

# Concomitant Occurrence of Lung Adenocarcinoma and Endobronchial Myxoma: A Case Report

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## Abstract

A 73-year-old male patient presented with two mass lesions, a larger one in the right and another in the left lung. Fiberoptic bronchoscopic examination revealed a lobulated endobronchial lesion in the left upper lobe bronchus and normal findings in the right bronchial system. The histologic diagnosis of the endobronchial lesion was myxoma whereas transthoracic tru-cut biopsy performed from the mass lesion in the right lung revealed

adenocarcinoma. Pulmonary myxomas are exceedingly rare tumors and there are very few reported cases of endobronchial myxoma. Thus we report the concomitant occurrence of lung cancer and a benign endobronchial myxoma.

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## Introduction

Myxomas are benign mesenchymal tumors and they are the most common type of primary cardiac tumors in all age groups. Myxomas of the pulmonary system are exceedingly rare tumors that are usually parenchymal but may occasionally occur within the tracheobronchial tree (1,2). Cases have been described in mandibular, laryngeal locations, but there are very few reports of endobronchial myxoma (3,4,5). A case with adenocarcinoma in the right lung and an endobronchial myxoma in the contralateral lung is presented in this report.

## Case Report

A 73-year-old patient presented with a 3 months' history of shortness of breath, fatigue and weakness in the left extremities. His chest radiograph revealed a lobular mass in the right suprahilar region and a small nodule in the middle zone of the left lung (Figure 1). On thorax computed tomography (CT) there were a 4 cm mass in the right upper lobe anterior segment and a 1.5 cm nodule in the lingula (Figures 2,3). A further workup included cytologic examination of the sputum which revealed suspected malignancy with few dysplastic cells. Fiberoptic bronchoscopy was carried out under local anesthesia. The right bronchial system was normal and no endobronchial lesion was detected. In

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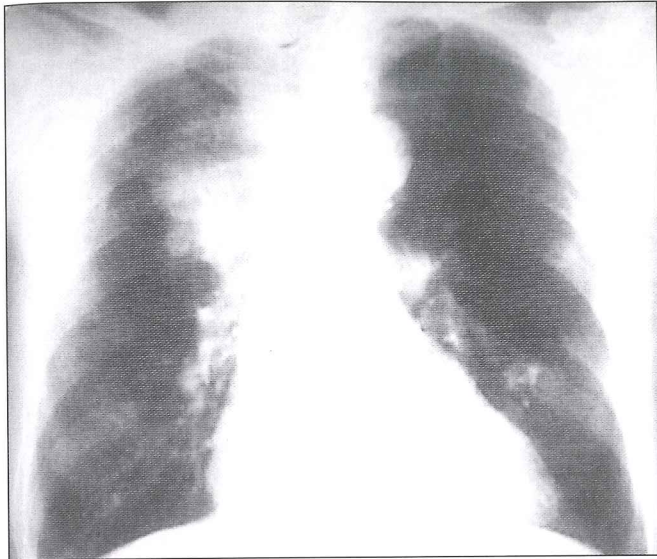


Figure 1. PA Chest radiograph shows the lobular mass image on the right suprahilar region and a small nodule in the left lung.

the left upper lobe bronchus there was a lobulated mass covered with smooth mucosa located next to the apicoposterior segment orifice (Figure 4). Bronchial lavage cytology was nondiagnostic.

The bronchoscopic biopsy specimen of this endobronchial lesion showed focal areas of cylindrical bronchial epithelium, and stellate and fusiform tumoral mesenchymal cells embedded within a basophilic myxoid matrix in the subepithelial region. There was no sign of malignancy. The final diagnosis was myxoma (Figure 5).

To identify the mass lesion in the right lung, CT guided transthoracic tru-cut biopsy was performed. The histology of this specimen was adenocarcinoma. Further investigation by magnetic resonance imaging (MRI) revealed multiple cranial metastasis. The mass lesion in the left lingula was also accepted as another metastatic focus of the adenocarcinoma.

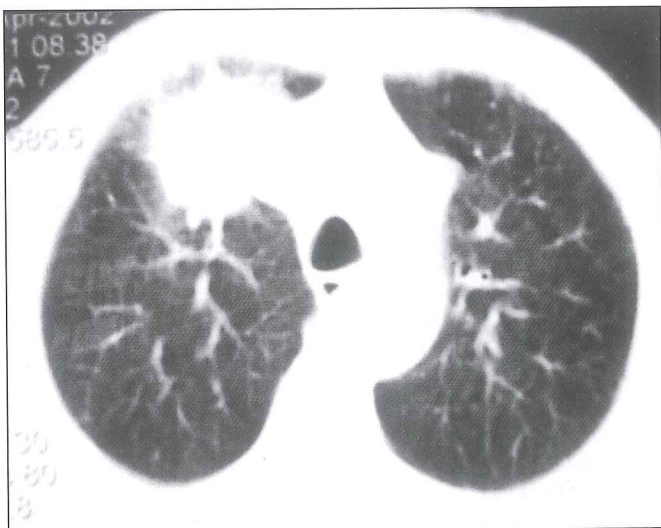


Figure 2. CT scan shows the mass lesion on the right upper lobe.

The patient was referred to the Oncology Department for the follow up of Stage IV adenocarcinoma.

## Discussion

Myxomas are benign mesenchymal tumors that may occur in many sites. They are the most common type of primary cardiac tumors in adults and account for one third to one half of all cardiac tumor cases. Seven percent of cardiac myxomas are familial with autosomal dominant transmission (1). The large majority of sporadic myxomas are solitary and located in the heart atria where they arise from the interatrial septum. The clinical presentation highly depends on location and changes in tumor position with gravity. Thus myxomas may cause either stenosis or regurgitation in cardiac valves. Surgical removal is usually curative although sometimes the neoplasm recurs after months to years (1). Macroscopically they are oval or spherical with a grey white mucoid glistening cut surface. Histologically they are composed of stellate or elongated fibroblast like cells with abundant intercellular myxoid material. The cell types presented in myxomas are thought to be derived from variable differentiation of primitive mesenchymal cells (6). Myxomas generally do not metastasize, although metastasis from myxomas of the heart, attributed to the possibility of neoplastic embolization or sarcomatous origin of the neoplasm, have been reported (1).

There are few sporadic case reports of myxomas located in sites other than the heart (4,5,7,8,9,10). We came across only two previous reports of cases of primary endobronchial myxoma, although there may have been a number of asymptomatic cases which went unreported (5,7). In our patient, the myxoma was detected by chance during investigation for another pathology. Our patient complained of fatigue and weakness in the left extremities

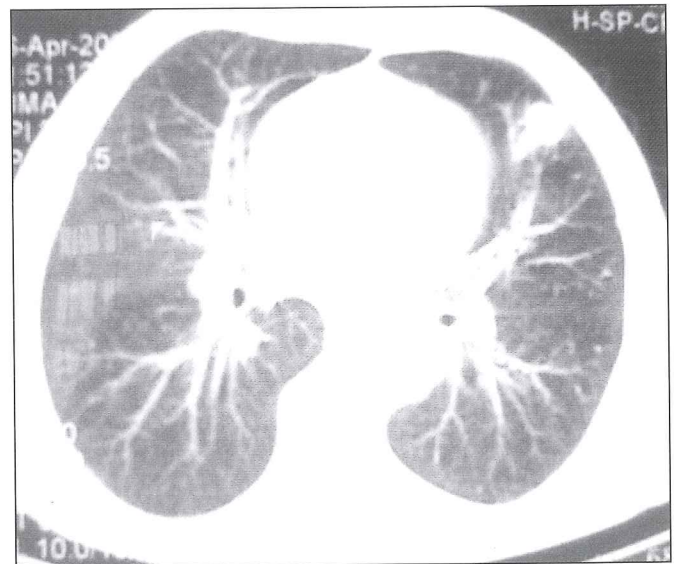
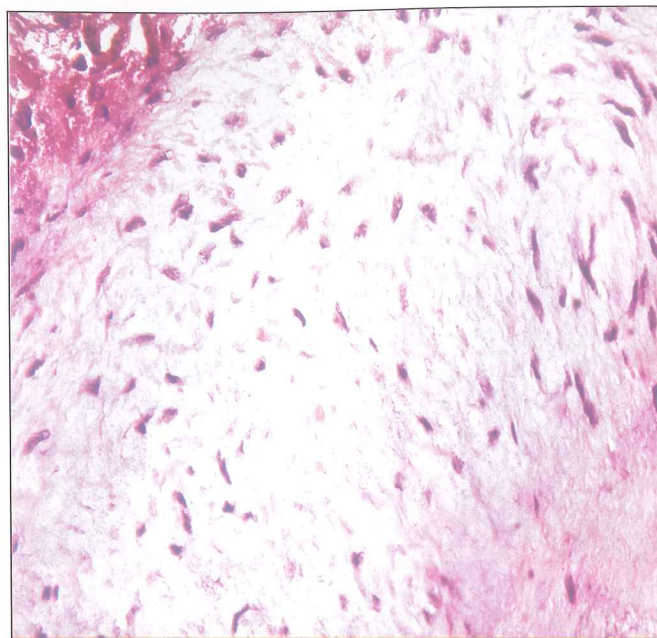


Figure 3. CT scan shows the nodular lesion in the lingular segment of the left upper lobe.



**Figure 4.** Bronchoscopic image of the mucosal lesion in the left upper lobe bronchus next to the apicoposterior segment orifice.



**Figure 5.** H+E x 40 Histologic appearance of the bronchoscopic biopsy material: stellate mesenchymal cells in myxoid stroma.

which were due to his malignancy and multiple brain metastasis. Symptoms suggesting an endobronchial lesion, such as cough or wheezing, were not present. The bilateral nodular lesions detected in the patient's chest X-ray and thorax CT had to be distinguished from synchronous primary lung tumors or a primary lung cancer with a metastasis. Patients with pulmonary neoplasms have an increased risk for developing a second tumor, since the epithelium of the respiratory tract may have been affected by carcinogens like cigarette smoke. The incidence of synchronous primary carcinoma of the lung is reported to be between 0.26% and 1.33% (11). In synchronous tumors, evaluation of the mediastinum and of the distant metastasis, histologic examination and molecular analysis with fingerprinting is used for definite diagnosis (12,13). Our case had Stage IV disease with multiple cranial metastasis, so the nodule on the left lung was regarded as a metastatic lesion without further invasive diagnostic procedures. However, bronchoscopic examination revealed an extra synchronous benign tumor, a myxoma in the left lung. In Kunitoh's study of 53 patients with two ipsilateral lung nodules, one of which was a carcinoma of the lung, the other nodule was found to be benign in 56.7% of the cases (14). Yano and associates have recently reported a case with a synchronous tumor which consisted of a bronchial carcinoid tumor and an adenocarcinoma of the lung (15). To our knowledge, there is no etiologic relationship between a myxoma and adenocarcinoma of the lung, we therefore think this concordance was coincidental.

As there are very few cases of endobronchial myxoma in the

medical literature and as the incidence of a benign and a malignant synchronous lung tumor is very low, we decided to report this patient in whom a diagnosis of adenocarcinoma on the right and an endobronchial myxoma on the left lung was made.

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