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Case Study

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INTERSTITIAL LUNG DISEASE (ILD) – A CASE STUDY

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ABSTRACT

Interstitial lung disease is a term that broadly describes a diverse collection of lung disorders. These diseases are classified together because they all affect the tissue and space around the alveoli (air sacs). It is mainly manifested by respiratory symptoms like shortness of breath & cough, specific chest radiographic abnormalities, typical changes of pulmonary function test in which lung volume is decreased and characteristic microscopic patterns of inflammation & fibrosis. We present a case of an 80 year old male patient who was diagnosed with interstitial lung disease-acute exacerbation. The clinical features, diagnosis and therapeutic regimen is explained. More efforts are required to develop novel effective therapies.

KEYWORDS: Interstitial lung disease, Inflammation, Fibrosis, Pulmonary function test.

INTODUCTION

Interstitial lung disease(ILD) includes a group of diseases that have thickening of supporting tissues between the air sacs of the lungs. It results from a variety of causes that lead to thickening of the supporting tissue around the air sacs rather than the air sacs themselves. Interstitial lung disease usually involves all of the lungs diffusely rather than affecting only one area. Signs & symptoms of interstitial lung disease occur because the damage to the interstitium of the lung impairs lung function. The two most common symptoms are shortness of breath and a dry(not producing sputum) cough. These symptoms tend to come in gradually and progress. Interstitial lung disease that has been present for a long time may cause signs & symptoms related to lowering of oxygen levels in blood (physically seen as clubbing of the fingertips) and enlargement of the heart. The exact etiology of ILD is idiopathic. Some of the common causes include toxins, environmental factors (asbestos, mold, certain metals, silica dust, talc, grain dust or bird dropping), chronic diseases(cancer, rheumatoid arthritis, SLE, scleroderma) and infections. Diseases like bronchiolitis, pneumonitis& sarcodidosis may be an etiological reason based on pattern of lung damage, severity and location of the disease. ILD is mainly diagnosed based on clinical symptoms, imaging studies, blood test, bronchoscopy, & open lung biopsy. The treatment of interstitial lung disease disease depends upon the cause and severity.[3]

We present a case of an 80 year old male patient emphasizing the clinical features, diagnosis & treatment options in this condition.

CASE PRESENTATION

An 80year old male patient was admitted in pulmonary and critical care department with complaints of increased breathlessness and dyspnea for past few days and had fever in the day before hospital admission. General examination of the patient shows that the patient was tachypnoeic and had clubbing of the fingertips. The patient was afebrile at that point of time. He is a known case of type 2 diabetes mellitus with hypothyroidism. He was diagnosed interstitial lung disease 4 months back. The patient had no allergies and is non-smoker. CT scan of the chest shows sub pleural fibrosis with fraction bronchiectasis with honey comb texture. Based on patient history, clinical features, & examinations the patient was diagnosed with interstitial lung disease-acute exacerbation.

Nebulization Levosalbutamol 1.25mg every 8 hourly was included in treatment regimen as a bronchodilator. Tablet Deriphylline Retard twice daily was added with levosalbutamol inhalation since the patient had severe breathlessness. Cefoperazone and Sulbactum combination 2 g intravenous twice daily was prescribed for the patient during hospital admission to prevent other nosocomial infections since the patient is susceptible to infections. Clarithromycin tablet 500mg twice daily was added in therapeutic regimen mainly to prevent infections like pneumococcal infections. Rabeprazole 20 mg was added in treatment chart for GI irritation by the use of antibiotics.

Pirfenidone tablet 200mg thrice daily in the treatment plan inhibits lung fibroblast proliferation. Oral steroid

(Prednisolone 20 mg thrice daily) was given as an anti-inflammatory. The patient was advised to continue his antidiabetic and thyroid medication. The patient was subsequently discharged after feeling better in his condition.

DISCUSSION

Interstitial lung disease is predominantly a disease in adults, although it also occurs in children. Certain interstitial diseases such as sarcoidosis, pulmonary Langerhans cell histiocytosis & autoimmune associated lung diseases tend to develop in younger adults, whereas idiopathic pulmonary fibrosis(IPF) most often occurs between ages of 40 & 70. When the cause of the disease is known, that should be avoided.

As it has been long thought that inflammation precedes fibrois, therapeutic regimen for interstitial lung disease have included corticosteroids (for example, Prednisolone) and immunosuppressive agents(for example Azathioprine, Cyclophosphamide). These drugs are helpful in cases of connective tissue related lung diseases and certain other interstitial lung diseases. Lung transplantation is the only option shown to prolong survival in cases of advanced ILD. Antibiotics are given to prevent infections and bronchodilators are given for symptomatic relief.[5] Pirfenidone is given as a drug of choice to inhibit lung fibroblast proliferation in ILD.[7] Age, family history& smoking acts as a risk factor for ILD. The patient should be educated and should be given adequate support since these patients had less life expectancy if diagnosed with interstitial lung disease.

Early referral to specialist services enables prompt diagnosis and management to optimize outcome and this process can be facilitated by investigations in the community including chest radiography and serology. Symptom control, occupational therapy and palliative care are also important aspects of managing interstitial lung disease requiring input from multiple agencies and specialists.[9]

CONCLUSION

The case report highlights the clinical features, diagnosis & treatment options of interstitial lung disease. Early diagnosis and prompt treatment according to the condition of the patient are imperative for its successful management. More efforts are required to develop novel effective therapies and increased life expectancy in interstitial lung disease.

CONFLICT OF INTEREST

None declared.

INFORMED CONSENT

Informed consent was obtained from the legally authorized representative(s) for anonymized patient information to be published in this article.

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