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An effusion-based presentation of ALK$^-$ anaplastic large cell lymphoma

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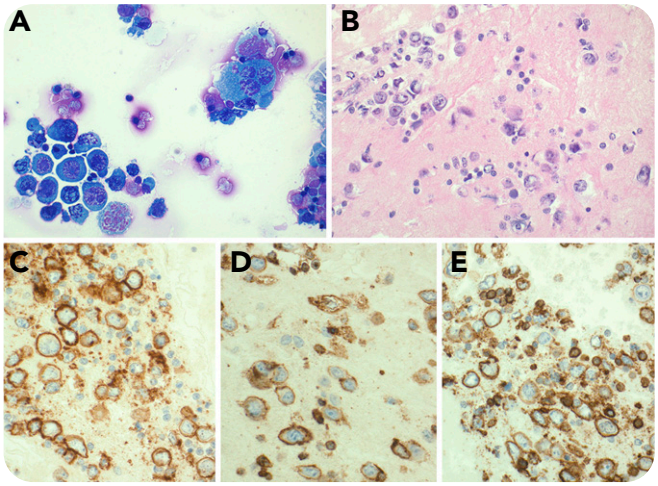

A 54-year-old woman with an 18-year history of HIV infection on antiretroviral agents presented with 1 month of progressive fever, fatigue, anorexia, dyspnea, and weight loss. Her laboratory tests were remarkable for decreased CD4 cell count (197 × 10^6/L) and markedly increased HIV load (98 084 viral genomes per milliliter). Computed tomography scanning showed ascites and bilateral pleural effusion. Thoracentesis with cytological evaluation demonstrated many large cells that displayed pleomorphic nuclei, prominent nucleoli, and abundant cytoplasm with increased karyorrhexis (panels A-B; cytospin, Romanowsky stain [A], hematoxylin and eosin stain [B]; original magnification ×400). A primary effusion lymphoma (PEL) was initially considered, but was essentially excluded by negative immunostaining for CD138, B-cell antigens, and human herpes virus-8. The large pleomorphic cells were positive for CD45, CD30 (panel C; original magnification ×400; immunohistochemical stain), CD25, CD2 (panel D; original magnification ×400; immunohistochemical stain), CD4, CD43, and CD45RO (panel E; original magnification ×400; immunohistochemical stain); they were negative for anaplastic lymphoma kinase (ALK) and Epstein-Barr virus. Thereafter, a diagnosis of ALK$^-$ anaplastic large cell lymphoma (ALCL) was rendered. The patient's condition soon deteriorated without lymphoma-related therapy. She received palliative care, and expired 17 days after the diagnosis.

Effusion-based ALCL may mislead to PEL, particularly in patients with immunodeficiency. A correct diagnosis requires an expanded immunohistochemical panel. Whether immunodeficiency, chronic antigen stimulation, or cytokine dysregulation contributes to this T-cell lymphoma and its lethal effusion-based presentation remains to be investigated.

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