

CLINICAL IMAGE

The CT halo sign in invasive aspergillosis

Sheetal Shroff¹, Girish S. Shroff², Shlomit Yust-Katz¹, Adriana Olar³, Sudhakar Tummala¹ & Ivo W. Tremont-Lukats¹

¹Department of Neuro-oncology, The University of Texas MD Anderson Cancer Center, Houston, Texas, 77030

²Department of Radiology, The University of Texas Medical School at Houston, Houston, Texas, 77030

³Department of Pathology, The University of Texas MD Anderson Cancer Center, Houston, Texas, 77030

Correspondence

Girish S. Shroff, The University of Texas Medical School at Houston, 6431 Fannin Street, MSB 2.130B, Houston, TX 77030. Tel: +1-713-704-1786; Fax: +1-713-704-1596; E-mail: girish.s.shroff@uth.tmc.edu

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Key Clinical Message

In immunocompromised patients, the pulmonary computed tomography halo sign is highly suggestive of angioinvasive aspergillosis. Early recognition may be life-saving.

Keywords

CT halo sign, invasive aspergillosis.

Synopsis

A 35-year-old male with myelodysplastic syndrome presented with acute abdominal pain. The next day, he developed right-sided weakness. Labs revealed neutropenia. Imaging showed infarcts within the brain, liver, and spleen. Chest computed tomography (CT) is shown below (Fig. 1).

Question

What is the diagnosis?

Diagnosis

Invasive aspergillosis.

Discussion

Invasive aspergillosis (IA) is a major cause of morbidity and mortality in severely immunocompromised patients [1]. Risk factors for IA include neutropenia, hematopoietic stem cell and solid organ transplantation, and AIDS [1]. A characteristic finding on chest CT is the halo sign, a solid nodule surrounded by a halo of ground-glass attenuation. In IA, the solid nodule represents a fungal nodule or infarct and the ground-glass halo represents

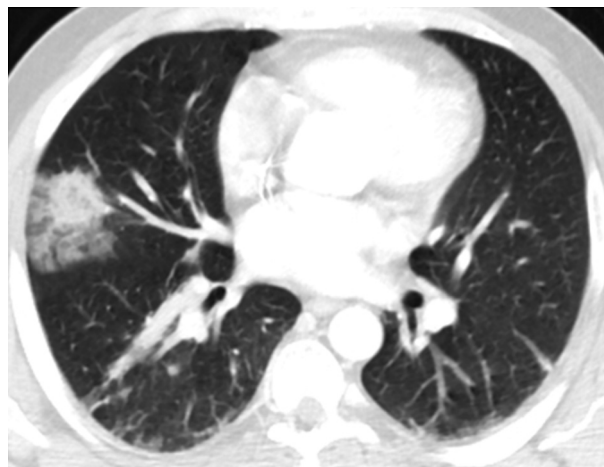


Figure 1. Chest CT revealing the halo sign (a nodular opacity surrounded by a ground-glass halo) in the right lung.

hemorrhage. In an immunosuppressed patient, the halo sign is highly suggestive of angioinvasive fungal infection, most commonly aspergillosis (Fig. 2). An identical appearance may be seen with mucormycosis [2].

The CT halo sign has also been reported with other infections including mycobacterial and some viral infections [2]. Non infectious etiologies of the CT halo sign include hypervascular metastases and Wegener's granulomatosis [2].

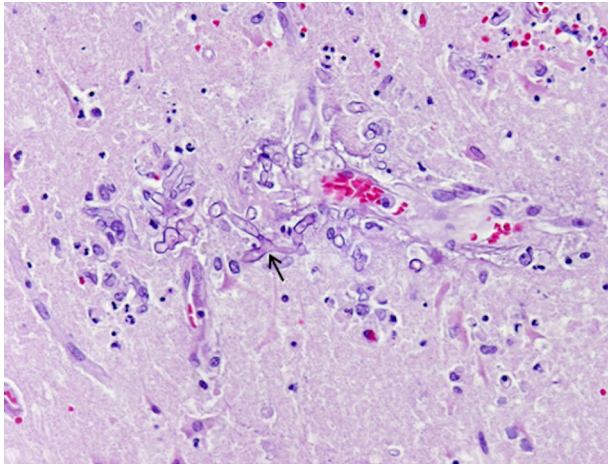


Figure 2. Right frontal cortex, H&E, 200X. Intraparenchymal branching, septate fungal hyphae (arrow) identified as *Aspergillus*.

Conflict of Interest

None declared.

References

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