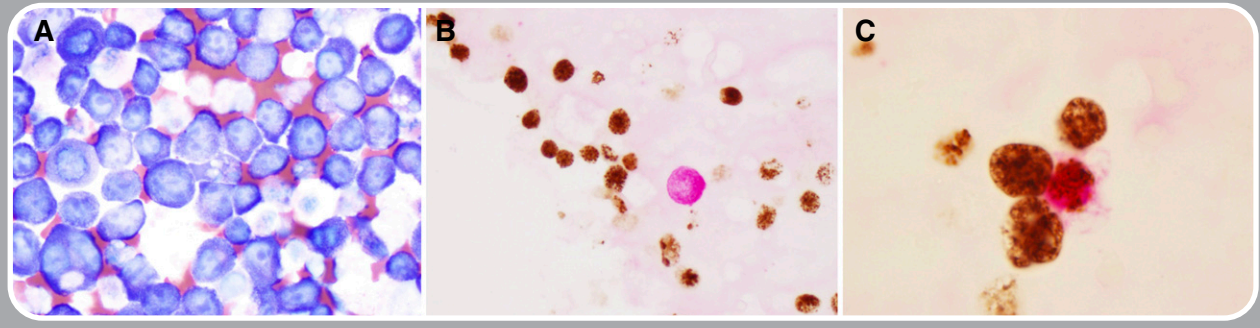
bloodwork
IMAGES IN HEMATOLOGY

Diagnostic pitfall: primary effusion lymphoma with rare cytokeratin immunoreactivity



Huan-You Wang and Ling Wang, University of California San Diego Health Sciences System

A 52-year-old man with history of AIDS, rectal Kaposi sarcoma, and multicentric Castleman disease was found to have diffuse lymphadenopathy, bilateral pleural effusions, and ascites. Cytology smears of the pleural effusion (panel A; Diff-Quik) showed numerous large atypical lymphoid cells with irregular nuclei, relatively abundant cytoplasm, and conspicuous nucleoli. A diagnosis of primary effusion lymphoma (PEL) was substantiated by cytoplasmic λ restriction by flow cytometry, expression of OCT-2 and its coactivator BOB.1 (data not shown), and positive Kaposi sarcoma herpesvirus by immunohistochemistry (nuclear punctate brown stain; panels B-C). The lymphoma cells were negative for Epstein-Barr virus. Interestingly, pancytokeratin (cytoplasmic purple stain; panels B-C) showed very rare (<1%) positive lymphoma cells (panel C), conforming that rare PEL cells show immunoreactivity for cytokeratin.

Although this is the first reported case of PEL with cytokeratin immunoreactivity among very rare lymphoma cells, positive cytokeratin expression can be encountered in ~1.5% of lymphomas of T- and B-cell origin from the largest study of 866 lymphomas and leukemias. Although extremely rare cytokeratin expression in lymphoma cells poses less diagnostic challenge in cases of PEL, such a phenomenon should be kept in mind to avoid misdiagnosis of lymphoma as carcinoma, especially when common B-cell antigens are not expressed by lymphoma cells.

DOI 10.1182/blood-2016-01-692616