METASTATIC DEDIFFERENTIATED LIPOSARCOMA IN AN ADOLESCENT IN THE SETTING OF HYPEREOSINOPHILIA

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Background: Metastatic liposarcoma associated with eosinophilia is described in adults, however there are limited number of cases reported in the pediatric population. This case highlights the importance of including malignancy in the differential of hypereosinophilia in a child. A 17-year-old male with mild persistent asthma initially presented to the emergency room following a head trauma, with unremarkable head imaging. He additionally mentioned intermittent cough, and incidentally found to have a 1.8 cm nodule in his left middle lung and a 1-cm nodule in the right lung base on chest x-ray. CT chest showed multiple bilateral pulmonary nodules (largest 2.1-cm). Initially, patient did not endorse any respiratory symptoms, weight loss, night sweats, fatigue, fevers or chills. He denied tuberculosis risk factors, sick contacts, recent travel or smoking exposure. Complete blood count (CBC) was notable for WBC of 22, 33% eosinophils, and absolute eosinophilic count of 7029.

Materials/Methods: Given findings of pulmonary nodules and eosinophilia, investigation of idiopathic hypereosinophilia was initiated. Infectious work-up, bone marrow biopsy, T-cell, B-cell, and NK-cell (TBNK) cell clonality testing, and rheumatological work-up were performed. Additionally, a BAL and lung nodule biopsy were obtained to further evaluate the patient's clinical presentation.

Results: An infectious work-up was essentially unremarkable, with negative fungal and parasitic serologies, and stool ova and parasites. Myeloproliferative diseases were ruled out with a negative bone marrow biopsy, and lymphoproliferative diseases and immunodeficiencies were ruled out with negative T-cell, B-cell, and NK-cell (TBNK) cell clonality testing. Additional testing to evaluate for an underlying rheumatologic condition also came back negative, including normal ANCA, ANA, ESR/CRP. BAL showed eosinophilia. Lung nodule biopsy revealed high-grade metastatic sarcoma with overexpression of MDM2. Further staging scans were completed, including a PET-CT, demonstrating a 7.9-cm mass in the left posterior thigh with metastases to the brain, lungs and mediastinum. Biopsy of the thigh mass revealed dedifferentiated liposarcoma, confirming the primary tumor.

Conclusions: This case highlights the importance of performing appropriate lung imaging and bronchoscopy with biopsy when a patient presents with pulmonary nodules and hypereosinophilia. Lung biopsy in this patient was critical in establishing the diagnosis of metastatic liposarcoma.