EBV infection in follicular lymphoma is rare. Only one paper has reported EBV infection in follicular lymphoma and diffuse large B-cell lymphoma in immunocompetent patients and suggested EBV infection may play a role in the disease progression.

Methods: We evaluated the clinicopathologic presentation of a EBV-positive DLBCL and follicular lymphoma in a 68-year-old male using chart review, histological and immunohistochemical (IHC) examination, in situ hybridization for EBV-encoded RNA (EBER), and polymerase chain reaction (PCR).

Results: Here we present a unique case of EBV-positive follicular lymphoma, grade 3B and EBV-positive DLBCL in the same lymph node in an immunocompetent patient with a history of follicular lymphoma, grade 3A, who was diagnosed and treated 7 years prior to current presentation. Immunohistochemical analysis showed expression of CD20, BCL-2, and BCL-6 in both lymphoma components, confirming the follicular origin. Both components were negative for MUM-1. EBER in situ hybridization showed a similar expression pattern and intensity in both components. Additionally, latent membrane protein of EBV (LMP) was positive in both components. Retrospective EBER in situ hybridization performed on a previous lymph node biopsy was negative for EBV. Immunoglobulin heavy chain (IGH) gene arrangement assay by PCR revealed two distinct monoclonal bands.

Conclusion: This case supports the hypothesis that EBV may play a role also in progression of follicular lymphoma to higher grade follicular lymphoma or DLBCL. Further routine testing for EBER in transformed follicular lymphomas may reveal more similar cases.

Diagnosis of Transient Abnormal Myelopoiesis in Identical Twin Neonates Without Constitutional Trisomy 21

Sajjad Hassan, MD, and John Hunt, MD; Baystate Medical Center

Objectives: Transient abnormal myelopoiesis (TAM) is a well-known entity in neonates with Down syndrome (DS). TAM without phenotypic and cytogenetic features of DS is extremely rare and may be misdiagnosed as acute leukemia, leading to unnecessary chemotherapy. The current case report highlights the challenges in reaching this diagnosis and the need to report such cases to further understand the risk of progression to AML in these patients.

Methods: We present a report of monozygotic twins without phenotypic features of DS born to a 29-year-old woman. Complete blood counts performed in both twins because of bruising revealed thrombocytopenia and greater than 20% circulating blasts. Flow cytometry of peripheral blood revealed myeloid-lineage blasts expressing CD34, CD117, CD33, and CD36 with aberrant expression of CD7. A small number of events showing dim CD45 coexpressed CD42b and CD61. FISH studies on unstimulated (presumed blast) cells revealed trisomy 21 (an additional copy of RUNX1 with no other abnormalities typical of acute myeloid leukemia). Chromosome analysis of phytohemagglutinin (PHA)–stimulated cultures showed a normal female karyotype (46,XX). Molecular testing revealed an isolated abnormality of exon 2 of GATA1.

Results: Follow-up after 2 months shows normalization of leukocyte counts and reduced blasts in peripheral blood (to 0.8% and 2.0%). With supportive care only (without chemotherapy), both twins are currently transfusion independent with borderline anemia and thrombocytopenia.

Conclusion: Lack of sufficient data about TAM without constitutional trisomy 21 may result in misdiagnosis of AML. Moreover, limited data are available about the risk of AML in these patients (30% of patients of TAM associated with DS have been described to develop AML in 4 years). TAM cases without DS require close follow-up to identify possible progression to acute leukemia and to characterize long-term outcome in this patient population.

Diffuse Large B-Cell Lymphoma: A Deceptive Leukemic Presentation in the Setting of HIV

Tiffani Mathew, MBBS, Barina Aqil, MD, and Ronald Elin, MD, PhD; University of Louisville

Case Study: Of the adult non-Hodgkin lymphomas, diffuse large B-cell lymphoma (DLBCL) is the most common type seen in the United States. A minority of cases can occur with immunodeficiency, such as human immunodeficiency virus (HIV) infection. We report a case of a 34-year-old HIV-positive man who presented with leukocytosis. The peripheral blood smear revealed an atypical medium to large cell population with irregular nuclear contours, prominent nucleoli, and a moderate amount of cytoplasm, suggestive of blasts. Flow cytometric analysis demonstrated the cells to be positive for CD19 and CD10 and negative for CD34 and surface light chains. A bone marrow biopsy was performed, which revealed hypercellular marrow with extensive infiltration by atypical large cells with the same morphology seen in the peripheral blood. The cells were positive for CD20, CD10, bcl-6, bcl-2, and c-MYC and were negative for TdT. A cervical lymph node was excised and demonstrated diffuse effacement of architecture with an atypical large cell infiltrate with the same immunophenotypic findings. Fluorescence in situ hybridization analysis revealed evidence of a double-hit lymphoma (MYC and bcl-2 positive), consistent with HIV-associated high-grade B-cell lymphoma. This rare, deceptive presentation of DLBCL has an aggressive course with a poor prognosis, requiring an extensive workup.

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S95