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Case Report

Inflammatory Myofibroblastic Tumor of the Lung- A Rare Case

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Abstract

Inflammatory myofibroblastic tumor (IMT) of the lung, is a rare benign disease entity also known as inflammatory pseudo tumor, makes up less than 0,5% of lung tumors [1]. Because of its diversified radiologic manifestations, the diagnosis is difficult to establish before surgery. This type of tumor can be parenchymal, homogeneous, endobronchial or cystic. Treatment and prognosis of this tumor depend on the type of surgical resection, so to exclude malignancy and to achieve a good prognosis complete surgical resection should be done. We reported a missed case of IMT presenting as pulmonary embolism.

Keywords: *Myofibroblastic Tumor; Resection; Benign Disease*

Introduction

Inflammatory myofibroblastic tumor (IMT) of the lung, is a rare benign disease entity also known as inflammatory pseudo tumor, makes up less than 0,5% of lung tumors [1].

Case Report

A 39-year-old man known case of hypertension on antihypertensive treatment and heavy smoker, brought to the emergency room complaining of shortness of breath, orthopnea and productive cough for last 3 weeks. Chest X-ray showed cardiomegaly with bilateral chest infiltrates mainly in the right side (Figure 1). Chest computed tomography showed right sided lower lobe mass with bronchial obstruction (bronchus intermedius) and pulmonary embolism at same side (Figure 2). This patient had history of admission in our hospital with same presentation (shortness of breath, orthopnea, cough) 13 years ago and at that time diagnostic bronchoscopy and CT chest all showed right sided endobronchial lesion not obstructing but we could not found biopsy result, patient was discharged against medical advice, Based on the clinical features with radiological images and reports, the initial diagnosis of pulmonary embolism was made with further investigation for right sided lower lobe mass to be arranged later on. The patient was treated initially under Medical team as a case of pulmonary embolism and then referred to the Thoracic Surgeon for further investigation and management. The Fibrotic bronchoscopy done and biopsy was taken from endobronchial lesion, showed "plasma cell rich spindle cell lesion" suspicion of Inflammatory myofibroblastic tumor was raised, so preoperative CT abdomen done and it was normal, thoracotomy and bilobectomy (Lower and Middle Lobes) was done for him and the final histopathology report was "Inflammatory myofibroblastic tumor" with margin free of tumor. Post operatively the patient remained asymptomatic with no recurrence in follow up for more than 2 years.

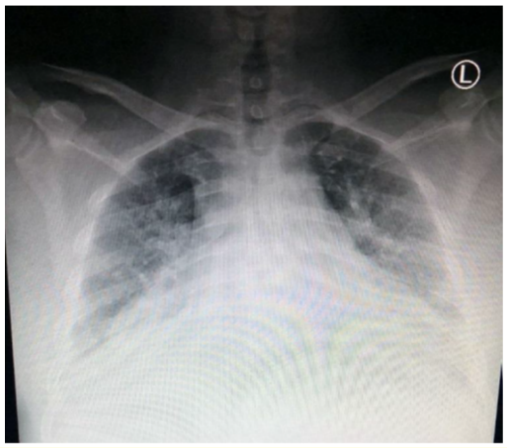

Figure 1: *CXR on admission showing cardiomegaly with bilateral chest infiltration mainly the right side.*

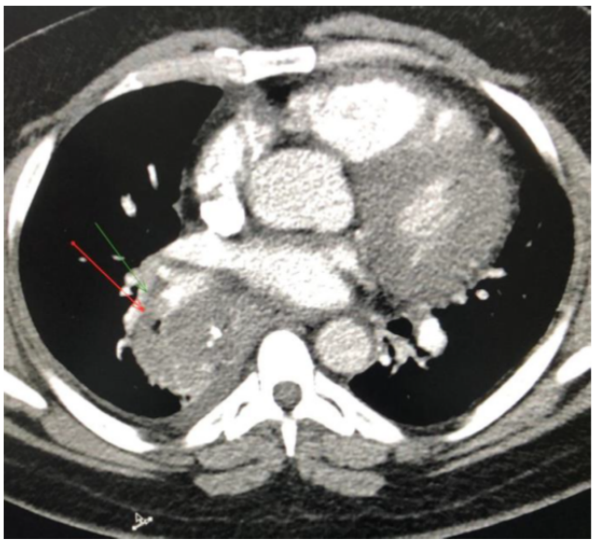

Figure 2: *CT chest and abdomen with contrast on admission showed Rt. sided lower lobe mass with bronchial obstruction (bronchus intermedius) and pulmonary embolism at same side.*

Discussion

Inflammatory myofibroblastic tumor is a rare benign mesenchymal tumor, it can also involve internal organs, trunk, neck, head and soft tissue [2]. After a large number of clinical, pathological, and molecular studies it was confirmed that IMT is a true tumor. Pulmonary inflammatory myofibroblastic tumors is a rare tumor accounted less than 0.04% of all lung cancer, with no significant gender differences and young patient account 26%. Patients usually presents with nonspecific respiratory symptoms, such as, fever, fatigue, cough,

dyspnea and other symptoms. Lesions usually large, most of patients with isolated solid lung nodules, deferent shape, patients presents with multiple pulmonary nodules accounts 5%. The pathology of this tumor characterized mainly by the proliferation of spindle cells [3], mitotic rare, ranging from the number of cells can be seen between the spindle infiltration of plasma cells, inflammatory cells, and (or) lymphocytes (Figure 3A and 3B). The treatment of choice of inflammatory myofibroblastic tumor is through to be complete surgical resection of the lesion. Young patients with unrespectable or hilar and mediastinal inflammatory myofibroblastic tumor can be treated with corticosteroid therapy. Chemotherapy treatment reserved for patient presents with multiple invasive lesions or locally recurrent tumor.

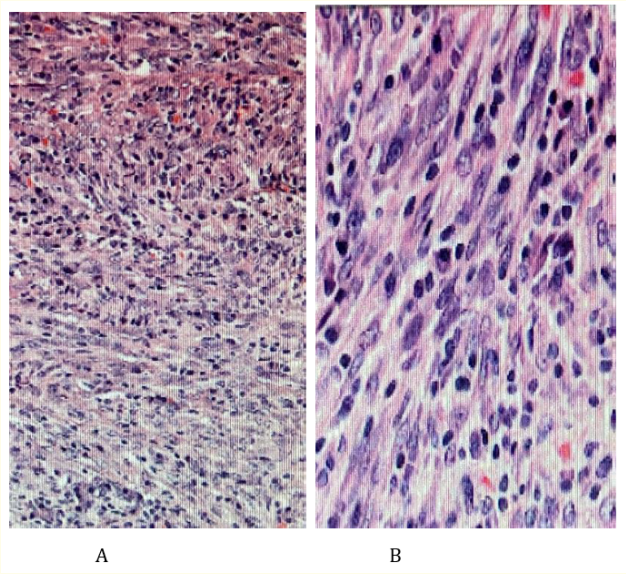

Figure 3: *A cellular inflammatory myofibroblastic tumor of the lung showing (A) a fascicular architecture and (B) numerous admixed plasma cells and lymphocytes.*

Conclusion

Inflammatory myofibroblastic tumor of lung is rare benign lesion and it can present as a long standing lung lesions, so it should be included in the differential diagnosis. It has potential for local invasion and recurrence. Complete surgical resection is necessary to achieve diagnoses and to exclude malignancy in many cases and for better prognosis.

Authors' Contribution

All the authors have contributed to the study concept, design, data collection, data analysis for interpretation, and writing this manuscript.

Conflict of Interest

The authors declare that they have no conflict of interest.

Consent

Informed consent was obtained from the patient to publish this report for academic interest.

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