Clinician Update

Mosaic attenuation of lungs

Pulmonary

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MOSAIC
ATTENUATION

OVERVIEW

RADIOLOGY

Mosaic attneuation of lungs seen on CT of the chest is a non-specific finding that indicates a braod differential of lung disease.

References

Kligerman SJ, Henry T, Lin CT, Franks TJ, Galvin JR. Mosaic Attenuation: Etiology, Methods of Differentiation, and Pitfalls. Radiographics. 2015 Sep-Oct;35(5):1360-80. (https://pubs.rsna.org/doi/10.1148/rg.2015140308)

Mosaic attenuation is a commonly encountered pattern on computed tomography that is defined as heterogeneous areas of differing lung attenuation. This heterogeneous pattern of attenuation is the result of diverse causes that include diseases of the small airways, pulmonary vasculature, alveoli, and interstitium, alone or in combination. Small airways disease can be a primary disorder, such as respiratory bronchiolitis or constrictive bronchiolitis, or be part of parenchymal lung disease, such as hypersensitivity pneumonitis, or large airways disease, such as bronchiectasis and asthma. Vascular causes resulting in mosaic attenuation are typically chronic thromboembolic pulmonary hypertension, which is characterized by organizing thrombi in the elastic pulmonary arteries, or pulmonary arterial hypertension, a heterogeneous group of diseases affecting the distal pulmonary arterioles. Diffuse ground-glass opacity can result in a mosaic pattern related to a number of processes in acute (eg, infection, pulmonary edema), subacute (eg, organizing pneumonia), or chronic (eg, fibrotic diseases) settings. Imaging clues that can assist the radiologist in pinpointing a diagnosis include evidence of large airway involvement, cardiovascular abnormalities, septal thickening, signs of fibrosis, and demonstration of airtrapping at expiratory imaging.