

**Case Report**

# Thyroid Gland Adenocarcinoma: A Primary Localisation Is Possible

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**Abstract:** Thyroid cancers are generally rare and represent 1% of head and neck cancers. They count for 5.39% of thyroid tumors. Among them, differentiated carcinomas are the most common, including papillary and vesicular forms. However, there are other thyroid cancers that are very rare, one of them being thyroid adenocarcinoma, which in most cases is a metastasis of lungs, breasts, colon, rectum, prostate or renal cancers. The goal of our study is to report a rare case of primary adenocarcinoma of the thyroid gland and to describe the clinical, histological, and therapeutic aspects. A 42-year-old patient with a history of lobo-isthmectomy in December 2013 for a right thyroid nodule, in the ENT department of the Heinrich Lübke Hospital in Diourbel, whose immediate and early post-operative follow-up was uneventful came back in March 2015, 16 months later, with an anterolateral mass of the neck, at the level of previous surgical site. The mass was hard, measuring 5 cm in its greater axis. Para clinical explorations revealed a recurring tumor. Anatomico-pathological examination after surgical excision resulted in a primary adenocarcinoma of the thyroid gland. Adenocarcinoma is a cancer that rarely occurs in the thyroid gland. It is often a secondary metastasis from another organ. The primary adenocarcinoma in the thyroid makes for a very poor prognosis despite good management. Frequent recurrence or persistence of the tumor are often seen during post-operative follow up.

**Keywords:** Adenocarcinoma, Primary, Thyroid, Surgery

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## 1. Introduction

Thyroid cancers are generally uncommon and only represent 1% of head and neck cancers [1]. They count for 5.39% of thyroid tumors [2]. Among the thyroid cancers, differentiated carcinomas are the most common of which papillary carcinomas rank first with 60% [3]. The usual primary cancers of the thyroid gland and the most described in order of frequency are papillary carcinomas, vesicular carcinomas, medullary carcinomas and finally anaplastic carcinomas. However, there are other thyroid cancers that are

very rare among as the adenocarcinoma of the thyroid which is in most cases a metastasis of lung cancer, breast, colon, rectum, prostate or renal [4-7]. Primary adenocarcinoma of the thyroid is an exceptional form of thyroid cancer in the literature. We report a case by studying the clinical, histological and therapeutic aspects.

## 2. Observation

A 42-year-old patient underwent a lobo-isthmectomy for a right thyroid nodule, performed at the ENT department of the Heinrich Lübke hospital in Diourbel in December 2013. The

early operative follow-up was good. The histological examination of the operative specimen has not been performed and the patient was released. However, the patient came back in March 2015, 16 months later, with a right anterolateral tumefaction of the neck, located on the previous surgical site. The mass was hard, measuring 5 centimeters in its greater axis. The patient showed no functional symptomatology, no dysphagia, dyspnea, or dysphonia. Clinical examinations revealed a recurring tumor. Cervical ultrasounds showed the presence of a tumor on the right side of the thyroid box, with blurred contours, with areas of necrosis and fluids in some spots. The left lobe had some hypo-echogenic nodules. The practitioners couldn't find any suspicious Lymphadenopathy. The thyroid hormone balance (TSH, FT4, FT3, calcitonin) was normal. Once again the patient was lost sight of. In June 2015, she came back due to a substantial increase of the tumor during the previous months. The examination of the neck showed then a 10-centimeter swelling with hard consistency, painless when palpated, covering the entire right anterolateral part of the neck, roofed by normal skin. No compression of cervical viscera. Cervico-thoracic computed tomography (CT) showed a voluminous tumor covering the entire Antero-Lateral right side of the neck, spreading to the thorax, touching the jugulo-carotid area. The left lobe was multi nodular, enhanced by the contrast product. The cervical glands were normal during palpation and CT Scann (Figure 1).



*Figure 1. Cervical CT in axial sections showing the thyroid tumor.*

A recurrent thyroid tumor had been diagnosed and the therapeutic management had been discussed in a multidisciplinary consultation meeting. On July 07, 2015, the patient underwent: a totalization of the left thyroid lobe associated with a left mediastino-recurrentiel lymph node dissection, a dissection of left lymph nodes IV, V, and a modified radical dissection of the right area wiping the tumor

with all the sub-clavicular, jugulo-carotids, mediatino-recurrentiels lymph nodes, the internal jugular vein, the hyoid muscle on the right side, and the right sterno-cleido-mastoid muscle. The right spinal nerve was preserved. Post-surgery actions were brief, and the patient was discharged from the hospital five days after the surgery. A macroscopic examination found a whitish, friable, and tumor-like mass that weighed a total of 150 grams. At the right dissection site, the histological study of the area found a tumor proliferation made of wide cribriform patches, clear cellular elements, sometimes nucleolated. The study of K167 is very low; less than 1%. Immunohistochemical study by TTF1 shows a positivity of tumor cell elements. No other tissue is recognized apart from the tumor lesion. In the left totalized piece, the histology found the same characteristics as those of the right dissected section. Ganglionic invasion of these specimens wasn't observed. Thus, the anatomo-cytological examination resulted in the diagnosis of a recurrence of a vesicular thyroid adenocarcinoma. Considering the very common character of a secondary metastasis of adenocarcinoma of the thyroid gland, cervical, thoracic and abdominal scanners were carried out in search of another possible primary lesion after the surgery. Likewise, an abdominal ultrasound, an esophageal and tracheobronchial panendoscopy were also performed. But all these complementary examinations found no primary lesion. Subsequently, they concluded it was a recurrence of primary adenocarcinoma of the thyroid gland. However, four months after the surgery, the patient presented a local evolution of the condition with multiple cervical fistula and blood borne. She died nine months after she was taken into surgery.

### 3. Discussion

Thyroid cancers account for 1% of malignant tumors in subjects aged 30 to 74 years with a 3 times higher occurrence in women [6]. Cancers located in the thyroid gland are usually carcinomas. The malignity of thyroid nodules is estimated around 10% to 20% [3]. The most common carcinomas are the differentiated carcinomas among which papillary carcinoma remains the most found with 4.27%. It is followed by vesicular carcinoma with a percentage of 0.56% in the study of Vignikin-Yehouessi B in Benin [8]. Next, in order of frequency, we have the medullary carcinoma and the anaplast carcinoma. It can be revealed as an incidentaloma that is an unsuspected thyroid lesion found on imaging study or while performing a surgery non-related to the thyroid gland [9]. For Ben Gamra and al [10], the sensitivity of the extemporaneous examination for thyroid cancers was 78% for all histologic types, and 89% for papillary carcinoma. However, Cesare P and al [11] found in their study 60% of papillary carcinoma and 7% of mixed papillary-follicular Carcinoma, 4% of anaplastic thyroid carcinoma and a reported 11% of remote Metastases of the thyroid gland, two of which resulting from an adenocarcinoma and one from a psoas Leiomyosarcoma. However, the location of an adenocarcinoma in the thyroid gland is unusual. This type of thyroid cancer is in most cases a

metastasis from another body part, usually bronchi, breasts, stomach, kidneys, prostate, colon and rectum [12-13]. Among all patients operated for suspicion of thyroid cancer, only 1.4 to 3% were reported in scientific papers [5]. According to Priti T [13], this rate ranged from 4% to 9% in an autopsy study conducted by Elliot R. Jr and Shimaoka K. The incidence of this metastasis in the thyroid in a wide range of autopsies ranged from 1.9% to 24% [4, 12]. Albsoul Nader M and al [4] mention one case of multiple bilateral Metastases of prostate adenocarcinoma in the thyroid, while Amenduni T and al reported a case of thyroid metastasis of a colorectal adenocarcinoma [5], while Priti T and al [13] described a case of thyroid metastasis of an adenocarcinoma of the rectum. In New York, Patnaika K and al, reported a case of metastasis of giant cells of lung adenocarcinoma at the thyroid level in a cat [2]. Another case of thyroid metastasis, revealing an unknown lung adenocarcinoma, was isolated by Khalil J and al [12]. In all the cases described in the literature, it is found that the location of the adenocarcinoma in the thyroid gland is only secondary to a primary location elsewhere. The primary location of adenocarcinoma in the thyroid gland is exceptional in medical literature. We report this exceptional case of a 52-year-old patient in our Department. It was a patient that we reviewed a year after a straight Lobo-isthmectomy for a voluminous mass on the right side of her neck, mobile when swallowing, rapidly evolutionary. The operated piece of the Lobo-isthmectomy had not been subject to a histological analysis. Confronted to this clinical scenario, we thought of a recurrence of goiter possibly malignant. A cervico-thoraco-abdominal scanner was carried out in search of an extension of the lesion and metastases. It allowed to regain the somewhat plunging aspect of the mass in the right mediastinum with a contact with the right lateral vascularia package of the neck with a multi-Nodular left lobe. The mass and the left lobe were strongly enhanced by the contrast product. No other lesions were found by the scanner. After a multidisciplinary consultation meeting, the patient benefited from a broad-based exeresis of the mass associated with a left and mediastino-recurrent right radical lymph node dissection plus the totalization of the right thyroid lobe with a left functional and mediastino-recurrential lymph node dissection. The post-surgery actions were standard. The patient was discharged from the hospital after 5 days of hospitalization. A following histological analysis of the treated parts revealed a recurrence of primary adenocarcinoma of the thyroid. The patient was re-directed to the Oncology department for a complementary chemotherapy. A check-up encompassing a cervico-thoraco-abdominal scanner and an abdominal ultrasound were carried out afterwards. The results were negative: no primary lesion. Similarly, the oesogastric and tracheobronchial panendoscopy did not reveal another lesion. According to Fabio Medas, euthyroidism is a factor of better prognosis with less local aggression than hyperthyroidism [14]. The reference treatment should be from the start a total thyroidectomy [15]. The overall survival of patients with thyroid adenocarcinoma is generally poor even after a good treatment. For Khalil and al [12] their patient had

survived for up to a year. However, for Chen TC, reported by Khalil [12], the median survival rate is 34 months in patients operated versus 25 months in those who have not been operated. In our case, our patient had an evolutionary tumor only 4 months later. She died after 9 months after the surgery.

## 4. Conclusion

The Adenocarcinoma is a type of cancer that rarely found in the thyroid gland. It is often a secondary metastasis resulting from a cancer in another organ. The primary form in the thyroid has a very low probability of recovery despite an appropriate treatment. The overall survival of patients with thyroid adenocarcinoma is generally poor even after a good treatment. Its progression after surgery is usually marked by a frequent recurrence. It is a very aggressive tumor of bad prognosis. The ideal for a good survival would be to make an early diagnosis and adequate treatment and to make the systematic histological analysis of the first operative.

## Conflict of Interest

All the authors do not have any possible conflicts of interest.

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