Pulmonary Sequalae of a Rheumatological Disease Systemic Lupus Erythematosus as Nonspecific Interstitial Pneumonitis in a Diagnosed Case of Extrapulmonary Tuberculosis

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ABSTRACT

Rheumatological Diseases like Systemic Lupus Erythematosus (SLE) can present with multisystem features. It can involve many of the organs involving the Lungs. In this case report, we studied a 30 years old male patient who presented to pulmonary medicine OPD at Lata Mangeshkar Hospital and Research center Nagpur Maharashtra with a complaint of Chest tightness for 5-6 months. The patient had been diagnosed as an Extra Pulmonary Tuberculosis case (EPTB) with Non-Specific Interstitial Pneumonitis with Systemic Lupus Erythematosus. Chest x-ray showed Bilateral Reticular shadows with prominent markings. Pulmonary function tests showed a mixed pattern (restrictive and obstructive). Anti-cardiolipin antibody and ANA antibody were positive. The patient got relief on treatment with a course of oral corticosteroids as well as add-on inhaled corticosteroids with Hydroxychloroquine tablets. so early treatment of SLE leads to better response to Nonspecific interstitial Pneumonitis

1. INTRODUCTION

Rheumatological disorders can manifest as multisystem involvement. The lung is the most commonly involved organ in this aspect. In the lungs, Non Specific interstitial pneumonitis can present as the primary pathology of Rheumatological disorders like scleroderma, sjogrens syndrome,polymyositis,dermatomyositis,Rheumatoid arthritis ,SLE. Association of ILD with Systemic Lupus Erythematosus (SLE) is rarely seen in less than 5% of the affected individuals.[1]

Infections contribute to a significant burden of morbidity and mortality in Systemic Lupus Erythematosus (SLE) [1]. Decreased immunity and decreased phagocytic activity in SLE led to many opportunistic infections also with Immunosuppressive therapy given for the same.[2]
Systemic lupus erythematosus (SLE) can present with a wide array of clinical and immunological abnormalities[1]. Lung parenchyma, pleura, and pulmonary vasculature can be involved in SLE. Furthermore, some SLE therapies predispose to an increased risk of respiratory infections.[3]

Respiratory symptoms may be chest tightness, dyspnoea, reduced activity due to fatigue, and hemoptysis; need proper evaluation for underlying lung disease. While accessing patients of SLE, we have to look for this Respiratory system involvement .[4]

2. CASE REPORT:

A 30-year-old male come to pulmonary medicine OPD at Lata Mangeshkar Hospital and research center Nagpur Maharashtra with complaints of chest tightness for 5-6 months .patient was a known case of Extra pulmonary tuberculosis (pleural effusion). There was significant improvement after the ATT course but the patient had chest tightness for 5-6 months .patient underwent rheumatological investment as well as neurologist's opinion was taken We had described the clinical presentation, investigations, and outcome of this case.

Chest x-ray showed bilateral reticular markings in the lower zone with prominent bronchovascular markings (Image 1). Pulmonary function test showed a mixed pattern (restrictive+obstructive), and DLCO comes out to be Normal. CT chest showed Multiple pleuro-parenchymal bands in bilateral lower lung zones with Few centrilobular nodules with ground glass opacities noted in the lateral segment of the right middle lobe suggestive of nonspecific interstitial pneumonitis (Image 2)

The anti-Cardiolipin Antibo ANA immunoblot test was Positive. Anti-PM/SCL antibody was Positive. Arterial Blood Gas (ABG) suggestive of no hypoxia echocardiography showed no lesion. Six Minute Walk Test was within normal limits. CT Pulmonary Angiography was within normal limits. We got to know from Electromyography and nerve conduction velocity studies that the patient had mild phrenic nerve dysfunction more on the left side than the right side with reduced conduction velocity and delayed latency

For management, the patient was started on oral steroids Deflazacort in tapering doses for 21 days and inhaled corticosteroids combination of Formoterol and Beclomethasone (Inhaler) for the same. Also, the patient was started on a combination of prednisolone and Azathioprine along with a tab of Hydroxychloroquine course

3. DISCUSSION:

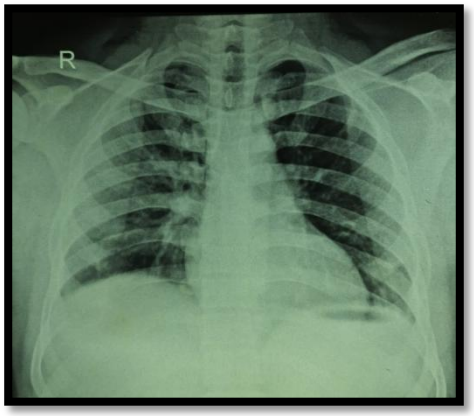
Combined manifestation of Systemic lupus erythematosus with nonspecific interstitial pneumonitis may be asymptomatic in many cases but can present with chest tightness and breathlessness on exertion with multiple joint pains, rashes, Renaud's phenomenon. In This situation steroids with immunosuppressants along with Nonsteroidal anti-inflammatory drugs will be targeted management modality .[5]

Enomoto et al. reported that the most frequent onset of SLE-ILD at diagnosis was chronic onset (63.6%), followed by subacute (20.0%) and acute (12.7%) [6]. The frequent patterns on high-resolution CT were NSIP + OP pattern (25%), OP pattern (22%), NSIP pattern (13%), and DAD pattern (2%). Here we are suspecting Diffuse alveolar haemorrhage based on CT findings and acute lupus pneumonitis based on history. Both counted as severe forms of lung involvement in SLE. They are characterized by sudden breathlessness cough fever haemoptysis [7].

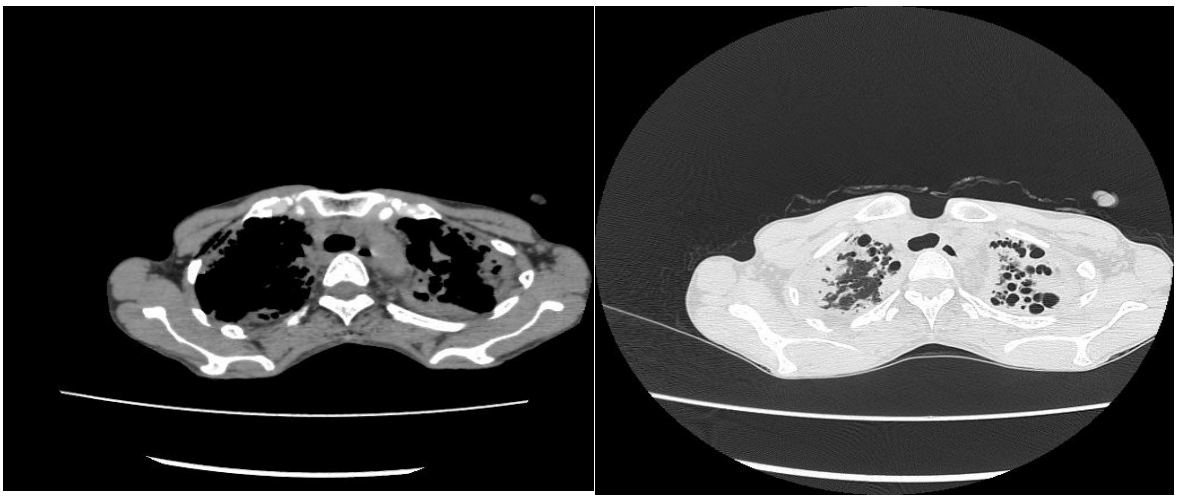
4. CONCLUSION:

Whenever a patient presents with any respiratory complaint along with multisystem involvement, careful history, and examination are needed exactly to streamline diagnosis and management of the underlying condition. If a patient presents with respiratory symptoms who do not have a known case of airway disease along with Rheumatological signs and symptoms, suspicion of underlying Rheumatological disease should be kept in mind. In severe cases, lung transplantation should be considered.

Image -1 - Chest X-ray showing Bilateral Reticular infiltrates with prominent markings



Images 2 &3 - CT chest showing Bilateral Reticular opacities with multiple pleuro parenchymal bands



NSIP – Non-Specific Interstitial Pneumonitis

SLE – Systemic Lupus Erythematosus

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