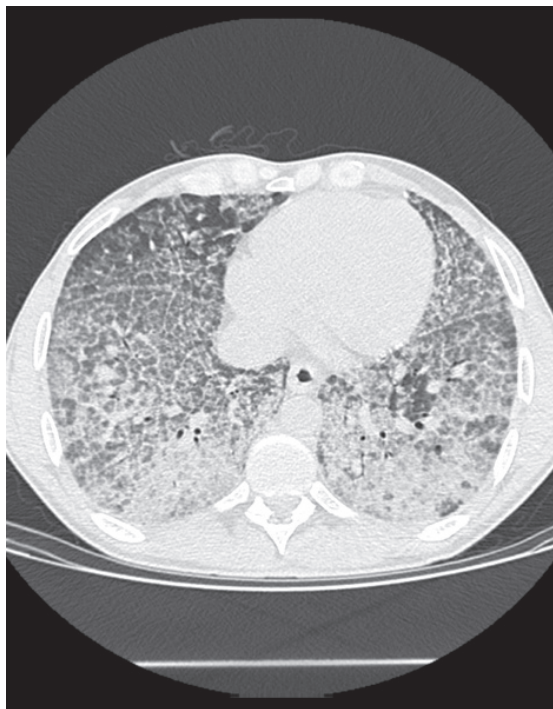




## Crazy-paving pattern

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**Figure 1.** Axial CT scan showing extensive areas of ground-glass attenuation and diffuse interlobular septal thickening in both lungs in a patient with pulmonary alveolar proteinosis.

A previously healthy 41-year-old male farmer presented with a seven-month history of progressive dyspnea requiring home oxygen supplementation. He was a smoker (with a smoking history of 45 pack-years). Physical examination revealed mild respiratory distress, bilateral crackles at the lung bases, and an SpO<sub>2</sub> of 81% on room air. The patient had no anemia, and his leukocyte count was normal, as were other laboratory test results. An HRCT scan showed extensive areas of ground-glass attenuation, as well as interlobular and intralobular septal thickening, together with areas of consolidation, particularly in the basal and posterior segments (Figure 1).

The aforementioned HRCT findings constitute the crazy-paving pattern, which is characterized by diffuse ground-glass opacities in the lung parenchyma, together with interlobular and intralobular septal thickening.

The crazy-paving pattern is primarily seen in acute and chronic diseases. A specific etiologic diagnosis is generally made by analyzing the temporal evolution of the condition and the clinical and radiological findings.

A crazy-paving pattern associated with chronic progression is primarily due to interstitial pneumonia, which is usually associated with reticular opacities, traction bronchiectasis/bronchiolectasis, and architectural distortion, with or without honeycombing; adenocarcinoma with a lepidic growth pattern, which exhibits slowly progressive growth and is usually accompanied by weight loss, anorexia, and mild cough, being asymptomatic in some cases; lipid pneumonia, which is often associated with disorders that facilitate chronic aspiration, including esophageal motility disorders and swallowing disorders associated with the use of mineral oil, CT scans showing a crazy-paving pattern predominantly in the posterior and lower lung segments, together with consolidation and fat attenuation; and alveolar proteinosis, which is a rare disease that is characterized by impaired surfactant clearance, resulting in alveolar filling with protein- and lipid-rich material and eliciting an interstitial inflammatory response, which is strongly associated with smoking and, on CT scans, appears as a diffuse but predominantly central crazy-paving pattern associated with chronic progression and, in some cases, well-defined lobular areas of normal lung parenchyma.

In the case reported here (a previously healthy patient with a significant smoking history and a crazy-paving pattern associated with chronic progression), initial working diagnoses included neoplasm and alveolar proteinosis, the latter being confirmed by lung biopsy.

### RECOMMENDED READING

1. Rossi SE, Erasmus JJ, Volpacchio M, Volpacchio M, Franquet T, Castiglioni T, McAdams HP. "Crazy-paving" pattern at thin-section CT of the lungs: radiologic-pathologic overview. *Radiographics*. 2003;23(6):1509-19. <http://dx.doi.org/10.1148/rg.236035101>

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