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Case Report / Olgu Sunumu

Thyroid metastasis of the primary lung adenocarcinoma: a case report

Primer akciğer adenokarsinomun tiroid metastazı: Olgu sunumu

Türkan Dübüş, M.D.,[1] Baki Doğan, M.D.,[2] Soykan Arıkan, M.D.[2]

Department of [1]Chest Surgery and [2]General Surgery, İstanbul Training and Research Hospital, İstanbul, Turkey

Metastatic diseases of thyroid are rarely seen. For the patients who had previous malignancy in their history, metastatic lesions should not be ignored in the differential diagnosis of massive lesions in the thyroid gland, even the primary tumor was treated years ago. In this article, we present a case with lung adenocarcinoma which was metastatic to the thyroid gland.

Key Words: Lung adenocarcinoma; thyroid metastasis; thyroidectomy.

Tiroid metastazı nadir görülür. Öyküsünde geçirilmiş malignite olan hastalarda, primer tümör yıllar önce tedavi edilmiş olsa dahi, tiroid bezindeki masif lezyonların ayırıcı tanısında metastatik lezyonlar gözden kaçırılmamalıdır. Bu yazıda tiroid bezine metastaz yapmış akciğer adenokarsinom olgusu sunuldu.

Anahtar Sözcükler: Akciğer adenokarsinomu; tiroid metastazı; tiroidektomi.

Carcinomas rarely metastasize to the thyroid. The most frequent metastatic tumors of thyroid are renal cell carcinomas.[1] Metastasis of such tumors as nasopharyngeal carcinoma, breast carcinoma, malignant melanoma, leiomyosarcoma, pancreatic carcinoma, esophageal carcinoma, rectal carcinoma and lung carcinoma have also been documented.[2,3] The frequency of metastatic thyroid tumors among all thyroid malignancies is 1.2%.[3] Patients who show progression with the thyroid metastasis have a bad outlook.[2,4] We present this case in whom a metastatic tumor was detected 3.5 years after diagnosis of right lung adenocarcinoma and review the literature.

CASE REPORT

A 72-year-old male patient consulted at the chest surgery clinic with cough, dyspnea, blood in the phlegm and back pain complaints. He was afebrile, with blood pressure of 120/80 mmHg and a pulse rate of 98/min. He had a smoking history of 45 pack-years. On clinical examination, rough rales over the upper and medial zones of the right lung and decreased respiratory sounds were detected. An area of opacity was observed in the upper zone of the right lung on X-ray. A massive 4x6x8 cm diameter lesion with irregular borders adjacent to the chest wall was seen in the upper lobe of the right lung on thoracic computed tomography (CT). Computed tomography guided transthoracic fine-needle aspiration biopsy yielded a histopathologic diagnosis of primary lung adenocarcinoma. Cranial magnetic resonance imaging (MRI) and positron emission tomography (PET)-CT confirmed absence of metastasis. No endobronchial lesion was detected in fiberoptic bronchoscopy.

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Correspondence / İletişim adresi: Türkan Dübüş, M.D. Beycegiz Cad., No: 7/10 B/Blok, 34087 Fatih, İstanbul, Turkey.
Tel: +90 212 - 459 60 74 Fax *(Faks):* +90 212 - 632 00 60 e-mail *(e-posta):* drturkandbs@yahoo.com

The patient was accepted as operable and preoprerative tests were run. The patient was on levothyroxine 0.15 mg (1.5 tb/day) for multinodular goiter (MNG) but FT3, FT4 and thyroid stimulating hormone (TSH) values were normal. A right posterolateral thoracotomy was applied to the patient. The right pleural space was accessed from the right fifth intercostal space. On exploration, the tumoral mass on the upper lobe of the right lung was differentiated from the parietal pleura and the mass was detected adjacent to the third, fourth and fifth ribs. Chest wall invasion (T_4) was diagnosed and right lung upper lobectomy with chest wall resection, mediastinal lymph node dissections and Goretex graft reconstruction were performed. The patient was taken to the service in the postoperative second day. Thorax drains were taken off in the fifth and seventh day ninth. He was discharged on the ninth day. The final postoperative histopathologic result was lung adenocarcinoma, chest wall invasion, right interlobar lymph node metastasis (p $T_4N_1M_0$). The patient's situation was discussed in the chest surgery-oncology common commission and the patient was transferred to the oncology clinic for chemotherapy-radiotherapy. The patient was directed to the general surgery clinic to be examined for MNG after adjuvant chemotherapy was completed.

The patient did not come to his routine chest surgery polyclinic controls. The patient applied to the chest surgery polyclinic again for neck swelling 3.5 years after the lung surgery. It was learned that the MNG diagnosed patient did not go to the general surgery clinic and his follow up in the endocrinology clinic did not continue. Positron emission tomography and thorax CT for control and metastatic scans performed detected no recurrence or pathology. The patient was directed to the surgery clinic. Neck ultrasonography (USG) was applied (Figure 1). Needle biopsy was performed by USG on the biggest diameter nodule (3x4 cm) on the right thyroid lobe revealing a histopathologic report of benign thyroid nodule. A total thyroidectomy was performed, revealing final histopathologic diagnosis of thyroid metastasis of primary lung adenocarcinoma (Figure 2). The patient was surgically stable, and was discharged by transferring to the oncology clinic in the second day.

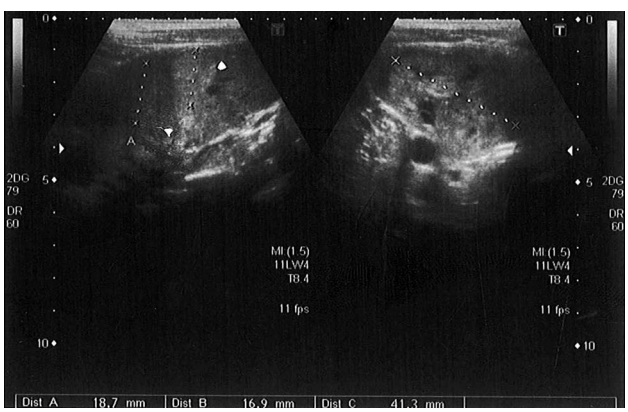

Figure 1. *Neck ultrasonography: Diffuse multinodular goiter.*

DISCUSSION

Although the thyroid is a gland with a rich vessel web, thyroid metastasis are rare.[5] A literature review revealed several case reports and case series on thyroid metastasis.[6-9]

A study of 79 cases with thyroid metastasis in 26 years by Lam and Lo[3] reported a ratio of metastatic thyroid tumors to all thyroid malignancies of 1.2%.

Metastatic thyroid tumors are more frequent in women than primary thyroid carcinomas. Unlike primary papillary carcinoma of the thyroid, they are observed in older ages.[3] While our detection of the disease in an elderly person is consistent with the literature, the male gender of our patient differs from the trend.

Metastatic thyroid tumors may appear many years after the primary tumor operation [8,9] but the observation period for thyroid metastasis is about nine months.[3] In our case, thyroid metastasis was detected 3.5 years after the lung resection.

Metastatic diseases of the thyroid gland are frequently related with advanced disease. It is reported that these tumors are detected

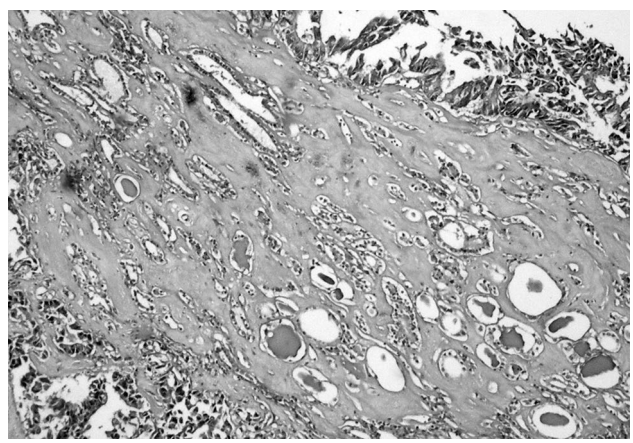

Figure 2. *Microscopic appearance of infiltration adenocarcinoma of the thyroid follicles (H-E x 200).*

simultaneously with other organ metastasis.[1] In our case, no other metastatic focus was detected in examinations done after thyroid metastasis was determined.

Ménégaux and Chigot[2] reported that cases died a short period after thyroid metastasis occurrence. Our case is in the second month after surgery and his general medical condition is stable. His follow-up is continued.

In some cases, tumors metastatic to thyroid may mimic primary thyroid carcinomas. Immunohistochemical examination helps the differential diagnosis in these cases. Negative results are seen with calcitonin and thyroglobulin in tumors metastatic to the thyroid gland[10,11] and this was also true in our case.

Although rare, we should consider that thyroid nodules that appear during routine follow-up after surgery in cases with lung adenocarcinoma may be metastasis even if the primary lung tumor was diagnosed many years earlier.

REFERENCES

1. Wood K, Vini L, Harmer C. Metastases to the thyroid gland: the Royal Marsden experience. Eur J Surg Oncol 2004;30:583-8.
2. Ménégaux F, Chigot JP. Thyroid metastases. Ann Chir 2001;126:981-4. [Abstract]
3. Lam KY, Lo CY. Metastatic tumors of the thyroid gland: a study of 79 cases in Chinese patients. Arch Pathol Lab Med 1998;122:37-41.
4. Dequanter D, Lothaire P, Larsimont D, de Saint-Aubain de Somerhausen N, Andry G. Intrathyroid metastasis: 11 cases. Ann Endocrinol (Paris) 2004;65:205-8. [Abstract]
5. Giuffrida D, Ferraù F, Pappalardo A, Aiello RA, Bordonaro R, Cordio S, et al. Metastasis to the thyroid gland: a case report and review of the literature. J Endocrinol Invest 2003;26:560-3.
6. Czech JM, Lichtor TR, Carney JA, van Heerden JA. Neoplasms metastatic to the thyroid gland. Surg Gynecol Obstet 1982;155:503-5.
7. McCabe DP, Farrar WB, Petkov TM, Finkelmeier W, O'Dwyer P, James A. Clinical and pathologic correlations in disease metastatic to the thyroid gland. Am J Surg 1985;150:519-23.
8. Shima H, Mori H, Takahashi M, Nakamura S, Miura K, Tarao M. A case of renal cell carcinoma solitarily metastasized to thyroid 20 years after the resection of primary tumor. Pathol Res Pract 1985;179:666-72.
9. Nakhjavani MK, Gharib H, Goellner JR, van Heerden JA. Metastasis to the thyroid gland. A report of 43 cases. Cancer 1997;79:574-8.
10. Feldman MD, Baloch ZW, LiVolsi VA. Metastatic breast carcinoma mimicking primary thyroid neoplasm in young women. Endocr Pract 1999;5:343-6.
11. Ferrara G, Ianniello GP, Nappi O. Thyroid metastases from a ductal carcinoma of the breast. A case report. Tumori 1997;83:783-7.