Ground-glass opacities with subpleural sparing

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A 63-year-old man presented with a two-month history of progressive dyspnea and dry cough. He was undergoing outpatient investigation for arthritis. Chest CT showed ground-glass opacities at the lung bases, with subpleural parenchymal sparing (Figure 1).

Ground-glass opacity is a frequent finding on chest CT, being probably one of the most nonspecific findings, and may represent acute or chronic disorders, as well as alveolar or interstitial disorders. Sometimes, the distribution of lesions in the lung parenchyma can guide the list of diagnostic hypotheses. For instance, pulmonary edema tends to be medullary in distribution, whereas eosinophilic pneumonia tends to be located in the lung periphery. Associated CT findings, such as the presence of pulmonary cysts, nodules, pleural effusion, or enlarged lymph nodes, can aid in diagnosis.

The correlation of imaging findings with clinical and laboratory data is essential for diagnosis. Basic clinical information, such as whether the disease course is acute or chronic or whether the patient has any immunodeficiency, complains of fever, hemoptysis, or other symptoms, has preexisting diseases or extrapulmonary manifestations of the current disease, has a history of asthma, and/or is/has been in contact with antigens (mold, birds, etc.), provide a basis for narrowing diagnostic possibilities. Careful analysis of laboratory findings (abnormal blood workup, increase in inflammatory markers, presence of specific antibodies, etc.) is also important.

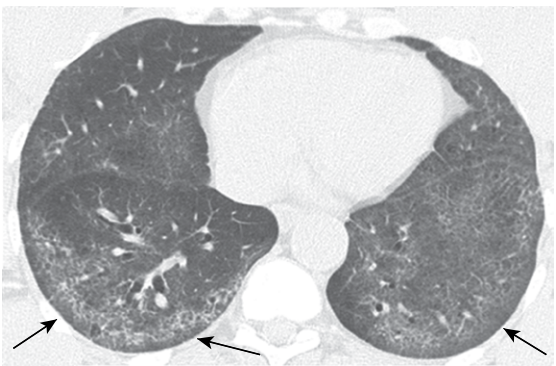

Figure 1. Axial CT of the lung bases shows peripheral ground-glass opacities containing mild reticulation, with subpleural parenchymal sparing (arrows).

Our patient presented with a very characteristic distribution of ground-glass opacities, predominating at the bilateral lung bases and sparing the subpleural parenchyma. This CT finding is highly suggestive of nonspecific interstitial pneumonia (NSIP).[1,2]

NSIP is a chronic interstitial disease characterized by inflammatory and/or fibrotic infiltration of the alveolar septa. Two forms of the disease have been described: a predominantly inflammatory cellular form and a fibrotic form. The cellular form has a better prognosis than does the fibrotic form. NSIP can be classified as idiopathic or secondary to a series of lung disorders, such as drug reactions, collagen diseases, and hypersensitivity pneumonitis. Pathological findings include homogeneous inflammatory or fibrotic infiltration of the alveolar septa, or both.[1,2] The most common clinical findings are progressive dyspnea and chronic dry cough. On CT, the major finding in the cellular form is symmetrical ground-glass opacities, whereas in the fibrotic form, there is reticulation superimposed on traction bronchiectasis/bronchiolectasis. Mild honeycombing can also occur. Lesions generally predominate in the lower and peripheral lung fields.[1,2] Subpleural sparing, as was observed in our patient, occurs in approximately half of the cases.

The clinical and laboratory evaluation of our patient led to the final diagnosis of rheumatoid arthritis, and lung biopsy confirmed suspected NSIP.

REFERENCES

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