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Title: Invasive pulmonary aspergillosis in solid organ transplant patients: A CT challenge

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Body: Introduction: Invasive pulmonary aspergillosis is a well known lethal disease in immunocompromised patients and the diagnosis mostly depends on tissue sampling and histopathology study. However the diagnostic role of imaging modalities for invasive aspergillosis has been highlighted in recent studies. Material and Methods: this retrospective study is conducted on 23 solid organ transplant patients diagnosed with IPA including 18 lung, 4 kidney and 1 heart transplantation with mean age of 33.6±11.6. HRCT and spiral chest CT scans were observed by a radiologist expert in chest imaging. Results: each patient manifests at least two of our variables. HRCT findings, in order of prevalence, were pulmonary nodules 87%, halo sign 61%, ground glass opacity 56.5%, consolidation 52.5%, cavity 47.8%, nodular infiltration with or without Tree in Buds pattern 43.5%, hypodense sign 21.7%, bronchiectasia 17.4%, pleural effusion 13%, interlobular septal thickening 13%, pulmonary mass 4.3% and air crescent sign 4.3%. Pulmonary nodules were mostly seen in multiple pattern (80%) and >10mm in size (85%) and 40% of them were excavated. Regarding GGO, 46% diffuse and 56% patchy were found and of consolidation, 42% patchy and 58% segmental were reported. Variables demonstrated no statistically significant difference in terms of age, gender, type of transplantation and post transplant period. Conclusion: the main imaging appearances of invasive pulmonary aspergillosis include combination of multiple parenchymal nodules, halo sign, GGO, consolidation and cavity but may present with some less common imaging findings like nodular infiltration, bronchiectasia and hypodense sign which should be aware of by radiologist in the presence of suspicious clinical settings.