

Abstract 32

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Title: Assessment of ground-glass opacity on a patient undergoing chemotherapy.

Abstract:

We encountered a 31 year-old male with history of newly diagnosed Hodgkin's lymphoma (not yet on treatment) who presented with shortness of breath, persistent fever and seizure like activities. Initial CT scan revealed diffuse lymphadenopathy with normal lung parenchyma. After initiation of chemotherapy, patient developed hypoxia and diffuse centrilobular ground-glass opacity on CT scan. Initial Gram stain and GMS stain, AFB stain, cytology on bronchoalveolar lavage were unremarkable. Lung biopsy showed non-specific focal fibrosis. However, further evaluation with immunohistochemistry revealed positive immunostaining for cytomegalovirus (CMV). CMV pneumonitis was confirmed with other supportive evidence with viral culture and high serum CMV PCR titer. After an appropriate therapy with Foscarnet, patient was able to wean from oxygen and subsequent CXR showed dramatic improvement after 1 week of treatment.

Summary;

Differential diagnosis of ground-glass opacity in patients undergoing chemotherapy are broad, including, but not limited to lymphangitic spread of tumor, infections, pulmonary edema, diffuse alveolar hemorrhage and drug toxicities. Detailed history and careful evaluations are warranted to guide our decision and an appropriate treatment.

Serologic evaluation for infection including Quantiferon Gold, CMV PCR, EBV PCR, Beta-D Glucan HSV, HZV titer and cultures should be sent as soon as suspected since they are easy to be obtained and could be monitored for treatment responses. The patterns of ground-glass appearance (centrilobular vs crazy paving) on CT scan may guide the differential diagnosis. However, CMV pneumonitis requires additional consideration as the CT findings are variable and include ground-glass opacity, centrilobular nodules, "crazy paving", interlobular septum thickening, and mosaic attenuation. Moreover, CMV pneumonitis requires evidence of tissue invasion with either intranuclear inclusion body on HE stain or positive immunostaining in order to distinguish from just viral shedding. Therefore timely bronchoscopy with possible transbronchial lung biopsy should be considered before further deterioration of clinical status.