A Case Report: Primary Pulmonary Melanoma

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Abstract

Primary pulmonary melanoma

Primary pulmonary melanoma is a very rare disease, with only 19 cases previously reported in the English Language literature. This case suggest that melanoma can arise in the lung as a primary tumor. Diagnosis was made by right thoracotomy and the patient underwent lower lobectomy. Based on the histologic findings, the tumor was classified as malignant melanoma. There was no past history of an excision or a fulguration of a cutaneous, mucous membrane, or ocular lesion. Examination of the skin and the eyes did not yield any evidence of another primary tumor. We concluded that the lesion represented primary malignant melanoma of the respiratory tract. Recombinant interferon alfa 2a (IFN-α2a) administered to patient (6.million IU/m2 / d. for 3 days per week for 6 months). The patient does not have any evidence of tumor in the follow - up period of 30 months.

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Key words: *Primary pulmonary melanoma*
Abbrevations: *MML= primary malignant melanoma of lung, FOB = fiberoptic bronchoscopy, IFN-α2a= interferon alfa 2a*

Introduction

Primary malignant melanoma of the lung (PMML), is uncommon neoplasm with only 19 cases previously reported in the English Language Literature and these cases suggest that melanoma can arise in the lung as a primary tumor, probably from residual melanoblastom (1,2,5). PMML is frequently endobronchial and often manifest with symptoms of cough, hemoptysis and lobar collapse. Aggressive surgical resection irrespective of lymph node involvement offers possible long-term survival in some patients (1,10,11). The present case with PMML was diagnosed by surgery and the patient underwent lower lobectomy and was treated with recombinant IFN-α2a for a 6 months' duration (12,13,14).

Case report

A 59-year -old man with a history of hypertension and diabetes mellitus type-II was referred for evaluation of hemoptysis and chest pain and cough to hospital in Feb. 1997. He had been in good health until 3 weeks prior to presentation when he developed a dry cough and mild

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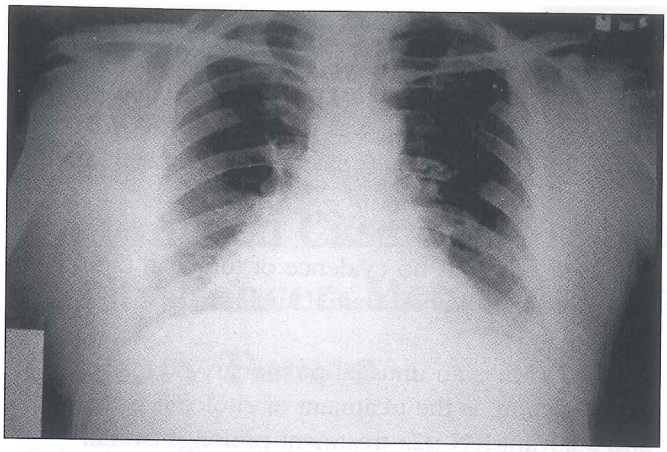

Figure 1. *Chest radiograph shows right paracardial consolidation.*

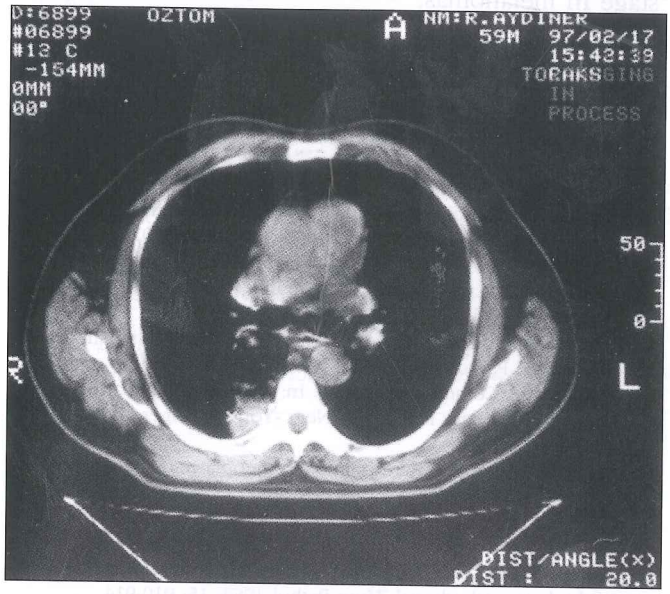

Figure 2. *Chest CT scan at the level of main stem bronchial origins demonstrating tumor.*

dsypnea and chest pain with breathing. He was treated for acute bronchitis without improvement. Subsequently, hemoptysis developed, at a rate of 3 to 5 mL, several times per day, accompanied by progressive cough and back pain with weight loss. There was no fever, chills.

There was a smoking history of 10 pack-years, but no history of cardiac disease, venous thromboembolism, or occupational lung disorder. His chest radiograph showed right paracardiac consolidation and his computerized tomography noted a mass lesion (8 cm) in the right lower lobe near to the paravertebral region, related to pleura and caused a narrowing right inferior bronchus (Figure 1,2). Then the patient was sent to our center for further diagnosis and treatment. Physical examination: vital signs were normal except for an increased blood pressure, both sistolic and diastolic (210/110 respectively).

Laboratory findings: initial work-up included normal results of CBC but abnormal blood chemistry test which noted high blood glucose (180) and GT (198).

Hospital course: an FOB was performed on the patient which demonstrated no endobronchial lesions, only a bloody secretion was observed in the right 6th, 9th, 10th, bronchial segments. Its pathology revealed chronic inflammation. A second FOB was tried but again the same result was found. Trans-thoracic fine-needle aspiration was made to the lesion but not enough material was aspirated. Then the patient underwent diagnostic thoracotomy, had a right lower lobectomy (in June 1997). Pathology revealed a 7 cm diameter tumor tissue and its microscopy showed the pleomorphic, atypical, pigmented coalescent cluster of malignant cells with demonstrated prominent nucleolus. These revealed malignant melanoma of bronchial epithelium (Figure 3).

After surgery, there were no complications (Figure 4).

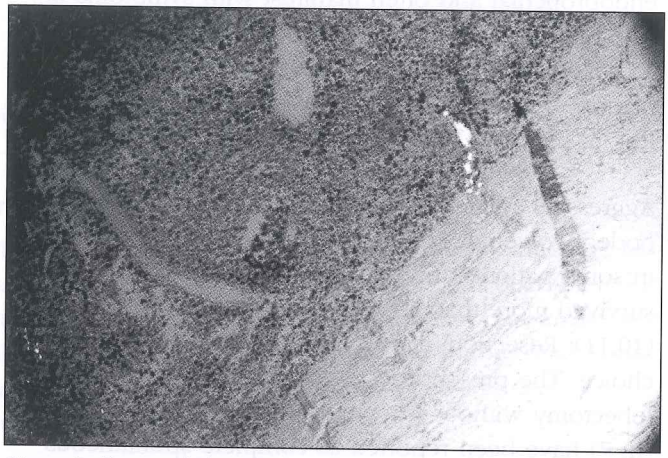

Figure 3. *Pleomorphile, atypical, pigmented coalesent nest of malignant cells with demonstrating prominent nucleolus.*

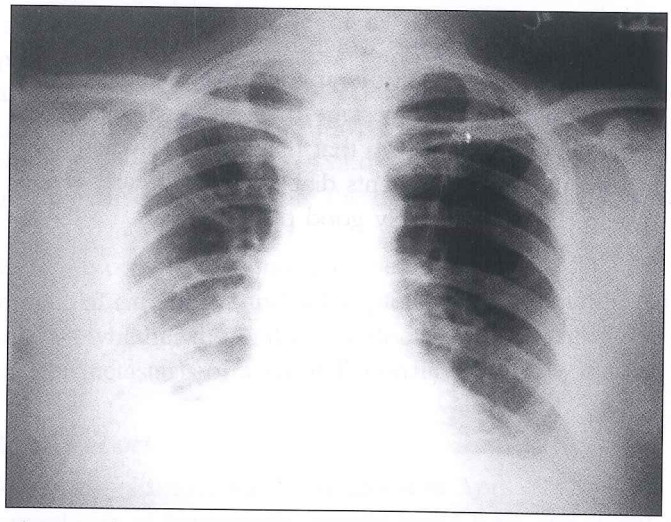

Figure 4. *Chest radiograph after right lower lobectomy.*

There was no past history of an excision or a fulguration of a cutaneous, mucous membrane, or ocular lesion. Examination of the skin and the eyes did not yield any evidence of another primary malignant melanoma of the respiratory tract. After, we treated the patient with IFN-α2a (6 million IU/m2, for 3 days per week for 6 months. At the last check-up) the patient is alive with no evidence of disease 30 months after surgery.

Discussion

Unusual neoplasm of the lung is described infrequently as a single case report or in small series and a PMML account for less than 1% of all primary lung cancer (1). PMML are extremely rare, with no more than 20 cases previously reported (1-5). There are no reports in Turkish Language Literature.

PMML originate from neuroectodermal melanoblastom of bronchial mucosa (1,2,5). It is frequently endobronchial and often manifest with symptoms of cough, hemoptysis, and lobar collapse (1-8). As in the present case, the most prominent symptom was hemoptysis although there was no endobronchial lesion.

Aggressive surgical resection, irrespective of lymph node involvement offers possible long-term survival in some patients and two cases reportedly have survived more than 10 years after resection of PMML (10,11). Resection, if possible, is the treatment of choice. The present case with PMML had right lower lobectomy without any complication. Very few cases (n: 7) have been reported as complete spontaneous regression of primary melanoma and pulmonary metastatic lesion (9).

There are some studies which have established a role of IFN-α2a as adjuvant therapy following surgery in patients with stage II or stage III melanoma (12,13,14) They have clearly shown that IFN-α2a has activity against this tumor. Patients diagnosed with early stage disease have a relatively good prognosis.

Overall survival and disease-free survival may be prolonged further by adjuvant therapy with IFN-α2a in patients with stage II and stage III melanomas (12). Hence the present case was treated with IFN-α2a (6 million IU/m2/d. for 3 days per week for 6 months) (12,13,14).

Our case dose has no evidence of tumor in the follow-up period of 30 months after surgery.

Lastly, PMML is an unusual pulmonary neoplasm and resection, is the treatment of choice if possible, and adjuvant IFN-α2a treatment prolongs overall survival after surgery in-patients with stage II and stage III melanomas.

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