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SCHOLARENA

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CLINICAL IMAGE

Diffuse Large B-cell Lymphoma Circulating at Diagnosis

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Abstract

We present a case of Diffuse Large B-cell Lymphoma whose initial presentation was in the leukemic form. This is a rare presentation, whose morphological analysis is difficult and immunophenotyping by flow cytometry played an important role in the diagnosis.

Keywords: Flow Cytometry; B-cell Lymphoma; Diagnostic Techniques and Procedures; Peripheral Blood

Case Report

A 74-year-old male patient with abdominal pain on the left flank with a history of weight loss (11 kg in 1 month) and asthenia without fever or night sweats. He sought care in an emergency care unit and referred to hospitalization. He was in good general condition, conscious, oriented, hydrated, afebrile, eupneic and with regular heart rhythm. No palpated peripheral lymph nodes but the abdomen was painful on the left with palpable spleen 7 cm from the left costal edge.

Tomography of the abdomen showed splenomegaly (18.5 cm in longitudinal diameter) associated with the focal area of splenic infarction. No retroperitoneal adenomegalias. On chest tomography, no lymph nodes was observed in the axillary and mediastinal chains and the cranial tomography was normal. Red blood cell count was 11.4 x 1012/L, platelet count was 99 x 109 /L and white blood cell count was 123 x 109 /L at the expense of atypical lymphoid cells (Figure 1).

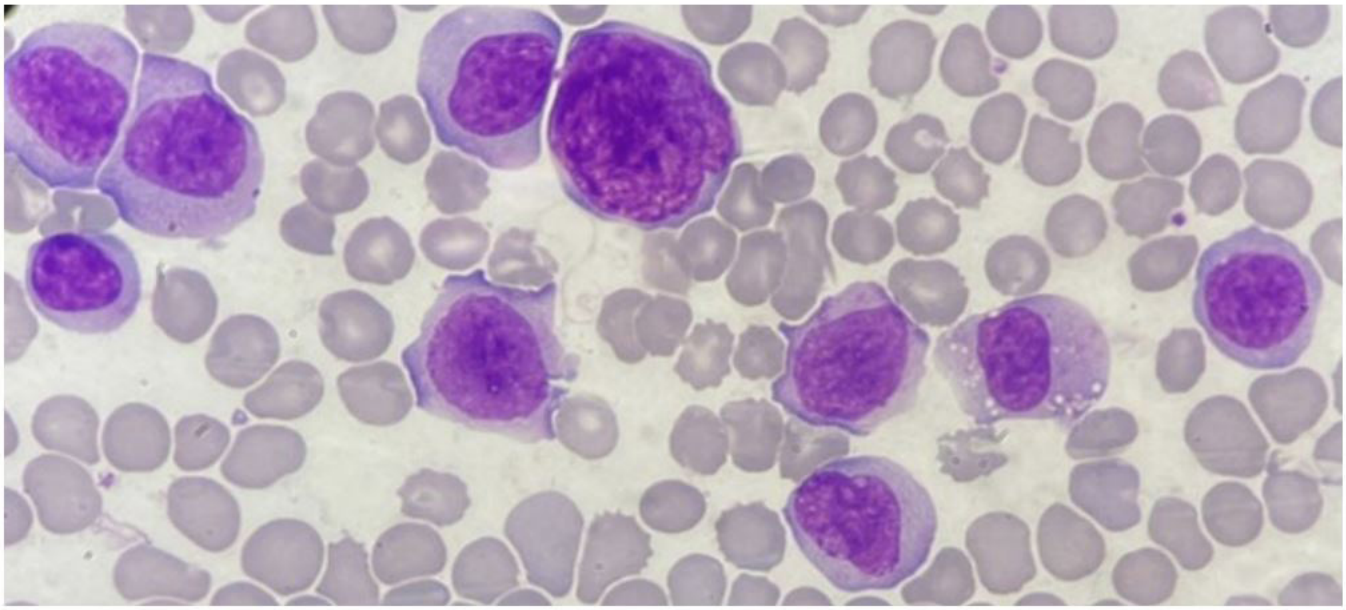
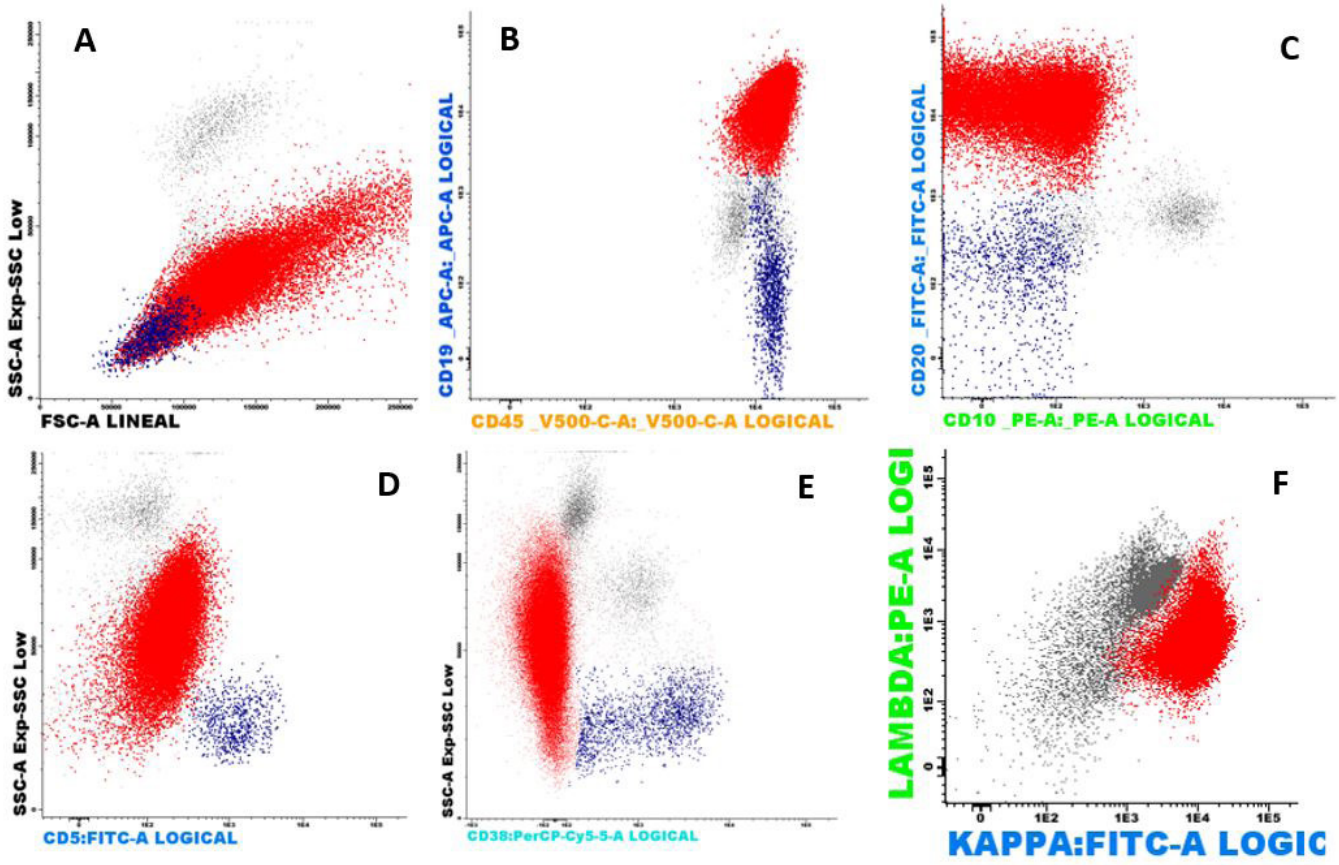


Figure 1: Peripheral blood morphology demonstrates medium to large cells, médium nucleus-to-cytoplasm ratio, nucleus sometimes convoluted with loose, rare nucleolos, slightly basophilic cytoplasm, agranular, some with microvacuoles

Peripheral blood immunophenotyping by flow cytometry showed that it was mature B lymphocytes, positive for CD19, CD20, CD22, CD79b, surface IgM and CD45 strongly expressed, of large size and moderate internal complexity (Figure 2). The cells do not express CD5, CD10, CD11c, CD38, CD103 and CD200 which defactors the diagnoses of Mantle cell lymphoma, Burkitt lymphoma and Hairy cell leukemia. Clonal Kappa restriction has been demonstrated. These findings favor the diagnotic of CD10 negative Diffuse Large B- Cell Lymphoma (DLBCL). The DLBCL may present as nodal or extranodal disease. The most affected extranodal sites are gastrointestinal tract, bones, tests, spleen, Waldeyer ring, salivary glands, thyroid, liver, kidneys and adrenal glands. Bone marrow involvement may occur but morphological involvement of peripheral blood by DLBCL is rare.



Legend: hi: Strong Expression; FSC: Foward Scatter; SSC: Side Scatter

Figure 2: Part of the immunophenotypic analysis. In red indicated the neoplastic cells and in blue the normal T lymphocytes of the sample. Neoplastic cells are large size (high FSC - **A**) and positive to lymphoid B markers (CD19, CD20 – **B** / **C**) with mature characteristics ($CD45^{hi}$ – **B** -and clonal Kappa restriction - **F**), without CD10, CD5 and CD38 expression (**C**/ **D**/ **E**)

References

1. Swerdlow SH, Campo E, Harris NL, Jaffe ES, Pileri SA, et al. (2017) WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues, Revised 4th ed.; IARC: Lyon, France 2017.