

Poster #: 1

Title of Abstract: Non-infectious Interstitial Patterns and Distribution on Chest CT that Mimic Infection in an example Lymphoproliferative Disorder

Institution: NIH

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Modality: CT

Organ System: CV

Intro: ALPS is a disorder of apoptosis characterized by chronic nonmalignant noninfectious lymphoproliferation leading to adenopathy, splenomegaly, accumulation of pathognomonic CD4/CD8 double-negative T cells, hypergammaglobulinemia, and multi-lineage cytopenias. Patients commonly present with increased susceptibility to malignancies but do not demonstrate increased susceptibility to infection.

Purpose: Findings on CT resembling infections in lymphoproliferative disorders may non-infectious. We review the patterns and distributions of chest CT findings of Autoimmune lymphoproliferative syndrome (ALPS) as an example.

Methods Used: Retrospective chart review of 358 ALPS patients identified 18 (~5%) with interstitial lung lesions. Chest CT scans (117 total) performed to assess degree of interstitial disease or for other indications (e.g. research protocol or rule out infection) were examined. Patients were evaluated for infection based on the below workup: 1. Bronchoalveolar lavage (BAL), biopsy, cultures/sensitivities 2. Clinical evaluation 3. 6 minute walk test (6MWT), pulmonary function test (PFT) 4. Chest CT Functional status based on 6MWT and PFT's was compared with CT findings. Clinical outcomes and management were assessed.

Results of Abstract: None of the patients demonstrated infection on workup; 15 (83%) were confirmed to have no infection on biopsy or BAL. None of the patients were treated with antibiotics. Fourteen (78%) were safely managed with immunosuppressants.

Discussion: Lung CT findings mimicking infection in lymphoproliferative disorders may actually be non-infectious. All of our ALPS patients demonstrated chest CT patterns that could be mistaken for infection; however, none were shown to be infectious. Lung imaging may not correlate with clinical impression as relevant symptoms may also present with non-infectious lung lesions.

Scientific and/or Clinical Significance? Imaging may be misleading in lymphoproliferative disorders, incorrectly assuming that findings represent infection can result in mismanagement (inappropriate administration of antibiotics). Many ALPS patients with lung findings described here may be safely managed with immunosuppressive therapy or observation as opposed to antibiotics.

Relationship to existing work Supporting evidence of infectious imposters.

Purpose Findings on CT resembling infections in lymphoproliferative disorders may non-infectious. We review the patterns and distributions of chest CT findings of Autoimmune lymphoproliferative syndrome (ALPS) as an example. Content organization Retrospective chart review of 358 ALPS patients identified 18 (~5%) with interstitial lung lesions. Chest CT scans (117 total) performed to assess degree of interstitial disease or for other indications (e.g. research protocol or rule out infection) were examined. Patients were evaluated for infection based on the below workup: 1. Bronchoalveolar lavage (BAL), biopsy, cultures/sensitivities 2. Clinical evaluation 3. 6 minute walk test (6MWT), pulmonary function test (PFT) 4. Chest CT Functional status based on 6MWT and PFT's was compared with CT findings. Clinical outcomes and management were assessed. None of the patients demonstrated infection on workup; 15 (83%) were confirmed to have no infection on biopsy or BAL. None of the patients were treated with antibiotics. Fourteen (78%) were safely managed with immunosuppressants. Major teaching points. Lung CT findings mimicking infection in lymphoproliferative disorders may actually be non-infectious. All of our ALPS patients demonstrated chest CT patterns that could be mistaken for infection; however, none were shown to be infectious.

Lung imaging may not correlate with clinical impression as relevant symptoms may also present with non-infectious lung lesions. Clinical significance/relationship to existing work Imaging may be misleading in lymphoproliferative disorders, incorrectly assuming that findings represent infection can result in mismanagement (inappropriate administration of antibiotics). Many ALPS patients with lung findings described here may be safely managed with immunosuppressive therapy or observation as opposed to antibiotics.