Late Endobronchial Pulmonary Metastasis in a Patient with Breast Cancer

İbrahim Güven Çoşğun1, Turgut Kaçan2, Gül Erten3

1Department of Pulmonology, Afyonkarahisar State Hospital, Afyonkarahisar, Turkey
2Department of Oncology, Afyonkarahisar State Hospital, Afyonkarahisar, Turkey
3Department of Pathology, Afyonkarahisar State Hospital, Afyonkarahisar, Turkey

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INTRODUCTION

The lung is a common location for malignant metastases. However, endobronchial metastases from nonpulmonary neoplasms are rare. Metastatic breast cancer usually occurs in 2-3 years of the disease course. A 65-year-old woman visited our hospital for the evaluation of dry cough. The patient had a history of breast cancer, which was treated with modified radical mastectomy and axillary dissection 10 years ago; she was then treated with aromatase inhibitor for 5 years. Chest X-ray revealed right hilar enlargement. Thorax computed tomography revealed a 35-mm diameter mass that was localized in the right hilum. Fiberoptic bronchoscopy was performed, and an endobronchial lesion was observed in the right main lobe carina. Pathological evaluation revealed that the mass was a metastasis of the invasive ductal carcinoma of the breast. Weekly paclitaxel chemotherapy was initiated because of the symptomatic disease. We reported the case of a patient with breast cancer who had an endobronchial metastasis. Her disease-free interval was 10 years. This case indicates that a long-term follow-up of breast cancer is necessary, and biopsies must be performed to make a final diagnosis when any suspicious hilum enlargement is observed.

KEYWORDS: Breast cancer, pulmonary metastasis, endobronchial metastasis

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CASE PRESENTATION

A 65-year-old woman visited Afyonkarahisar State Hospital for the evaluation of dry cough. Posterior-anterior lung graphy revealed right hilar enlargement (Figure 1). The patient had a history of early stage breast cancer, which was treated with modified radical mastectomy and axillary dissection 10 years ago. The patient received aromatase inhibitor for 5 years. Physical examination was normal except for cough. Chest X-ray also showed right hilar enlargement. Thorax computed tomography revealed a 35-mm diameter mass that was localized in the right hilum (Figure 2). The mass was suspected to be either metastatic or primary lung cancer. Fiberoptic bronchoscopy was performed, and an endobronchial lesion was observed in the right main lobe carina (Figure 3). Biopsies of the endobronchial lesion were performed. The pathological evaluation revealed that the mass was a metastasis of the invasive ductal carcinoma of the breast. The pathology results were as follows: estrogen receptor, positive; progesterone receptor, negative; human epidermal growth factor receptor, negative; and Ki-67, 3% using immunohistochemical staining (Figure 4). Positron emission tomography–computed tomography showed an increased standardized uptake value (SUVmax, 5.16) for the primary endobronchial lesion and suspicious metastatic pulmonary nodules and lymph nodes in the mediastinum. Weekly paclitaxel chemotherapy was initiated because of the symptomatic disease.

Written informed consent was obtained from patient.
DISCUSSION

Lung metastases from extrapulmonary primary malignancies are common [1]. However, endobronchial metastases from nonpulmonary neoplasms are rare. Various primary tumors have been associated with endobronchial metastasis, predominantly in breast, renal, and colon malignancies [2]. Thus, when an endobronchial mass is detected, it is important to distinguish between primary lung cancer and metastasis of extrathoracic primary tumors. Metastasis of lung extrapulmonary malignancies involve different routes. Secondary invasion via a parenchymal or mediastinal lesion, lymphatic spread, and direct invasion is a possible route [3]. Metastatic breast cancer usually occurs within 2-3 years of the disease course. Therefore, endobronchial metastasis and late manifestation are very rare [4].

Clinical and radiologic findings vary according to the location of metastatic lesions. Cough and hemoptysis are common symptoms of endobronchial metastasis; some patients are asymptomatic. Multiple pulmonary nodules, atelectasis, hilar masses, and mediastinal lymphadenopathy are possible radiographic findings. However, some patients have normal chest radiographic findings. In our case, the only symptom was cough, and the radiographic finding was an abnormal opacity on chest X-ray.

A positive association has been described between disease-free interval and positive hormone receptor [5]. In our case, the status of the hormonal receptor was positive. Although radiologic findings and prognostic factors of cancers can help in differentiating the possible diagnosis, a final diagnosis must be made on the basis of the results of biopsies [6].
Hence, for our case, biopsies were performed via bronchoscopy, and the final diagnosis was invasive ductal carcinoma of the breast.

We present the case of a patient with breast cancer who had an endobronchial metastasis. Her disease-free interval was 10 years. This case indicates that a long-term follow-up of breast cancer is necessary, and biopsies must be performed to make a final diagnosis.

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REFERENCES