Inflammatory Myofibroblastic Tumour of Lung, Masquerading As Tuberculosis – A Case Report

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Abstract: Inflammatory myofibroblastic tumor is a histologically distinctive lesion that occurs primarily in the viscera and soft tissue of children and young adults. It is considered a tumor of borderline malignancy because of its tendency to recur locally (at least at certain sites) and its ability to metastasize rarely. It is composed of a variable mixture of collagen, inflammatory cells, and usually cytologically bland spindle cells showing myofibroblastic differentiation. There are many uncertainties about the pathogenesis of IMT. Currently, surgery is the mainstay of the treatment for IMTs. It has three histological subtypes. The differential diagnosis of this lesion depends on the clinicopathologic setting, including the patient’s age, gender, tumor location, and number of lesions. Rarely inflammatory myofibroblastic tumors have a conspicuous population of large multinucleated tumor cells with prominent nuclei bearing a resemblance to the Reed-Sternberg cells of Hodgkin’s disease. Based on the two largest studies of abdominal and retroperitoneal lesions, it is clear that tumors in this location have a propensity for more aggressive behavior than their extra-abdominal counterparts, with recurrence rates of 23% to 37%.

Keywords: IMT, Multinucleated tumor cells, borderline malignancy.

I. Introduction

Inflammatory myofibroblastic tumor is a histologically distinctive lesion that occurs primarily in the viscera and soft tissue of children and young adults. It is considered a tumor of borderline malignancy because of its tendency to recur locally (at least at certain sites) and its ability to rarely metastasize. It is composed of a variable mixture of collagen, inflammatory cells, and usually cytologically bland spindle cells showing myofibroblastic differentiation. Inflammatory myofibroblastic tumour has an equal sex distribution and occurs in all ages, though most occur in individuals less than 40 years. Inflammatory myofibroblastic tumour is the most common endobronchial mesenchymal lesion in childhood. [1]

II. Case Report

We report the case of a 22-year-old male patient, who had complained of weight loss, anorexia, low grade fever and breathlessness for 1 year. FNAC was reported as granulomatous inflammation favoring Kochs and true cut biopsy was reported as tubercular inflammatory lesion. Patient took antitubercular treatment for 8 months. On examination patient has positive history of breathlessness. Basal crepitations and decreased respiratory sound were heard on left side. Chest computed tomography (CT) scan showed well defined rounded subtle heterogeneously enhancing lesion in anterior segment of left upper lobe [82(AP)x81(TR)x87(CC)mm] with splaying/bulging of left major fissure. The lesion is extending from left hilum to lateral chest wall with bulging of the bifurcation of left main bronchus and hilar vessels. The CT features were consistent with a lung mass. The differential diagnosis on basing history and imaging features is to favor of Neoplastic (Germ cell) Vs Benign Lesion (Adenoma) Fibroma / Neurogenic. The resort to surgery was for diagnostic and therapeutic purposes and consisted of left pneumectomy. On histopathology examination, the tumour cells were large and multinucleated, with plump cytoplasm and eccentric oval nuclei with vesicular chromatin and inconspicuous nucleoli. Many lymphocytes with plasma cells, few histiocytes and occasional multinucleated giant cells were seen.
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III. Discussion

The inflammatory myofibroblastic tumour is a very rare benign lesion representing 0.7% of all lung tumors. It was earlier called inflammatory pseudotumor, plasma cell granuloma, histiocytoma or fibroxanthoma.

Most of these tumours are discovered incidentally during radiological studies. There are no established decisive criteria for differential diagnosis. The current histopathological definition of an IMT is a distinctive neoplasm composed of myofibroblastic mesenchymal spindle cells accompanied by an inflammatory infiltrate of plasma cells. There are many uncertainties about the pathogenesis of IMT. Several hypotheses have been proposed such as an auto-immune mechanism or infectious origin. Indeed, 30% of cases are closely related to

Figure 1 CT scan showing mass in the left lung

Figure 2: Gross appearance: 4 x 2 x 1 cm in size, firm, whitish and homogeneous.

Figure 3: 10X view, showing spindle cells arranged in fascicles or showing storiform pattern.

Figure 4: High power, showing spindle cells, many lymphocytes with plasma cells.

Figure 5: High power, showing histiocytes and multinucleated giant cells.
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References


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