Metastatic papillary carcinoma to the neck, thinking beyond the thyroid gland

Carcinoma papilar metastásico a cuello, pensar más allá de la glándula tiroides

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Keywords: Lung cancer, thyroid cancer, neck dissection, immunohistochemistry.

Palabras clave: Cáncer de pulmón, cáncer de tiroides, disección de cuello, inmunohistoquímica.

INTRODUCTION

Papillary thyroid carcinoma is diagnosed nowadays at very early stages, to the point that an observe-and-watch/wait, active-surveillance approach has been indicated for some patients who understand their disease and will follow their doctor’s instructions.1

It has become almost a standard of care to follow up oncologic patients not only with a computer tomography (CT) scan, magnetic resonance imaging (MRI) etc. but also with a positron emission tomography (PET) CT. This exam allows evaluating the tumor response to the treatment, but also seeks to rule out a recurrent or metastatic tumor; it may show unexpected lesions, which may be benign, inflammatory or malignant. Thyroid nodules-

incidentalomas, diagnosed with a PET CT should undergo a fine needle aspiration biopsy (FNAB), as it is not rare that this lesion can harbor a malignant tumor.2,3

METHODS

A patient treated for right lung cancer and right thyroid lobe micropapillary carcinoma with multiple metastatic neck nodes is presented. The pathology slides of the lung, neck and thyroid lesions were reviewed in order to clarify the patient’s final diagnosis. The patient’s consent to review his pathology slides and publish his case was obtained; additionally, the Institutional Review Board of Clínica Las Américas in Medellin, Colombia, approved this publication.
CASE REPORT

A 69-year-old male was diagnosed with right upper lobe lung adenocarcinoma, requiring surgical resection followed by complementary chemotherapy; twelve months after finishing his treatment, a follow up PET CT was ordered, showing a controlled primary lesion and a right thyroid nodule. Thyroid ultrasound revealed a right middle third 7-mm well-defined nodule with no neck nodes. In the Fine Needle Aspiration Biopsy (FNAB), a classic papillary carcinoma was diagnosed. As the lung cancer established the patient’s prognosis, it was decided and agreed to follow the patient with no further intervention. Sixteen months after this decision, the patient developed multiple palpable right neck nodes measuring up to 2.5 cm in Levels II, III and IV. There were no ultrasound changes in his right thyroid lobe microcarcinoma. An FNAB of these nodes revealed metastatic papillary carcinoma.

The patient had an uneventful total thyroidectomy, and mediastinal and right neck dissection. During the neck dissection, a frozen section was obtained, as the solid whitish neck nodes certainly did not appear to be those usually seen in metastatic thyroid cancer with a dark cystic pattern. Indeed, the frozen section was reported to be consistent with metastatic papillary carcinoma. This was later confirmed as the final pathology, having 30 out of 31 positive nodes for papillary metastatic cancer, some of them with extra nodal extension. A right thyroid lobe 7 mm micropapillary carcinoma was confirmed.

It just did not seem right that a 7 mm right papillary carcinoma had so many positive ipsilateral neck nodes. So, a complete revision of all of the patient’s pathology slides from the moment that his lung cancer was diagnosed to the thyroid– and neck-related malignancy was conducted. Multiple immunohistochemistry tests and analysis were performed. Tissue blocks were subject to pathologic studies including: Immunohistochemistry for Napsin-A and TTF1, Thyroglobulin, PAX-8. This review showed no connection at all between the thyroid papillary cancer and the neck metastasis but a strong relationship with the right lung lesion, which was then reclassified as adenocarcinoma with papillary features (Figures 1 and 2).

DISCUSSION

Although most malignant lymphadenopathy in the neck represent metastases from head and neck primary tumors or lymphomas, occasionally metastatic disease from remote, infraclavicular sites might present itself as a cervical mass. The reported frequency of cervical lymph-node involvement in patients with lung cancer varies from 1.5 to 32%. When neck metastases occur, the supraclavicular group is most often compromised, although involvement of Level I and II nodes has also been reported.4-6

Undoubtedly, the lung cancer established this patient’s prognosis, making the thyroid
lesion a «minor problem»; however, at that time the lung tumor appeared to be under control. Even though neck metastasis from papillary microcarcinoma of the thyroid might be observed, it was quite surprising to palpate and observe such an «explosive» array of right neck metastasis from a 7 mm right thyroid lobe papillary carcinoma, almost sixteen months after the first diagnosis, really questioning at this time the active-surveillance approach. A complete revision of all tissues obtained from the beginning, using specific Immunohistochemistry for thyroid and lung tissue, certainly allowed the authors to come to the conclusion that the multiple neck lymphadenopathy was not caused by the small thyroid lesion itself, but from the lung malignancy, showing progressive metastatic extension not suspected up to that moment. The lung lesion was then reclassified as adenocarcinoma with papillary features, explaining the findings in the neck, thus avoiding unnecessary radioactive iodine.7-10

Shortly after the metastatic lung cancer to the neck was diagnosed, the patient underwent four cycles of chemotherapy. Unfortunately, he died afterward due to the unresponsive disease.

CONCLUSION

Even though the diagnosis of «metastatic papillary cancer» in the neck in the presence of an ipsilateral micropapillary carcinoma thyroid nodule seemed to be a straightforward diagnosis, even in this patient with lung cancer indicating that a second aggressive malignancy was diagnosed. The macroscopic appearance of the neck nodes during surgery just did not resemble the usual macroscopic presentation of a true thyroid carcinoma. Fortunately, with today’s new pathology techniques, this dilemma has been resolved, avoiding unnecessary treatment such as radioactive iodine.

Conflicts of interest: The authors state they have no conflicts of interest.

Funding sources: The authors did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

This report case was presented as a poster during the 3rd World Thyroid Cancer Meeting, held in Boston, MA, USA, July 27-30, 2017.

REFERENCES

9. Sathiyanarayorthy S, Maleki Z. Cytomorphologic overlap of differentiated thyroid carcinoma and lung adenocarcinoma and