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.1 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 as2 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.3,4 The hypodense nodule sign has been described in the context of immunocompromised patients. The underlying pathogenesis is infarction secondary to angioinvasion by fungal elements.3,4 This sign may be a precursor for forming a cavity.2,5 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.3 This sign can help to differentiate between bacterial and fungal diseases in immunocompromised individuals.2,3 This sign has also been described in some bacterial infections, particularly in tuberculosis, i.e., a cavity filled with central mucus within or in case of a pulmonary abscess; however, leukocytes play a vital role in abscess formation, and immunocompromised individuals usually have neutropenia.3,6 Hence, we would like to add the hypodense sign as a useful diagnostic sign in CTs of immunocompromised individuals.

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None.

Conflict of Interest
None declared.

References

Table 1 Studies describing hypodense sign in immunocompromised patients

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