

ESSENTIAL IMAGE / *Thoracic imaging*

CT features of pulmonary interstitial emphysema



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A twelve-year-old boy who had undergone an allogeneic stem cell transplant for acute myeloid leukemia 6 months before presented with an acute respiratory distress syndrome, requiring positive-pressure ventilation. Respiratory failure was due to a combination of invasive aspergillosis and pulmonary graft-versus-host disease. Respiratory function worsened despite broad-spectrum antibiotics, parenteral anti-fungal drugs and high-dose steroids. Thoracic computed tomography (CT) showed pneumomediastinum and air abnormally located within the pulmonary interstitium featuring the so-called “pulmonary interstitial emphysema”. Radiolucent air surrounding pulmonary artery branches (Fig. 1) and air trapping in the peri-lobular interstitium are highly specific of pulmonary interstitial emphysema [1]. Interstitial emphysema occurs mostly in patients with reduced lung compliance such as new born with surfactant disease [2], patient under mechanical ventilation or after pulmonary barotrauma. Rupture of pulmonary alveoli results in air passing into the interstitial space of the lung. In most patients, pulmonary interstitial emphysema resolves spontaneously after they have been removed from positive-pressure ventilation.

Human rights

The authors declare that the work described has been carried out in accordance with the Declaration of Helsinki of the World Medical Association revised in 2013 for experiments involving humans.

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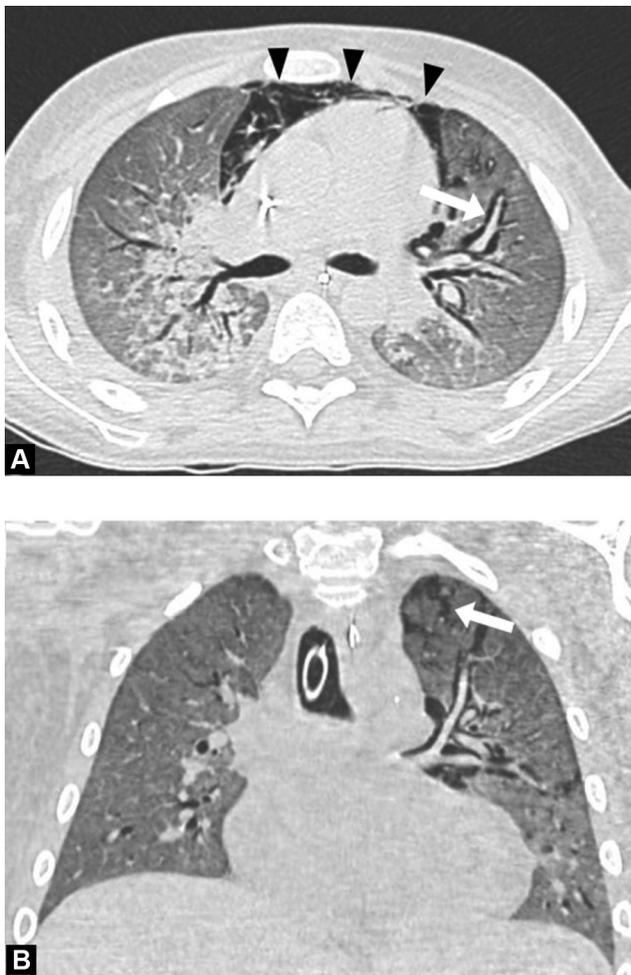


Figure 1. A 12-year-old boy presenting with pulmonary interstitial emphysema. A. Computed tomography (CT) image in the transverse plane shows abnormal location of air, surrounding pulmonary artery branches (arrow) and pneumomediastinum (arrowheads). B. CT image in the coronal plane shows air-trapping aspect in the peri-lobular interstitium (arrow).

Informed consent and patient details

The authors declare that this report does not contain any personal information that could lead to the identification of the patient(s).

The authors declare that they obtained a written informed consent from the patient included in the article. The authors also confirm that the personal details of the patient have been removed.

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Author contributions

All authors attest that they meet the current International Committee of Medical Journal Editors (ICMJE) criteria for Authorship.

Disclosure of interest

The authors declare that they have no competing interest.

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