

Skin metastases of lung cancer accompanied by hyperthyroidism: a report of two cases

Akciğer kanserine bağlı cilt metastazlarına eşlik eden hipertiroidizm: İki olgu sunumu

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Cutaneous metastasis from lung cancer is rare. We report two female patients, aged 30 and 55 years, respectively, in whom skin metastasis from lung cancer were accompanied by multinodular goiter. Histopathologic diagnoses were small cell carcinoma and adenocarcinoma, respectively. In one patient, skin lesions were the first manifestations of cancer, while in the other, cutaneous lesions appeared during the preparation period for operation. Both patients had multinodular goiter. Fine-needle aspiration revealed no evidence for malignancy in the thyroid glands. Our literature search showed no report of lung cancer with skin metastases coexisting with multinodular goiter.

Key words: Carcinoma, small cell; goiter, nodular; hyperthyroidism; lung neoplasms/pathology; skin neoplasms/secondary.

Apart from metastases to the brain, bone, liver, and adrenal glands, cutaneous metastasis is present in 1% to 12% of lung cancers.^[1-3] It is responsible for the majority of skin metastases in men and is only second to breast cancer as the source of skin metastases in women.^[1] Sometimes, lung cancer may present only with these lesions, which reflect the progression of primary malignancy. Hence, surgeons should recognize its significance.^[1-4] Metachronous pulmonary and extrapulmonary neoplasms have been reported.^[5-7] However, our literature search showed no report of lung cancer with skin metastases accompanied by multinodular goiter. Herein, two such cases are presented.

CASE REPORT

Case 1. A 30-year-old female patient was referred to our clinic for a pulmonary mass which was incidentally detected by a cardiologist during echocardiography. On admission, her symptoms were chest pain, palpitation, and dyspnea. Physical examination was normal except for moderate tachycardia and a huge multinodular goi-

ter. A chest X-ray and thorax computed tomography (CT) scan revealed a pulmonary mass that was adjacent to the mediastinum, compressing but not invading the right atrium (Fig. 1a). Thyroid function tests showed hyperthyroidism. We consulted with the endocrinology department in order to avoid complications during the postoperative period. Propylthiouracil was given for hyperthyroidism before operation. On the tenth day of medication, a few cutaneous nodules appeared in different regions of the body, from which three were excised. Histological examination showed small cell carcinoma metastasis (Fig. 2a). Thyroid ultrasonography revealed diffuse multinodular goiter. Fine-needle aspiration biopsy of the thyroid nodules showed no malignancy. We referred the patient to the medical oncology department for chemotherapy. In the third month of treatment, pleural empyema developed due to possible tumoral necrosis of the lung. Skin lesions disappeared completely. Control thorax CT showed that the pulmonary mass decreased in size (Fig. 1b). Tube thoracostomy was performed in order to drain empye-

Anahtar sözcükler: Karsinom, küçük hücreli; guatr, nodüler; hipertiroidizm; akciğer neoplazisi/patoloji; deri neoplazisi/ikincil.

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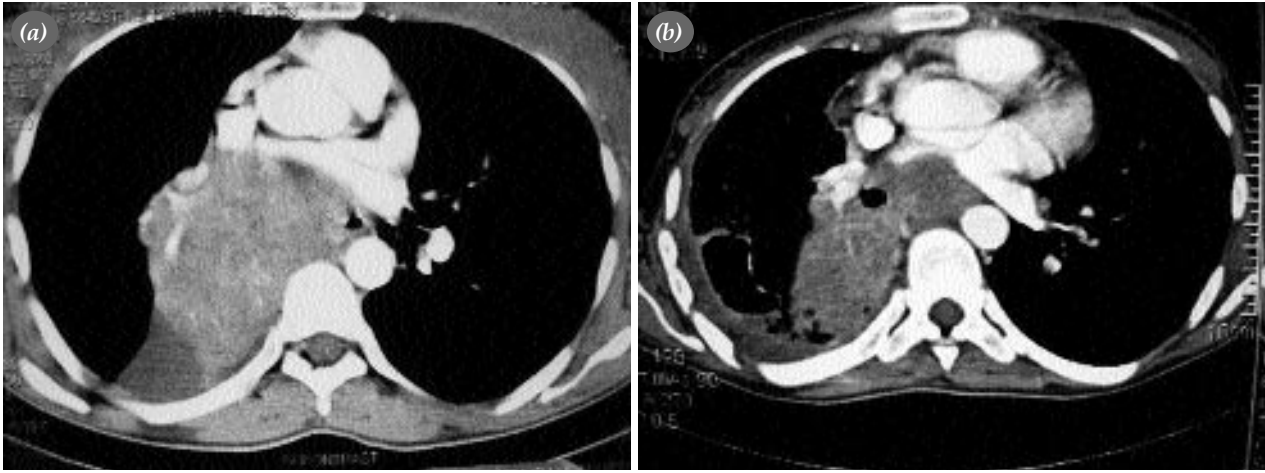


Fig. 1. Thorax CT scans of the patient with small cell lung carcinoma. (a) A huge pulmonary mass compressing the mediastinum. (b) After chemotherapy the mass became smaller.

ma and to perform pleural lavage. The infection was taken under control, but was not cured. Thus, chemotherapy could not be given. Palliative surgery was recommended, but the patient did not accept and died in the sixth month of diagnosis.

Case 2. A 55-year-old woman was admitted to our clinic for symptoms of chest pain and a nodular lesion in the thoracic cage. There were tumoral lesions in her chest, scalp, hand, and toes, measuring 0.5 to 6 cm. Physical examination revealed a multinodular thyroid gland. Laboratory studies showed hyperthyroidism. A chest X-ray and thorax CT disclosed a mass in the left lower lobe. Bronchoscopy showed an endobronchial tumoral lesion and a biopsy was taken. Nodules in the chest, scalp, and toes were excised. Pathologic examination of the endobronchial lesion showed a malignant epithelial tumor. Adenocarcinoma metastases were reported for the resected nodules (Fig. 2b). The patient was referred to the oncology department for chemotherapy. Examination made in the fourth month of diagnosis showed new metastases that occurred in the chest, abdomen, and spleen.

DISCUSSION

Skin metastases of lung cancer are rare, with an incidence varying from 1% to 12%.^[1-4] Physicians should be warned and informed of this phenomenon, for skin lesions may be the first manifestation of the disease, suggesting a worse prognosis. In a series of 1087 patients with skin metastases, Terashima and Kanazawa^[1] found that 34 patients had lung cancer. The authors emphasized that survival of lung cancer patients was shortened after the diagnosis of skin metastases. The incidence of cutaneous metastasis is high in patients with large cell carcinoma.^[1,2] Adenocarcinoma is intermediate in the tendency to metastasize to the skin.^[1,2] Small and squamous cell carcinomas of the lung rarely metastasize to the skin.^[1-3] The main cutaneous sites are the chest wall and abdomen.^[3] In our cases, metastatic nodules were common in these regions of the body. In the second patient, most of the metastases were in the scalp, hand, and toes. In the first patient, the metastatic lesion in the chest wall measured approximately 6 cm in diameter.

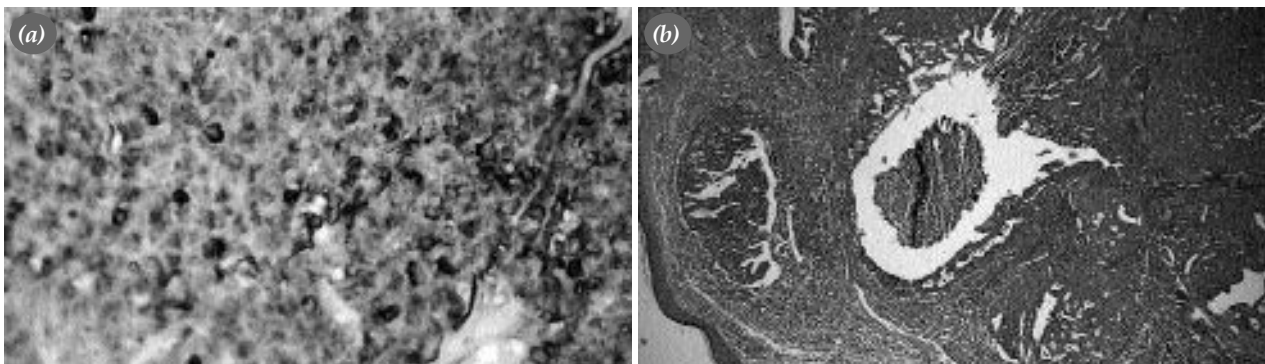


Fig. 2. (a) Small cell carcinoma: Oval-spherical cells just bigger than a lymphocyte, with a narrow cytoplasm and hyperchromatic nucleus. Positive granular stain can be seen (Neuron specific enolase x 100). (b) Metastasis of adenocarcinoma to the scalp: Islands of adenocarcinoma cells with cystic spaces in the dermis. (H-E x 10).

Metachronous or synchronous neoplasms of the lung and other systems were previously reported.^[5-7] In particular, coexistence of esophageal and pulmonary carcinomas were observed. Davydov et al.^[7] reported lung cancers accompanied by gastric, laryngeal, or esophageal cancers. We could not find any report on the coexistence of multinodular goiter or hyperthyroidism with lung cancer and skin metastases. The mechanism of this coexistence can be explained by the increased blood stream of the skin caused by hyperthyroidism. Our patients were not from endemic regions of goiter in our country. It was interesting to see that the skin was the only site of metastasis in both patients.

REFERENCES

1. Terashima T, Kanazawa M. Lung cancer with skin metastasis. *Chest* 1994;106:1448-50.
2. Coslett LM, Katlic MR. Lung cancer with skin metastasis. *Chest* 1990;97:757-9.
3. D'Aniello C, Brandi C, Grimaldi L. Cutaneous metastasis from small cell lung carcinoma. Case report. *Scand J Plast Reconstr Surg Hand Surg* 2001;35:103-5.
4. De Argila D, Bureo JC, Marquez FL, Pimentel JJ. Small-cell carcinoma of the lung presenting as a cutaneous metastasis of the lip mimicking a Merkel cell carcinoma. *Clin Exp Dermatol* 1999;24:170-2.
5. Suzuki S, Nishimaki T, Suzuki T, Kanda T, Nakagawa S, Hatakeyama K. Outcomes of simultaneous resection of synchronous esophageal and extraesophageal carcinomas. *J Am Coll Surg* 2002;195:23-9.
6. Burton DJ, Sharpe DA, Saunders NR. Metachronous pulmonary and oesophageal neoplasia. *Eur J Cardiothorac Surg* 1999;15:726-8.
7. Davydov MI, Akchurin RS, Gerasimov SS, Polotsky BE, Stilidi IS, Machaladze ZA, et al. Simultaneous operations in thoraco-abdominal clinical oncology. *Eur J Cardiothorac Surg* 2001;20:1020-4.