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Lupus: Open Access

Perspective

Effect of Lupus on Lungs

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DESCRIPTION

SLE (Systemic Lupus Erythematosus) is an autoimmune disease that can cause a variety of clinical and immunological problems. Furthermore, several SLE treatments lead to an increased risk for respiratory infections. Systemic Lupus Erythematosus (SLE) has a wide range of pulmonary symptoms that can be severe. According to previous research, 20 and 90 percent of people with SLE will experience respiratory problems at some point throughout their disease. This can include disorders of the lung parenchyma like interstitial lung disease, acute pneumonitis, pulmonary vasculature, Pulmonary Arterial Hypertension (PAH), pulmonary embolic disease, and pulmonary vasculitis [1,2]. The shrinking lung syndrome is a rare complication of the disease. Furthermore, the immunosuppressive therapy that is commonly used in the management of lupus increases the risk of lung infection which often mimics acute pulmonary signs of SLE. Although dyspnea, cough, and chest discomfort are prominent symptoms of these disorders, it's crucial to remember that some individuals may be asymptomatic, with the only sign of a respiratory problem being discovered by chance on thoracic imaging or pulmonary function testing. Given the scarcity of clinical trial data primarily focused on pulmonary signs of SLE, treatment decisions are frequently relied on information from case reports or small case series. Many therapeutic options are developed based on research into severe indications of SLE that impact other organ systems or on experience with similar medicines in the pulmonary manifestations of other systemic autoimmune rheumatic diseases. The incidence of SLE-related Interstitial Lung Disorders (ILD) has been calculated to be between 3 and 9%. Despite the fact that ILD is widespread in rheumatoid arthritis and other systemic autoimmune rheumatic disorders such as scleroderma and anti-synthetase syndrome, it is uncommon in SLE. Clinical development of ILD in SLE is slow and frequently stabilizes over time. Long-term illness, advanced age, and overlapping clinical characteristics with scleroderma, such as raynaud's phenomenon and sclerodactyly, are all risk factors for developing SLE-associated ILD [3,4]. In SLE, Non-Specific Interstitial Pneumonia (NSIP), organising pneumonia, lymphocytic interstitial pneumonia, follicular bronchitis, and typical interstitial pneumonia have all been documented [5]. SLE has also been linked to bronchiolitis obliterans as a first symptom.

Chronic ILD is often the long-term result of an acute condition, such as acute lupus pneumonitis. This is an uncommon form of SLE that has been found to affect 1-4% of individuals. Acute lupus pneumonitis is characterized by dyspnea, cough including hemoptysis, and pleuritic chest discomfort in the context of a systemic outbreak of SLE. Fever is frequently coupled with the acute presentation, making it difficult to distinguish from infection in the clinic. Although reports of lymphocytic infiltrate and alveolar destruction with accompanying interstitial edema have been documented in both lung biopsy samples and at post-mortem examination, there is minimal evidence of lung histology in acute lupus pneumonitis. SLE can potentially appear with acute lupus pneumonitis as the first symptom. All five patients in a case series of five individuals with acute lupus pneumonitis as the initial symptom of SLE were female and aged 14-26 years old. They were all ANA positive, and three of them had anti-dsDNA antibodies as well. Fever was present in all five patients, with cough being the main symptom in four of them and hypoxia in three. All of the patients were given corticosteroids. The four of them were given cyclophosphamide as a single treatment or in conjunction with intravenous immunoglobulins (IVIg). Azathioprine was used to treat the one patient who did not get cyclophosphamide. Two people died as a result of infection, while three others survived. IVIg has also been used in the treatment of acute lupus pneumonitis by others. The bacterial pneumonia is a common infection that can frequently co-exist with acute lupus pneumonitis. IVIg is a good alternative because it does not carry the substantial risk of immunosuppression that other drugs do. If there are concerns about intercurrent infection, wide-spectrum antibiotics (especially those focused on encapsulated organisms) should be considered. Additionally, early commencement of systemic glucocorticoid medication has been shown to reduce death rates.

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Received: 23-May-2022, Manuscript No. LOA-22-17061; **Editor assigned:** 25-May-2022, PreQC No. LOA-22-17061 (PQ); **Reviewed:** 09-Jun-2022, QC No. LOA-22-17061; **Revised:** 16-Jun-2022, Manuscript No. LOA-22-17061 (R); **Published:** 24-Jun-2022, DOI: 10.35248/2684-1630.22.7.203.

Citation: Gurgoze MK (2022) Effect of Lupus on Lungs. Lupus: Open Access. 7:203.

CONCLUSION

Additional therapies for acute lupus pneumonitis include high-dose glucocorticoids in combination with MMF, azathioprine, rituximab, or cyclophosphamide, which are comparable to those used to treat SLE-related ILD. Despite this, the outcomes are frequently poor, with significant death rates as a result. SLE pulmonary manifestations can have a wide range of symptoms and might be difficult to distinguish from other diseases, most notably infection. Because respiratory involvement in SLE might be asymptomatic, it's crucial to remember that SLE-related lung problems are likely under-represented.

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