Title: **Leukemic phase of CD5+ diffuse large B cell lymphoma**

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Acute lymphoid leukemia and diffuse large B cell lymphoma, though are categorized in lymphoid neoplasms, have different clinical presentation, treatment protocol and outcomes. However, the rare situation of leukemic phase of CD5+ diffuse large B cell lymphoma sometimes mimics acute lymphoid leukemia and requires careful differentiation. We reported here a rapid and accurate diagnosis from flow-cytometry.

A 55-year-old lady suffered from hemoptysis and thrombocytopenia with lymphadenopaties. Complete blood revealed a white cell count of 10.2 X 10⁹/l with 46% of blast cells. Peripheral blood smear showed marked blastocytosis with fine nuclear chromatin and prominent nucleoli and scanty cytoplasm (figure 1 left). Flow-cytometry showed positive results for CD5, CD19, CD20 and Kappa light chain; but negative for CD7, CD10, CD11b, CD13, CD33, CD34, CD56 and TdT. Bone marrow examination revealed scattered involvement of CD20-positive, TdT-negative cells (figure 1 and figure 2). Biopsy of neck lymph nodes confirmed the diagnosis of CD5+ diffuse large B cell lymphoma (figure 2 lower right). Under the impression of stage IV disease, she received 8 courses of R-CHOP therapy with stem cell transplant later on. She had complete response after therapy for 2 years to now.

A leukemia phase of diffuse large B cell lymphoma is rare and mimics acute lymphoblastic leukemia [1,2]. Flow-cytometry with an appropriate panel could help in differentiating lymphoma from leukemia [2,3]. In this case, having surface light chain and TdT makers made an accurate and rapid diagnosis.

References
1. Wong E, Juneja S. Diffuse large B-cell lymphoma in leukemic phase with flower

Figure legend

Figure 1. Peripheral blood smear showed thrombocytopenia with marked lymphoid blast-like cells of fine nuclear chromatin with prominent nucleoli and scanty cytoplasm (A, H&E stain, x1000)(up left). Bone marrow examination revealed scattered involvement of median to large cells with prominent nucleoli (B, H&E stain, x1000) (up right).

Figure 2. Flow-cytometry revealed positive of CD5, CD20 with negative of TdT (upper and lower left). Lymph node biopsy showed diffuse lymphoma pattern with positive of CD20 (lower right).