

Interstitial Lung Disease: The Elderly

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Interstitial lung disease (ILD) is an umbrella term, refers to category of lung diseases rather than a specific disease entity. ILD describes a group of diseases that cause progressive scarring of the lung tissue through inflammation and fibrosis. These lung disorders are grouped together because of similarities in their clinical manifestations, plain chest radiographic presentation, and physiologic features. The most common ILD is idiopathic pulmonary fibrosis (IPF). Because there are more than 100 separate disorders, grouping them based on cause, pathology, or disease associations is helpful. The European Respiratory Society and the American Thoracic Society define ILD as a heterogeneous group of non-neoplastic disorders resulting from damage to the pulmonary parenchyma by inflammation and fibrosis that decrease the lung capacity for alveolar gas diffusion. The prevalence of ILD has been estimated as 81/100,000 in males and 67/100,000 in females. The lungs in ILD have a reduced ability to expand on inhalation that make them restrictive. ILD generally involve the lung interstitium. The lung interstitium supports the delicate relation between the alveoli and capillaries, contributing efficient gas exchange. When lung injury occurs, whether from any types, the lungs must respond to the damage and repair themselves. The lungs may be permanently damaged, if the repair process is imperfect or the exposure persists. These pathologic abnormalities can contribute to profound impairment in pulmonary physiology, such impairment of gas exchange due to shunt, ventilation-perfusion mismatching, and reduced diffusion across the abnormal interstitium. Because of reduced lung compliance, the work of breathing is markedly increased. Thus, these lung physiologic impairments contribute to the exercise intolerance identified in all ILD patients. Increased susceptibility of the elderly to developing IPF, which is highly prevalent in the elderly may be explained by identification of various aspects of cellular and immune senescence. In a United States (US) survey of 1,583 patients, 54.6% of them were reported a delay of more than one year between the onset of breathing problems and receiving a diagnosis of pulmonary fibrosis. Death can occur when there is progressive lung tissue damage. The prevalence of IPF in the US has been estimated as 42.7 - 63/100,000 using broad case definitions and as 14.0 - 27.9/100,000 using narrow case definitions. Most cases of IPF are sporadic, familial forms that may account for 5 - 20% of cases. In the US, the incidence of IPF increased with age and is higher in men than in women (10.7 versus 7.4 per 100,000 patient-years). In Europe, the estimated prevalence of IPF is 1.25-23.4/100,000.

Several drugs are associated with the development of ILD, such as aspirin, nitrofurantoin, methotrexate, infliximab, penicillamine, gold, etoposide, imatinib, vinblastine, mitomycin-C, zinostatin, etc. Many patients with ILD have similar clinical manifestations, generally limited to the respiratory tract. The most common signs and symptoms patients seek medical attention are exertional breathlessness (dyspnea) and a nonproductive cough. The plain chest radiograph demonstrates reduced lung volume with bilateral reticular or reticulonodular opacities. High-resolution computed tomography has ability to better define the specific characteristics of lung parenchyma identified in each disease with increasing the probability of making a definite diagnosis. Treatment in ILD includes oxygen therapy, vaccination and infection avoidance, pulmonary rehabilitation and exercise therapy, and lung transplantation. Management of ILD in the elderly should be tailored to each individual patient and not increase significant risk of adverse complications.

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