



# Hypodense Sign in Lungs on CT in Immunocompromised Patient

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We read with interest the article entitled “Imaging Approach to Pulmonary Infections in the Immunocompromised Patient” by Grover et al.<sup>1</sup> We would like to add a “hypodense sign” (HyS) to the list of radiological findings described by the authors. The HyS was described by Horger et al as<sup>2</sup> the presence of a central area of hypodensity seen on narrow window settings (width: 110–140 Hounsfield Units [HU]; level: 15–40 HU). This sign can be seen in consolidation or nodule and can be appreciated on unenhanced scans, computed tomography pulmonary angiography (CTPA), and contrast-enhanced scans. This sign has been reported to be associated with invasive pulmonary aspergillosis, mucormycosis, and fusariosis.<sup>3,4</sup> The hypodense nodule sign has been described in the context of immunocompromised patients. The underlying pathogenesis is infarction secondary to angioinvasion by fungal elements.<sup>3,4</sup> This sign may be a precursor for forming a cavity.<sup>2,5</sup> Some studies have described the importance of hypodense sign in diagnosing invasive mold disease (►Table 1). Hence, it is a helpful sign in arriving at the diagnosis of invasive mold disease with a sensitivity of 23% on high-resolution CT (HRCT) and 64% on

CTPA, and a specificity of 100% on HRCT and 98% on CTPA.<sup>3</sup> This sign can help to differentiate between bacterial and fungal diseases in immunocompromised individuals.<sup>2,3</sup> This sign has also been described in some bacterial infections, particularly in tuberculosis, i.e., a cavity filled with central mucous within or in case of a pulmonary abscess; however, leukocytes play a vital role in abscess formation, and immunocompromised individuals usually have neutropenia.<sup>3,6</sup> Hence, we would like to add the hypodense sign as a useful diagnostic sign in CTs of immunocompromised individuals.

## Funding

None.

## Conflict of Interest

None declared.

## References

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**Table 1** Studies describing hypodense sign in immunocompromised patients

Study	Sample size	Type of scan	Patient population
Horger et al <sup>2</sup>	43	Unenhanced scan	Neutropenic patients
Sassi et al <sup>3</sup>	127	HRCT and contrast-enhanced CT	Hematological Malignancies
Qin et al <sup>5</sup>	25	CT chest with intravenous contrast and without intravenous contrast	Liver transplant patients
Stanzani et al <sup>6</sup>	44	Unenhanced scan and CTPA	Hematological malignancies
Schulze et al <sup>7</sup>	17	Noncontrast CT and volume perfusion CT	Hematological malignancies

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