Annals of Otolaryngology Head and Neck Surgery
Case Report (ISSN 2835-7132)

# Papillary Thyroid Carcinoma Metastatic to The Skin: Case Report

**Douimi L*, Touaiher W, Oukessou Y, Rouadi S, Abada R, Roubles M, Mahtar M**

Department of ENT Head and Neck Surgery, Hassan II University, Casablanca, Morocco

**Citation:** *Douimi L, Touaiher W, Oukessou Y, Rouadi S, Abada R, Roubles M, Mahtar M. Papillary Thyroid Carcinoma Metastatic to The Skin: Case Report. Annal of Otol Head and Neck Surg. 2023;2(3):1-4.*

**Received Date:** 13 Aug, 2023; **Accepted Date:** 18 Aug, 2023; **Published Date:** 20 Aug, 2023

***Corresponding author:** Douimi L, Department of ENT Head and Neck Surgery, Hassan II University, Casablanca, Morocco



## ABSTRACT

Most metastatic tumors of the skin originate from primary breast tumors in women, and lungs in men. Cutaneous metastases from thyroid cancer are uncommon. We report a clinical case of 80-year-old female patient with a history of papillary thyroid carcinoma, for which she had a total thyroidectomy and adjuvant radioiodine treatment in 2015. The patient was lost to follow up until 2019, when she noticed multiple cervical nodules gradually increasing in size, hindering her daily life. Theses nodules turned to be thyroid papillary carcinoma metastases on histopathology.

**Keywords:** Papillary thyroid carcinoma; Skin metastases

## INTRODUCTION

Papillary thyroid carcinoma is the most common endocrine malignancy, with a good prognosis following appropriate treatment.[1] It represents 85% to 95% of the differentiated thyroid cancers.[2] Although papillary thyroid cancer is indolent, it tends to metastasize to regional lymph nodes. However, skin or distant metastases are unusual and rare. We report the case of a woman operated for papillary thyroid carcinoma, who thereafter presented several skin lesions, for which further investigations showed subcutaneous metastasis of thyroid carcinoma.

## CASE REPORT

An 80-year-old woman presented with several cervical nodules. Her past history documented right loboisthmectomy in 2015 completed by totalization and lymph nodes dissection when the histopathology showed a papillary thyroid carcinoma. The procedure was followed by suppressive doses of levothyroxine treatment and adjuvant radioactive iodine therapy. After that, the patient disappeared from follow up, until 2019. She has been suffering from skin lesions increasing in size gradually.

On the admission, we noticed many masses of the neck, firm and painless on the palpation.

**Figure 1:** macroscopic picture of the cervical cutaneous nodules before surgery.

CT scan was performed, showing subcutaneous thyroid tumor recurrence with associated lymphatic and bone involvement.

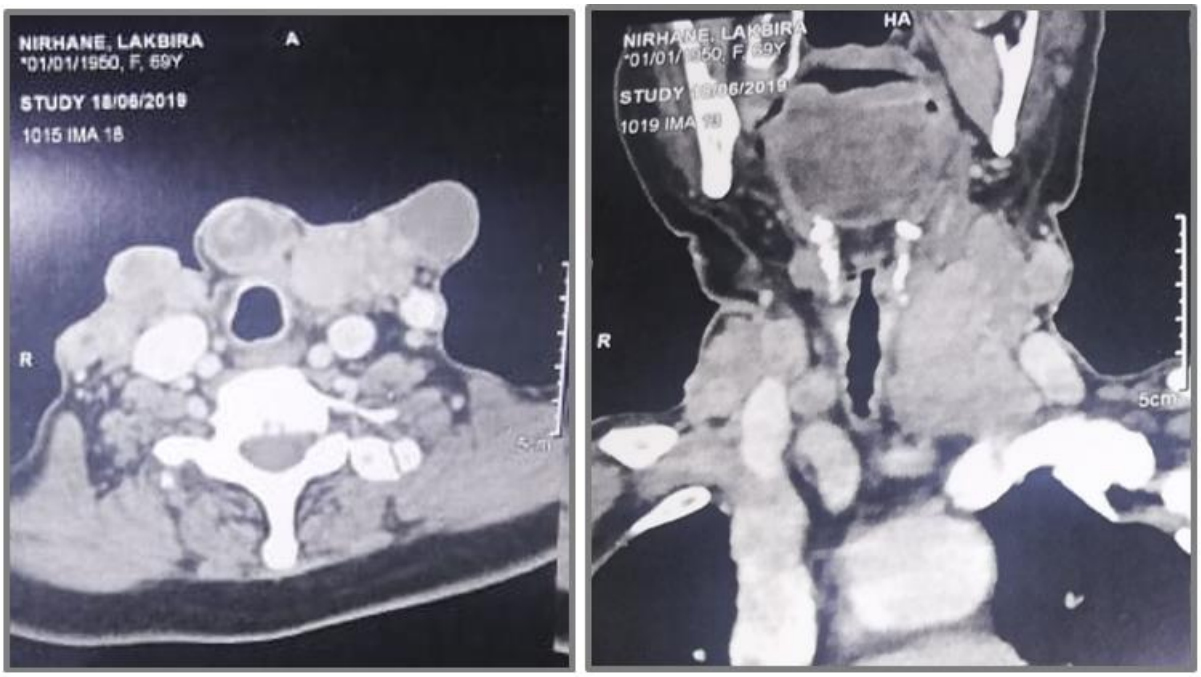


**Figure 2:** Left: axial section showing: right: coronal cut showing

The patient underwent from a cleansing surgery. The histopathological examination showed a cutaneous papillary thyroid carcinoma metastasis.

## DISCUSSION

Papillary thyroid carcinomas (PTC) represent the most common differentiated thyroid cancer. Surgical removal is the first line up treatment, followed by the radioiodine therapy.[3] Follow up is based on the measurement of

TSH to adjust levothyroxine treatment and serum thyroglobulin, and positron emission tomography (PET scan) in case of suspicion of recurrence or persistence of the tumor.[4]

In fact, PTC has a favorable prognosis with a 10 year survival rate of 80-95%.[5] Fortunately, less than 15% of patients develop distant metastases that commonly involve lymph nodes, lungs and bones.[6] Yet, thus far, the prevalence of unusual sites metastases is still unknown.

Madani et al. in 2015 performed a systematic review of unusual locations of well differentiated thyroid cancer (WDTC) excluding lymph nodes, lungs and bones.[7] He showed that over 197 cases, 44% of them had brain metastases, 17% skin involvement, and 8% liver metastases. Metastases were also found in kidneys, eyes, pancreas, spinal cord, but with a very low proportion.

In order to prove which histological type is mostly involved in skin metastases, a worldwide literature review revealed that follicular thyroid carcinoma has a greater prevalence and predominance than papillary carcinoma for cutaneous metastasis.[2,8]

Selçuk et.al, in a literature review of 38 cases found that follicular thyroid carcinoma (FTC) is the most common histologic type representing 46% of case followed by papillary thyroid carcinoma (PTC) at 35%, with 16% of cases having medullary thyroid carcinoma (MTC) and only one case of anaplastic carcinoma.[9] Thus, he concluded that the follicular type has a greater tendency than other thyroid carcinomas to metastasize to scalp as a distinct cutaneous area.

However, Erickson et al at 2007 in USA studied a series of 16 patients having a thyroid carcinoma with cutaneous metastases, showing that 11 of them were papillary thyroid carcinomas while 5 were follicular carcinomas.[10]

Actually, the majority of skin metastases from thyroid carcinomas are localized in the head and neck area[11], and the scalp has been described to be the commonest site of cutaneous metastasis.[12]

Therefore, it is advisable to follow up patients with thyroid carcinomas for life even after undetectable serum thyroglobulin or the absence of iodine detecting tissue beyond the thyroid site.

In our case, the skin lesions were very evident at the time of diagnosis. They could've been detected earlier if the patient was respecting her schedule of follow up.

## CONCLUSION

Cutaneous metastases from thyroid carcinomas are rare. Their appearance may mimic other dermatologic disorders; however definitive identification requires histological examination. Thus, clinicians should be aware of rare sites of metastases and insist on the importance of post-operative follow up.

## REFERENCES

1. Lin JD. Papillary thyroid carcinoma with lymph node metastases. Growth Factors. 2007;25(1):41-49.
2. Eleonora Farina, Fabio Monari, Giovanni Tallini, Andrea Repaci, Renzo Mazzarotto, Francesca Giunchi, et al. Unusual Thyroid Carcinoma Metastases: a Case Series and Literature Review. Endocr Pathol. 2016; 27(1):55-64.
3. L J DeGroot, E L Kaplan, M McCormick, F H Straus. Natural History, Treatment, and Course of Papillary Thyroid Carcinoma. J Clin Endocrinol Metab. 1990;71(2):414-424.

4. Gateva AT, Hadjieva TD, Kamenov ZA. Recurrent papillary thyroid carcinoma with lymph node metastases involving skin and blood vessels. Clin Cancer Investig J 2019;8:171-3.
5. C Durante, N Haddy, E Baudin, S Leboulleux, D Hartl, J P Travagli, et al. Long-Term Outcome of 444 Patients with Distant Metastases from Papillary and Follicular Thyroid Carcinoma: Benefits and Limits of Radioiodine Therapy. J Clin Endocrinol Metab. 2006;91(8):2892-2899.
6. T. Brown et H. Lee. SUN-605 A Case of Metastatic Papillary Thyroid Cancer Presenting as a Skin Lesion. J Endocr Soc. 2019;3(Suppl 1):SUN-605.
7. Amin Madani, Yelda Jozaghi, Roger Tabah, Jacques How, Elliot Mitmaker. Mitmaker. Rare Metastases of Well-Differentiated Thyroid Cancers: A Systematic Review. Ann Surg Oncol. 2015;22(2):460-466.
8. E A Koller, J B Tourtelot, H S Pak, M W Cobb, J C Moad, E A Flynn. Papillary and Follicular Thyroid Carcinoma Metastatic to the Skin: A Case Report and Review of the Literature. Thyroid. 1998; 8(11):1045-1050.
9. S Arslan, Arslan E. Scalp metastases from thyroid carcinomas: review of clinical and pathological features. J Med Updates. 2014;4(2):71-76.
10. Lori A Erickson, Long Jin, Nobuki Nakamura, Alina G Bridges, Svetomir N Markovic, Ricardo V Lloyd. Lloyd. Clinicopathologic features andBRAFV600E mutation analysis in cutaneous metastases from well-differentiated thyroid carcinomas. Cancer. 2007;109(10):1965-1971.
11. Vincenzo de Giorgi, Barbara Alfaioli, Daniela Massi, Emilia Wnekowicz, Serena Sestini, Federica Papi, Marta Grazzini, Torello Lotti. Solitary Cutaneous Metastasis as the First Sign of Relapse of Thyroid Carcinoma: A Clinical, Dermoscopic-Pathologic Case Study. Dermatol Surg. 2009;35(3):523-526.
12. Obinna Nwaeze, Stephen Obidike, Dorinda Mullen, Fuad Aftab. Aftab. Follicular variant papillary thyroid carcinoma with a twist. Int J Surg Case Rep. 2015;8C:107-110.