Hypereosinophilic Syndrome Secondary to Endometrioid Ovarian Cancer Presenting with Asthma Symptoms

H. A. Albitar¹, Y. Almodallal², V. N. Iyer³;¹Internal Medicine, Mayo Clinic-Rochester, Rochester, MN, United States, ²Pediatrics, Mayo Clinic-Rochester, Rochester, MN, United States, ³Pulmonary and Critical Care Medicine, Mayo Clinic, Rochester, MN, United States.

Introduction: Hypereosinophilia is defined by the presence of >1.5x10⁹/L eosinophils in the peripheral blood. Hypereosinophilic syndrome (HES) is defined by the presence of hypereosinophilia in addition to eosinophil-mediated organ damage. We present an 88-year-old woman with HES presenting initially with cough and dyspnea who was ultimately found to have endometrioid ovarian carcinoma. Case Report: An 88-year-old woman presented to clinic with nonproductive cough and dyspnea associated with unintentional weight loss of 20 pounds of one month duration. She had been previously diagnosed with cough-variant asthma and had been treated with inhaled corticosteroids. Physical examination revealed widespread, high-pitched, expiratory wheezes. Laboratory evaluation revealed eosinophil-predominant leukocytosis with leukocyte count of 28.6 x10⁹/L (3.4-9.6 x10⁹/L) and eosinophil count of 15.38 x10⁹/L (0.01-0.08 x10⁹/L) which was changed from a normal complete blood count obtained one year prior. Complete pulmonary function tests were normal and methacholine challenge was negative. However, exhaled nitric oxide (eNO) was significantly elevated at 172 ppb (< 39 ppb). Further workup showed negative anti-myeloperoxidase and anti-proteinase 3 antibody titers of <0.2U (<0.2U); normal immunoglobulin E titer of 18.9 kU/L (<213 kU/L); and tryptase level of 7.2 ng/mL (<11.5 ng/mL). Strongyloides serum IgG was undetectable. Bone marrow biopsy showed hypercellular bone marrow (80%) with marked bone marrow eosinophilia. Extensive bone marrow genetic studies were negative. Contrast-enhanced computed tomography scan of the chest, abdomen, and pelvis showed a large necrotic pelvic mass with coarse calcification measuring 11.5x13.3x10 (figure 1). Ultimately, the patient underwent hysterectomy with bilateral salpingo-ophorectomy which revealed endometrioid ovarian carcinoma. Twenty-four hours following the surgery, her eosinophil count normalized. On subsequent follow-up, she also reported resolution of her cough and dyspnea and continued to have normal eosinophil counts. Discussion: Clinical presentations of HES vary; however, up to 25% of patients have pulmonary involvement and among those, asthma symptoms are uncommon. Eosinophilia has been reported in both hematologic and solid malignancies including ovarian cancer. However, our case is unique in multiple aspects. First, our patient had underlying endometrioid ovarian cancer which has not been previously reported to cause HES. Moreover, this case also serves as a reminder that HES should be considered even in patients presenting with classic asthma symptoms and that underlying malignancy and other causes of reactive HES should be excluded in appropriate patients. Lastly, this case highlights that treatment of the underlying etiology of HES leads to resolution of eosinophilia and potentially, resolution of eosinophilia-related organ damage.
This abstract is funded by: None

Am J Respir Crit Care Med 2020;201:A1351
Internet address: www.atsjournals.org