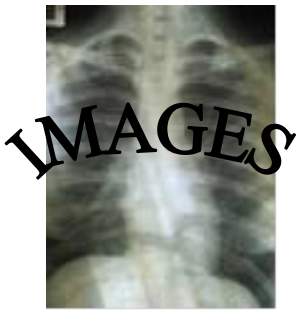

Organizing Pneumonia Associated with TNFα Inhibitor

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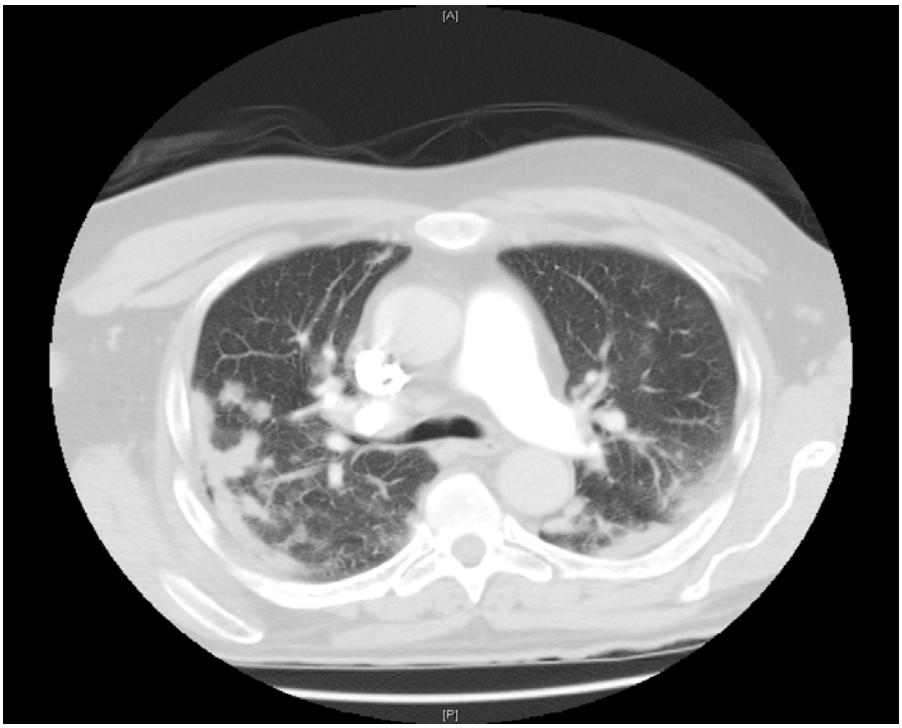


A 64-year-old man with a history of rheumatoid arthritis (RA) on treatment with methotrexate 22.5 mg weekly and adalimumab 40 mg biweekly, presented to the emergency department with complaints of cough, dyspnea, and fatigue. The patient reported cough and dyspnea over the eight weeks prior to presentation. He was treated as an outpatient for cough with a course of azithromycin, then doxycycline. However, he progressively worsened over the month prior to presentation as he began to experience dyspnea on exertion.

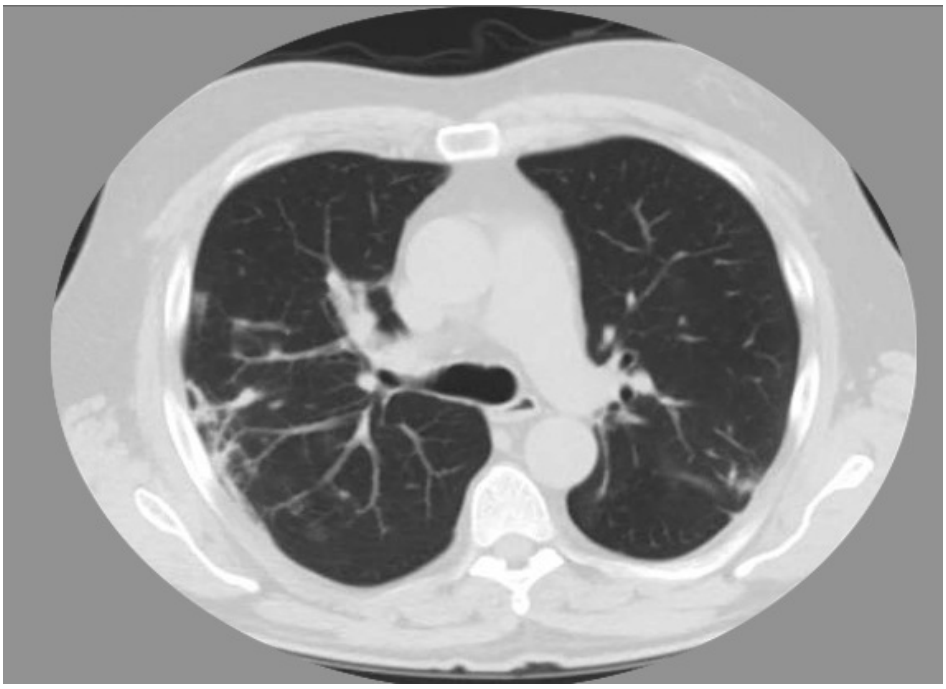
Upon presentation, the patient was afebrile with stable vital signs. He had a normal cardio-pulmonary examination. His complete blood count with differential, comprehensive metabolic panel, and brain natriuretic peptide were within normal limits. A chest x-ray revealed diffuse infiltrates. A computed tomography (CTA with/without contrast pulmonary embolism protocol) of the chest was negative for pulmonary embolism, but showed diffuse five lobe alveolar infiltrates with posterior predominance. No thoracic lymphadenopathy was noted (see image above).

The patient was admitted for further work-up of progressive dyspnea with failed outpatient treatment and a bronchoscopy was performed the next day. On bronchoscopy, the pharynx,

larynx, and trachea appeared to be normal. The right bronchial tree appeared to be normal including the right upper, middle, and lower lobes. There were no endo-bronchial lesions noted. The mucosa was normal. Next, the left bronchial tree segments were inspected including the left upper and lower lobes.

A bronchoalveolar lavage (BAL) was performed from the left upper lobe (lingula) with a total of 150 ml's of fluid instilled and 120 ml's withdrawn. The return was slightly cloudy/cellular but there were no purulent secretions. There was no evidence of diffuse alveolar hemorrhage. The BAL fluid analysis reported a white blood count of 370 cells/mcL, 6% polymorphonuclear leukocytes, and 54% lymphocytes. Gram stain of the BAL fluid revealed moderate neutrophils, acid-fast bacilli stain and culture were negative. Fungal culture showed only light growth of budding yeast. Negative results were obtained on cytology and a respiratory viral panel for cytomegalovirus, herpes simplex virus, adenovirus, and pneumocystis jiroveci pneumonia. He was initiated on prednisone 60 mg daily with a taper of 10 mg every week for a total of six weeks and was discharged from the hospital to outpatient follow-up.

Upon follow up, the patient reported his cough and dyspnea were improved from his initial presentation. Follow-up CT of the chest one month later showed significant improvement in organizing pneumonia (see figure below).



Organizing pneumonia is defined histopathologically by intra-alveolar buds of granulation tissue, consisting of intermixed myofibroblasts and connective tissue.[1] The most common pulmonary disease associated with the use of TNF inhibitor administration in systemic autoimmune disease are interstitial pneumonia and sarcoid-like disorder. Anti-TNF agents commonly are associated with interstitial lung disease (ILD) and the most are administered for RA. The most common presenting symptoms include dyspnea, cough, and fever.[2] Withdrawal of the agent and initiation of corticosteroids are treatment mainstays for organizing pneumonia. Complete resolution is reported in 40% of the cases and improvement or partial resolution in 25% of the cases with no resolution in 35%.

References

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