

CASE REPORT

Spindle cell tumor of the lung: A rare case

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ABSTRACT

Spindle cell carcinoma of the lung is a rare, aggressive lung malignancy (non-small cell carcinoma) with a poor prognosis. This tumor accounts for approximately 0.4% of all lung malignancies, and due to its rarity, standard therapy is yet to be established for its management and treatment. The prevalence of this tumor is more common in males as compared to females (ratio of 4:1) and usually occurs in the sixth/seventh decade of life, more so in smokers. The authors report a case of a 79-year-old male patient who was incidentally detected and diagnosed with this rare lung carcinoma proven with a lung biopsy.

Key Words: Lung cancer, Spindle cell, Sarcomatoid carcinoma

1. INTRODUCTION

Sarcomatoid carcinomas (SC) of the lung and pleura are an extremely rare subset of non-small cell lung carcinoma (NSCLC). The incidence of SC has been estimated between 0.3% and 1.3% of all malignant lung neoplasms as per the available literature.^[1-4] SC has been classified into five major subtypes by the World Health Organization (WHO) based on histological features:- spindle cell carcinoma, pleomorphic carcinoma, carcinosarcoma, giant cell carcinoma, and pulmonary blastoma.^[5] Spindle cell carcinoma (SCC) is the rare histological type of SC that consists of spindle-shaped tumor cells. The SPCC commonly affects the oral cavity, larynx, uterus, conjunctiva, prostate, breasts, kidney, and very rarely the lungs (approximately 0.4% of lung cancers).^[6,7]

There is a scarcity of data in the medical literature on SPCC regarding its clinical presentation, treatment, disease progression, and management due to its low incidence rate. The authors present an interesting case of a 79-year-old male who

was diagnosed with an amoebic liver abscess and incidentally detected to have a lung mass which was later proven to be SPCC on biopsy.

2. CASE REPORT

A 79-year-old male, progressive shortness of breath associated with a generalized weakness for three days, presented to the hospital emergency department with complaints of moderate to high-grade fever with chills for six days. He gave no history of abdominal pain, vomiting, dysuria, cough, chest pain, or hemoptysis. He had a history of hypertension, for which he was on regular treatment. The patient was admitted to the respiratory ICU with a provisional diagnosis of pneumonia. On initial examination, the patient looked toxic and had tachypnea, dyspnea, and hypoxia, requiring oxygen support of 6 L/min. The patient was initiated on intravenous (IV) antibiotics, fluids, and supportive care and was further evaluated. His blood investigation showed leucocytosis (22,000), acute non-oliguric renal dysfunction

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(serum creatinine 1.6), deranged INR (2.1) with normal liver enzymes, and high serum procalcitonin (15.6). His chest X-ray revealed bilateral lower zones infiltrates (see Figure 1). His HRCT chest (non-contrast) was done and showed left lower lobe mass with mild right pleural effusion (see Figure 2) and a heterogeneous space occupying lesion (SOL) in the right lobe liver with a gentle sub-capsular collection (see Figure 3).

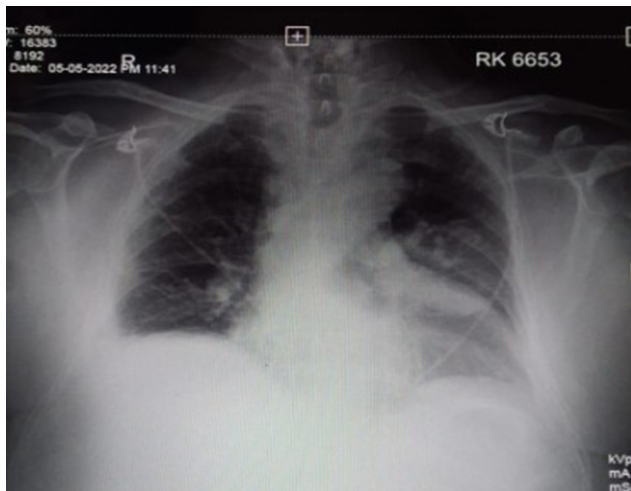


Figure 1. Chest X ray shows bilateral lower zone infiltrates/haziness (Left>Right)



Figure 2. HRCT chest shows left lower lobe mass (arrow)

Further evaluation was done by conducting a whole body PET CT scan which showed–non-FDG avid, lobulated, pleural-based soft tissue mass in the left lung lower lobe and large centrally hypodense/necrotic lesion with peripheral FDG uptake in the right lobe of the liver (see Figure 4). This report left the treating doctors in dilemma and inquisitiveness regarding the nature of the lung tumor.



Figure 3. Space occupying lesion in right lobe of live (arrow)

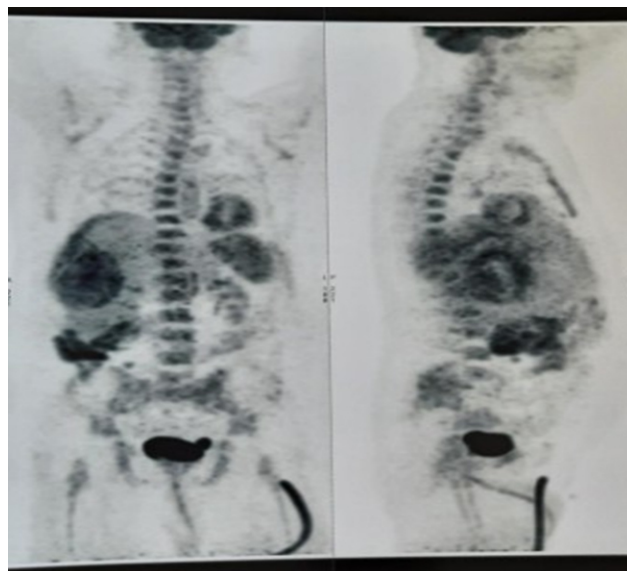


Figure 4. Whole body PET CT scan

The patient’s diagnosis was changed to liver abscess with left lung mass under evaluation. His amoebic serology was sent, which was positive, and the patient started on IV Metronidazole. The patient showed some improvement with the ongoing treatment but required further evaluation of the findings in the CT scan. CT-guided biopsy of the left lung mass and drainage of the liver abscess were done under FFP cover. The patient showed good recovery post drainage of the liver

abscess. The lung biopsy was positive for a spindle cell tumor, and an immuno-histochemistry panel is awaited. The patient was referred to medical and surgical oncology teams for further management.

3. DISCUSSION

Sarcomatoid carcinomas are rare, affecting predominantly males (ratio of male: female - 4:1) with an average age of 60-70 years, and are shared among smokers.^[8] The symptoms commonly found on presentation depend upon the tumor's location. Cough associated with hemoptysis occurs in almost 50% of cases with proximal tumor. In some patients, the bronchial obstruction by cancer leads to recurrent pneumonia and progressive breathlessness.^[9] The course of the disease is often aggressive, with a poor prognosis and a 5-year survival rate of approximately 20%.^[1,2,8-10] The histopathological diagnosis plays the most crucial role in the characterization and classification of these tumors due to high cell pleomorphism.^[4,7] SPCC exhibits histologic characteristics of both epithelial and mesenchymal tumors.^[7] It typically presents nonspecific clinical symptoms and image

findings similar to other lung cancers, making immunohistochemistry paramount for a definitive diagnosis.^[7]

Spindle cell carcinoma has been found to have a more aggressive clinical course than other forms of malignant lung cancers. In addition, the response of SPCC to chemotherapy or radiation therapy has generally been poor. The response of SpCC to chemotherapy or radiation therapy has generally been poor, although few reports/studies have shown that carboplatin-based chemotherapy along with surgical resection might be effective against these carcinomas.^[7,10-13]

4. CONCLUSION

We reported a rare spindle cell tumor of the lung that is biopsy-proven. These carcinomas may usually have an unfavorable outcome despite treatment (as compared to other lung cancers); hence a timely diagnosis is crucial in these malignancies due to the aggressive nature.

CONFLICTS OF INTEREST DISCLOSURE

The authors declare they have no conflicts of interest.

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