

Non-specific interstitial pneumonitis cellular subtype: A challenging diagnosis

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Our patient was a 52-year-old female who was admitted for shortness of breath and productive cough with white sputum. The patient reported that her symptoms began gradually five months ago and had progressively worsened. The patient associated symptoms with a five-pound weight loss. She denied fever, chills, hemoptysis, and chest pain. She was seen by her primary care physician one week prior to admission and was placed on Doxycycline for presumed community acquired pneumonia, as well as a trial of steroids, which slightly improved her symptoms. Patient was advised to come to the emergency department when symptoms persisted. Patient denied smoking, drinking, environmental, or hazardous exposures. Patient denied having any pets. Patient worked as a secretary. The patient was originally from Arkansas and admitted to taking a trip there four weeks prior to admission, but reported her symptoms started prior to this. She had moved to Illinois twenty years ago. On physical exam, patient was tachypnea and had difficulty finishing sentences. Her breath sounds were decreased in the lung bases with mild bibasilar crackles. Labs were unrevealing. Chest X-ray revealed basilar opacities with associated volume loss. CT showed bilateral areas of airspace opacity with air bronchograms suspicious for pneumonia with lymphadenopathy. The patient underwent an echocardiogram that showed no signs of heart failure. Patient was initially treated with a course Ceftriaxone and Azithromycin

with no improvement. The patient was then treated with Levaquin without improvement of symptoms. A bronchoscopy with bronchial washing and brushing was performed which revealed reactive bronchial cells on cytology with no evidence of malignancy. Cardiac thoracic surgery was consulted. The patient underwent video assisted lung biopsy and lymph node biopsy. Lung biopsy revealed interstitial fibrosis, intra-alveolar macrophages, type II pneumocyte hyperplasia, and chronic inflammation with lymphoid aggregates, diagnosed as non-specific interstitial pneumonitis cellular subtype. This case demonstrates firstly that idiopathic interstitial pneumonias (IIP) should be considered in patients with diffuse lung disease and unresolving pneumonia. Secondly, although some classic cases of interstitial pneumonia can be diagnosed with high resolution CT, some cases still require thoracic lung biopsy for definitive diagnosis and classification to aid treatment and prognosis. Non-specific interstitial pneumonitis (NSIP) is rare compared to the other six causes of IIP. NSIP is further divided into two groups based on pathology; a cellular type and a fibrotic type. The former is rarer and has a better prognosis. The difference in prognosis validates having a subdivision in NSIP, especially in our patient. Thirdly diseases like collagen vascular disease and pneumoconiosis can cause similar findings and should be ruled out before reaching a final diagnosis.

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