

AIR CRESCENT SIGN IN PULMONARY ASPERGILLOMA

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A 61-year-old man with plasma cell leukemia was hospitalized for dialysis-dependent renal failure after receiving chemotherapy with cyclophosphamide, bortezomib, daratumumab, and dexamethasone. During a profound neutropenic fever, chest CT showed multiple bilateral pulmonary nodules surrounded by ground-glass opacity—the halo sign—compatible with early angioinvasive fungal infection. Bronchoalveolar lavage galactomannan and blood polymerase chain reaction was positive for *Aspergillus* spp., confirming the diagnosis of invasive pulmonary aspergillosis. Targeted antifungal therapy was initiated (Fig. 1 A and B). As neutrophil recovery occurred, a follow-up CT

demonstrated transformation of the nodules into thick-walled cavities with heterogeneous intracavitary material and a characteristic air crescent sign. In angioinvasive fungal infection, pulmonary nodules represent areas of infected, hemorrhagic, and infarcted lung tissue; during immune recovery, reabsorption of necrotic tissue causes central retraction of the infarcted core, allowing air to accumulate between the cavity wall and the necrotic center. This process generates the air crescent sign, typically observed in the recovery phase of invasive aspergillosis and considered a favorable prognostic indicator, occurring in approximately half of patients (Fig. 1 C and D).

Figure 1 |

