



**Differential Diagnosis of Interstitial and Infiltrative Lung Diseases**

Disease	Notes
Collagen vascular diseases (e.g., systemic lupus erythematosus, rheumatoid arthritis, scleroderma, Sjögren's syndrome, polymyositis, and mixed connective tissue disease)	Clinical features (joint pains or swelling, musculoskeletal pain, weakness, fatigue, fever, photosensitivity, Raynaud's phenomenon, pleuritis, dry eyes, dry mouth, gastroesophageal reflux, pulmonary hypertension) and serologic studies usually suggest the associated collagen vascular disease. Results of the chest radiograph or HRCT may be indistinguishable from IPF. Diffuse parenchymal lung disease complicating collagen vascular disease accounts for 25% of all diffuse parenchymal lung disease mortality.
Other systemic diseases	Clinical features and radiographic and laboratory studies usually suggest the diagnosis. Examples: vasculitides (e.g., Wegener's granulomatosis), alveolar hemorrhage syndromes (e.g., Goodpasture's syndrome), chronic pulmonary edema, chronic uremia, and alveolar proteinosis.
Asbestosis	Exposure history and the presence of parenchymal bands of fibrosis and/or pleural plaques on chest radiograph or HRCT suggest the diagnosis. Pneumoconioses account for approximately 15% of diffuse parenchymal lung disease subjected to surgical lung biopsy.
Other occupational and environmental exposures	Exposure history suggests the diagnosis. Examples: silica, silicates, talc, hard metal dusts, beryllium, chemical sources, gases, vapors, fumes, aerosols, radiation. Pneumoconioses account for 15% of diffuse parenchymal lung disease subjected to surgical lung biopsy.
Hypersensitivity pneumonitis	Exposure history to known antigen; precipitating antibodies indicate exposure. HRCT shows the presence of centrilobular nodules and middle and upper lung predominance, and the absence of honeycombing favor hypersensitivity pneumonitis over IPF. Examples: thermophilic bacteria (e.g., farmer's or grain-handler's

	lung), other bacteria and products, true fungi, and animal proteins (e.g., bird fancier's disease). "Allergic" diffuse parenchymal lung disease (e.g., allergic alveolitis, eosinophilic pneumonia) accounts for 7% of diffuse parenchymal lung disease subjected to surgical lung biopsy.
Drug-induced diffuse parenchymal lung disease	In most cases, onset is temporally related to the use of a drug, and there is clinical response to cessation of the offending drug or corticosteroid therapy. Examples: busulfan, bleomycin, methotrexate, nitrofurantoin, sulfasalazine, diphenylhydantoin, procainamide, gold salts, and amiodarone.
Sarcoidosis	Bilateral hilar adenopathy with or without peripheral lymphadenopathy, liver involvement, uveitis, or arthritis. HRCT reveals nodules along bronchovascular bundles with bilateral hilar and mediastinal adenopathy. Laboratory tests may show elevated transaminase levels, hypercalcemia, or elevated angiotensin converting enzyme. Granulomatous diffuse parenchymal lung disease (e.g., sarcoid or Wegener's granulomatosis) accounts for 17% of diffuse parenchymal lung disease subjected to surgical lung biopsy.
Chronic eosinophilic pneumonia	Asthma in 50% of patients. 66% peripheral eosinophilia, chest radiograph shows "photographic negative" of pulmonary edema. Favorable response to corticosteroids. "Allergic" diffuse parenchymal lung disease (e.g., eosinophilic pneumonia, allergic alveolitis) accounts for 7% of diffuse parenchymal lung disease subjected to surgical lung biopsy.
Langerhans cell granulomatosis (eosinophilic granuloma)	Young male cigarette smokers (95%), recurrent pneumothorax; HRCT shows a combination of ill-defined or stellate nodules and thin-walled, upper-zone cystic lesions. "Unusual" diffuse parenchymal lung diseases (eosinophilic granuloma, alveolar proteinosis, etc.) account for 7% of diffuse parenchymal lung disease subjected to surgical lung biopsy.
Lymphangiomyomatosis	Women of reproductive age, hemoptysis, chylothorax; HRCT shows thin wall cysts distributed throughout the lungs. <250 cases have been recorded in the literature.
Idiopathic bronchiolitis obliterans organizing pneumonia or cryptogenic organizing pneumonia	Preceding flu-like illness in 40%; HRCT reveals patchy air-space consolidation in the periphery of the lung and often in the lower lung zones. This illness often presents like a community-acquired pneumonia. The true incidence of bronchiolitis obliterans with organizing pneumonia is unknown.
Desquamative interstitial pneumonia	Affects smokers in their 40s or 50s. Better prognosis and response to corticosteroids than usual interstitial pneumonia. HRCT shows diffuse "ground-glass" with little fibrosis. Incidence <3% of diffuse parenchymal lung

disease.

Respiratory bronchiolitis-associated  
interstitial lung disease

Found in current or former smokers. Favorable response to smoking cessation and corticosteroids. HRCT often reveals hazy opacities; accounts for <10% of diffuse parenchymal lung disease.

Acute interstitial pneumonia

Acute and fulminant pneumonia resembling acute respiratory distress syndrome. Mortality >60%  
The radiographic findings are similar to those seen in acute respiratory distress syndrome.

Nonspecific interstitial pneumonia

Refers to a histologic appearance that does not conform to previously established histologic patterns  
Better prognosis and response to therapy than usual interstitial pneumonia. HRCT shows bilateral symmetric "ground-glass" opacities or air space consolidation; accounts for 30% of idiopathic interstitial pneumonias.

IPF = idiopathic pulmonary fibrosis.