# Dense reticular pattern

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A 23-year-old woman with no respiratory symptoms and a previous diagnosis of lupus nephritis underwent chest CT examination, which showed reticular opacities in the lower lung lobes, arranged in a branching network pattern (Figure 1). On physical examination, she was breathing normally. Cardiopulmonary auscultation was unremarkable, as were laboratory test results. A diagnosis of dendriform pulmonary ossification was made on the basis of the chest CT findings.

Diffuse pulmonary ossification is a rare chronic condition characterized by mature bone formation in the lung parenchyma. Diffuse pulmonary ossification can be idiopathic or associated with a variety of pulmonary, cardiac, and systemic disorders. It is classified as nodular or dendriform, with the former usually occurring in the context of chronic congestion. Diffuse pulmonary ossification is an interstitial process that occurs in a setting of fibrosing interstitial lung disease. It can progress to osseous metaplasia, which is seen in imaging studies as calcified nodular densities in a branching pattern. This pattern has been observed mainly in areas of reticulation rather than in areas of honeycombing.

Dendriform pulmonary ossification is characterized by interstitial branching spicules that contain occasional bone marrow islets with osteoblastic and osteoclastic activity. These spicules form a contiguous and branching pattern resembling tree branches. In most instances, they are of high attenuation, reflecting the underlying ossification. Dendriform pulmonary ossification usually goes undetected on chest X-rays, being typically diagnosed postmortem. A chest CT scan with appropriate window settings can show tiny calcified opacities in the lung periphery. The detection of small high-attenuation foci is improved by thin-slice acquisition and maximum intensity projection imaging.[1-3]

A dendriform pulmonary ossification pattern can be detected by imaging in patients who are asymptomatic or who have mild symptoms. It has also been described in association with recurrent aspiration, and as a cause of pneumothorax.[1-3] Dendriform pulmonary ossification has recently been related to cicatricial organizing pneumonia.[3] This distinctive form of organizing pneumonia can manifest as persistent linear opacities that mimic fibrosing interstitial pneumonia. It can also appear as foci of ossification in imaging and pathological studies, and has been reported in patients with COVID-19 pneumonia.[2]

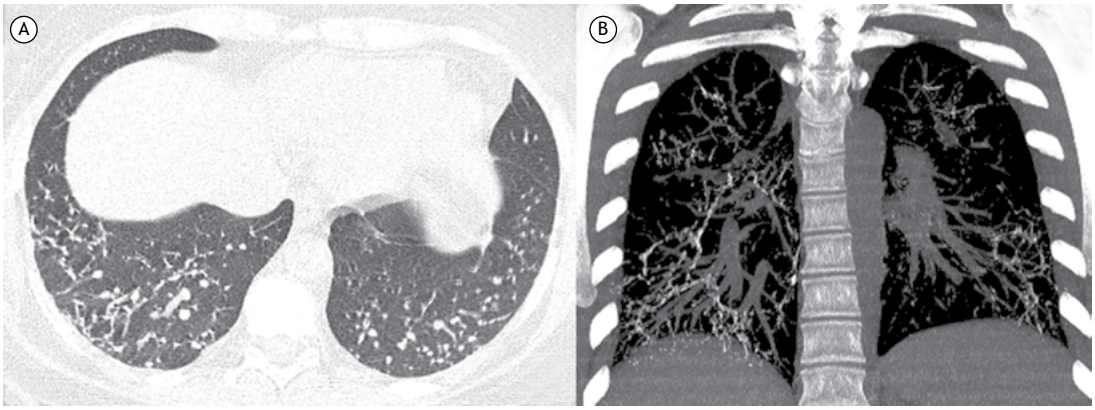


**Figure 1.** In A, unenhanced axial chest CT scan with lung window settings, showing reticular opacities in the lower lobes of the lungs. In B, coronal reconstruction with bone window settings and maximum intensity projection, showing interstitial calcifications arranged in a branching network pattern.

## REFERENCES

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