A Burkitt Lymphoma Case with Atypical Immunophenotype: Coexpression of CD5 and CD10, Cytoplasmic Light Chain Restriction

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ABSTRACT

We report a case of Burkitt lymphoma with an unusual immunophenotypic profile: coexpression of CD5 and CD10, positive for cytoplasmic lambda light chain restriction and negative for surface light chain restriction. This profile is quite unusual for Burkitt lymphoma and may present a diagnostic challenge. Definitive diagnosis in this unusual for Burkitt lymphoma and may present a diagnostic challenge. Definitive diagnosis in this case is established with morphology and cytogenetic study.

DISCUSSION

Burkitt lymphoma is a high grade lymphoma composed of germinal center B cells. It presents in 3 clinical settings: endemic, sporadic, and immunodeficiency-related. Peripheral lymphadenopathy is less common than extranodal tumor. Bone marrow involvement is common.

Microscopically, the pattern of growth of Burkitt lymphoma is usually diffuse. Tumor cells are round/ovoid with clumped nuclear chromatin and several basophilic nucleoli. Cytoplasmic small vacuoles containing fat are prominent on Giemsa touch preps. Mitoses are numerous and a prominent "starry sky" pattern due to tingible-body macrophages is characteristic, as seen in our case.

Virtually all cases of Burkitt lymphoma are of B cell lineage. Surface immunoglobulins, especially IgM, are expressed with heavy and light chain restriction. B-cell specific antigens such CD19, CD20, and CD22 are present, along with CD10. The tumor cells do not express TdT.

The expression of CD5 in this case is highly unusual as CD5 is a 67kd signal-transducing glycoprotein involved in the regulation of T cell activation. CD5 is a T cell marker that is aberrantly expressed in B cell chronic lymphocytic leukemia and mantle cell lymphoma. Other B cell neoplasms, including Burkitt lymphoma are typically CD5-negative. Also unusual is the positive cytoplasmic light chain restriction, as most cases are only positive for surface light chain restriction.

REFERENCES


