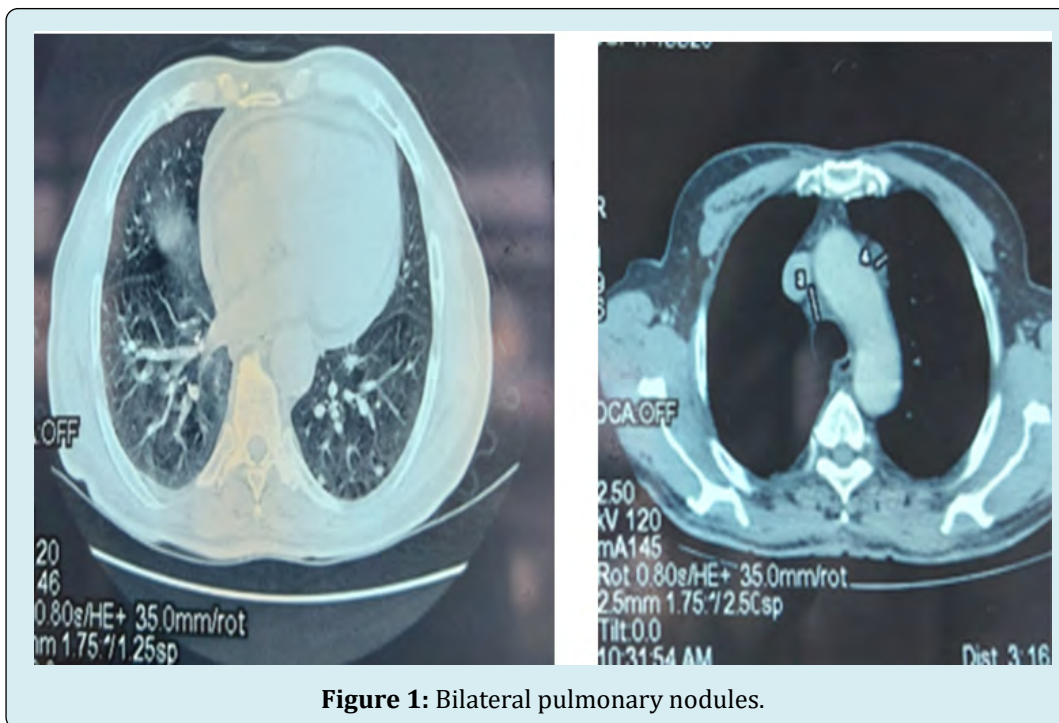


Figure 1: Bilateral pulmonary nodules.

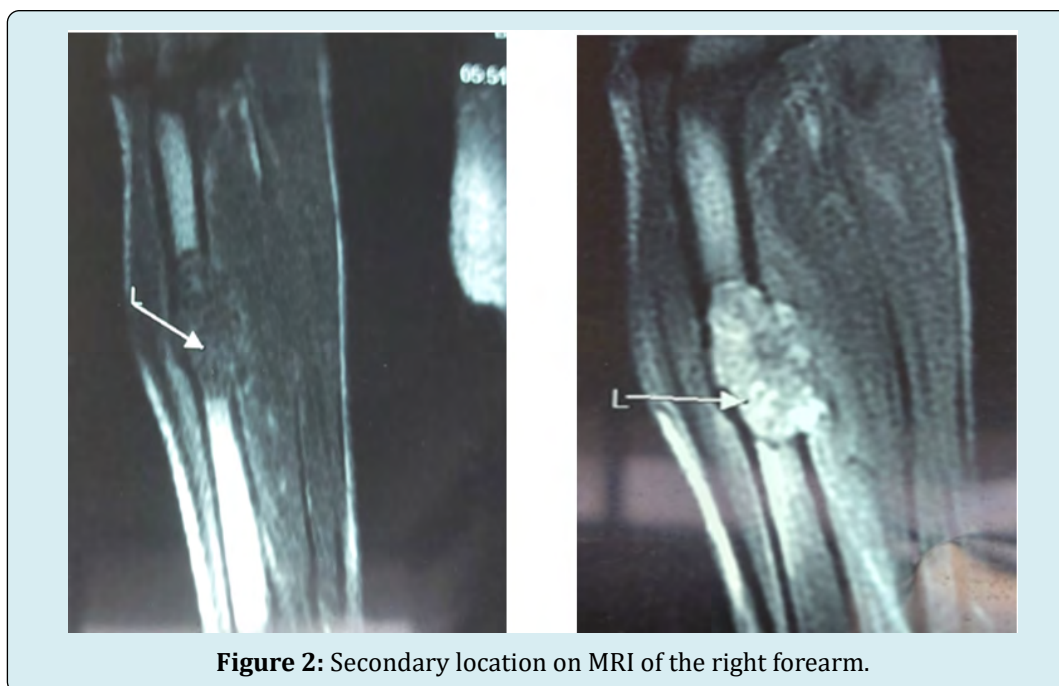


Figure 2: Secondary location on MRI of the right forearm.

Discussion

Thyroid metastases rare, accounting for 4% of thyroid neoplastic pathology [1]. In a study by Battistella E, et al. which retrospectively analyzed all patients who underwent

thyroidectomy, only 9 cases out of more than 5,000 had metastases in the thyroid gland. The most frequent primary tumor was the kidney, followed by the lung and then the breast [2]. In our case, the primary tumor was of pulmonary origin.

Conclusion

The thyroid gland can be a rare site of metastasis for many tumors, especially in an abnormal thyroid gland. This diagnosis should always be considered in the presence of swelling of the gland, especially in the presence of a history of cancer. In the case of such a clinical picture, investigations should be completed by a cytopunction and an appropriate extension work-up. If other metastases are found and the thyroid is not the only organ affected, and the patient has a short life expectancy, the only reason to perform surgery is to obtain tracheal decompression and thus give the patient a better quality of life.

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Willis proposed two hypotheses to explain the low prevalence of thyroid metastases: the rapid arterial flow through the thyroid did not allow the adhesion of malignant cells and the high oxygen saturation and iodine concentration of the thyroid gland inhibited the growth of malignant cells [3].

A number of studies argue that multi-nodular goitre or other pathological conditions of the thyroid could induce implantation of neoplastic cells from other organs [4,5]. If Willis' hypotheses are correct, pathological thyroid glands with reduced blood flow and lower iodine concentrations should be more susceptible to metastasis [3]. In a series by Hefess and al, 42% of patients with thyroid metastases of extrathyroidal origin occur in the setting of thyroiditis or adenomas [6].

Thyroid metastases may be synchronous or metachronous with the primary disease and may in rare cases reveal the primary cancer [7], as was the case for our patient. The diagnosis of thyroid metastases is sometimes difficult to establish because the lesions are usually asymptomatic and may develop in a goitre simulating a primary tumour. In the literature, most patients presented with clinical symptoms such as a thyroid nodule, signs of compression with dysphagia, dysphonia, hoarseness and cough [8]. In our patient, the clinical symptomatology was dominated by a thyroid nodule associated with signs of compression.

Ultrasound is not specific. It may show localized hypoechoic lesions, sometimes calcified, more or less suspicious, or a hyperechoic appearance related to inflammatory or necrotic changes. The CT scan can visualize hypodense lesions, often heterogeneous, with moderate enhancement after injection of the contrast product. PET scans are not a preferred examination for exploring thyroid lesions, but may be useful in the search for the primary tumor and in the assessment of extension [9]. Histological examination and immunohistochemical analysis of the biopsy or surgical specimen are necessary and can strongly point to the primary tumor [10].

In our case, the diagnosis of thyroid metastasis from lung adenocarcinoma was made on the basis of pathological examination with immunohistochemical complement. Curative management is based on the histological type and respectability of the primary tumor [1]. Medical treatment with chemotherapy is proposed in addition to or in the absence of surgical possibilities, taking into account the histological type of the primary tumor and the general condition of the patient.

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