

Eosinophilia and Histiocytosis as Manifestation of Paraneoplastic Syndrome in Non-small cell lung cancer

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Eosinophilia is frequently associated with asthma, allergic conditions, skin diseases, parasitic infestation, and pulmonary infiltrates. Eosinophilia, associated with solid tumors, occurs infrequently. We report that the patient had the presence of excessive eosinophilia and histiocytosis as manifestations of paraneoplastic syndromes in non-small cell lung cancer. A 73-year-old female complained of fever and rash along with itching. The patient had no history of smoking, asthma, or other allergic diseases. Physical examinations revealed 1-1.5 cm sized palpable neck and inguinal lymph nodes. Lab data showed leukocytosis with marked eosinophilia. Results of subsequent stool evaluation for parasites and ova were negative. A chest radiograph and a computed tomogram (CT) revealed a 1 cm sized focal nodule in the right upper lobe and enlarged mediastinal and axillary lymph nodes. An abdominal pelvic CT revealed several enlarged lymph nodes in both inguinal areas. A biopsy from inguinal lymph nodes showed histiocytic cell proliferation and eosinophilic infiltration, suggestive of Langerhans cell histiocytosis and another biopsy from skin of the right calf showed superficial perivascular dermatitis with hyperkeratosis and parakeratosis. A bone marrow aspiration and its biopsy showed normocellular marrow with eosinophilic hyperplasia. Although she was managed with oral prednisolone and anti histamine drugs with gradual symptomatic improvement, the size of the nodule on a chest radiograph and a CT was increased. A percutaneous needle aspiration from the nodule in the right upper lobe of lung was done and revealed the pleomorphic atypical large cell. And then a biopsy from axillary lymph node was performed and showed positive in cytokeratin and TTF-1. She was diagnosed of non-small cell lung cancer and received chemotherapy. However, the large cell lung cancer was refractory to chemotherapy and characterized by a rapidly progressive course. We observed that eosinophilia and histiocytosis may occur as paraneoplastic syndromes associated with aggressive large cell carcinoma of lung. Therefore, physicians should consider the possibility of aggressive malignancy in a patient with eosinophilia and histiocytosis.

The number of residual metastatic lymph nodes following neoadjuvant chemotherapy predicts survival in patients with stage III NSCLC

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Background : The prognosis of patients with stage III non-small cell lung cancer (NSCLC) who achieve complete response or downstaging following neoadjuvant chemotherapy is better than the prognosis of patients with residual metastatic lymph nodes (LN). However, the prognostic significance of the number of residual metastatic LNs remains unclear. **Methods :** From January 2001 to January 2006, 42 consecutive patients with stage IIIB (22 patients) and IIIB without pleural effusion (20 patients) were treated with neoadjuvant chemotherapy. Thirty-four of the 42 patients were pathologically staged by mediastinoscopy. Neoadjuvant chemotherapy consisted of 3 cycles of platinum-based doublet (21 patients with gemcitabine, 15 with paclitaxel, and 6 with docetaxel). **Results :** After neoadjuvant chemotherapy, a complete pathological response was achieved in one patient and downstaging was achieved in 24 patients. Pathological LN metastasis was absent in 9 patients and present in 33 patients. With a median follow up of 23 months, the 2-year disease-free survival (DFS) rate of patients without residual LN metastasis was statistically better than that of patients with residual LN metastasis (46% vs. 18% respectively, $P=0.03$). Among 33 patients with residual LN metastasis, age, pathological downstaging and the number of residual metastatic LNs (median 14 months in 1~4 LN vs. median 5 months in $\text{LN} \geq 5$; $P=0.011$) were significant predictors of DFS in univariate analysis. In multivariate analysis, the number of residual metastatic LNs was an independent predictor of DFS among patients with residual LN metastasis. **Conclusion :** The number of residual metastatic lymph nodes following neoadjuvant chemotherapy is an independent predictor of DFS in patients with stage III NSCLC.