

Chronic Myeloid Leukemia Blast Phase Versus Primary Ph+ B- Lymphoblastic Leukemia

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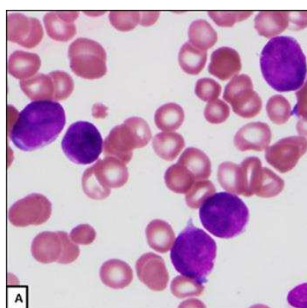
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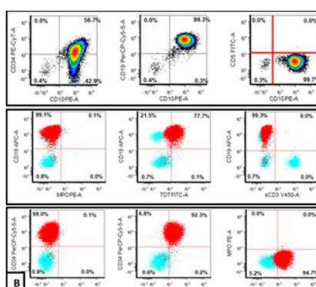
1. Clinical Image

A 75-year-old man was diagnosed with Ph+ B- lymphoblastic leukemia (B-ALL) in 2015 (A). Flow cytometry immunophenotyping (B) showed the blasts positive for CD10, CD19, CD20, CD22, CD33, CD34, CD38, cytoCD79a, CD123, and TdT, and negative for CD13, CD14, CD25, CD36, CD56, CD64, CD66c, CD117, HLA-DR, MPO, and T-cell markers. Chromosomal analysis showed 46,XY,t(9;22)(q34;q11.2) (C) and qPCR showed an e1a2 (p190) *BCR-ABL1* fusion transcript. The patient was treated with hyper-CVAD plus ponatinib and achieved a complete remission. All follow-up bone marrow biopsies were negative for B-ALL by morphology and flow cytometry, but recent qPCR showed persistent p190 *BCR-ABL1* transcript (17.7%); FISH study showed *BCR-ABL1* fusion in both segmented cells (neutrophils, 7.5%) and round nucleated cells (20%) (B); complete blood cell counts showed persistent mild leukocytosis and monocytosis. These findings trigger the debate about whether the original diagnosis should be a chronic myeloid leukemia (CML) blast phase or a B-ALL.

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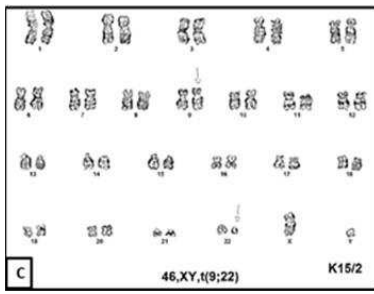


A. BM aspirate (x1000).

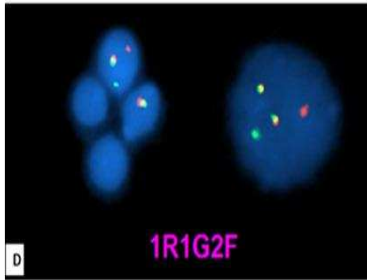


B. Selected flow cytometry immunophenotyping analysis results.

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C. Chromosomal analysis result (46,XY,t(9;22)(q34;q11.2)[20]).



D .Recent FISH analysis results