

ImageTJH-2020-0503.R3

doi: 10.4274/tjh.galenos.2020.2020.0503

Simultaneous Presentation of Hairy Cell Leukemia and Acute Lymphoblastic Leukemia

Li M. et al; A Rare Case of Lymphoblastic Leukemia

Mingyong Li¹, Yuan He², Kang Jiang³, Juan Zhang⁴

¹Sichuan, China

²Sichuan Academy of Medical Science & Sichuan provincial People's Hospital, Chengdu, China

³Department of laboratory medicine, Shimian people's Hospital - laboratory medicine Ya'an, China

⁴Department of Laboratory Medicine, Sichuan Academy of medical Science & Sichuan Provincial People's Hospital, School of Medicine, University of Electronic Science and Technology of China, Chengdu, China

Juan Zhang, MD, Department of Laboratory Medicine, Sichuan Academy of medical Science & Sichuan Provincial People's Hospital, School of Medicine, University of Electronic Science and Technology of China, Chengdu, China

zhangjuan82@126.com

+86 18080928906

Submitted: 21 August 2020

Accepted: 29 September 2020

A 59-year-old man was admitted to the hospital because of repeated systemic bone pain for more than one month. His complete blood count revealed a hemoglobin of 54g/L, white blood cells of $12.35 \times 10^9/L$, neutrophils of $0.247 \times 10^9/L$, and a platelet count of $34 \times 10^9/L$. Peripheral and bone marrow smear revealed cells with

cytoplasmic projections (Top left corner, $\times 1000$) and primitive cells (Left upper diagonal line, $\times 1000$). These cells were negative for peroxidase staining (right bottom of the top left picture, $\times 1000$). Flow cytometry of marrow confirmed two clonal B-cell populations (Top right): the first (red) was CD34⁺CD10⁺CD19⁺cCD79a⁺ (bottom left), HLA-DR⁺D33⁺CD38⁺ (dim)CD2⁻CD7⁻CD13⁻CD14⁻CD15⁻CD20⁻CD56⁻CD117⁻cIgM⁻cMPO⁻cCD3⁻ (not shown), diagnostic of B-lineage acute lymphoblastic leukemia (B-ALL). A second population (purplish red) was CD103⁺CD11c⁺ (bottom right), CD19⁺CD25⁺CD123⁺CD22⁺CD20⁺sIgM⁺CD23⁺CD5⁻CD10⁻CD38⁻FMC7⁻sLambda⁻ (not shown), and skappa light chain positive (bottom right), representing hairy cell leukemia (HCL). The BRAF V600E mutation was detected in the bone marrow aspirate sample. Therefore, he was diagnosed with simultaneous B-ALL and classic HCL. The association of ALL and HCL, either synchronous or metachronous, has rarely been reported. In such cases, immunophenotyping with multiparameter flow cytometry is useful.

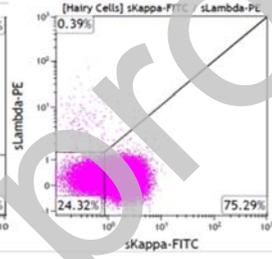
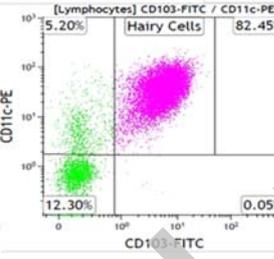
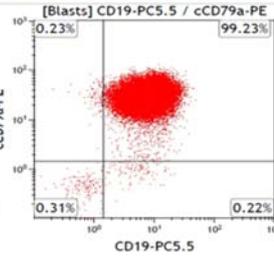
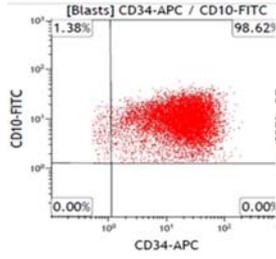
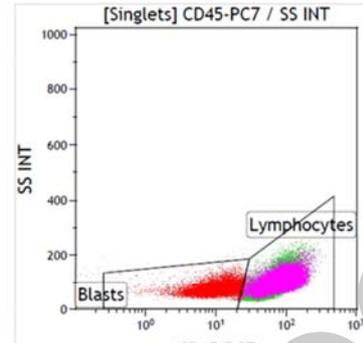
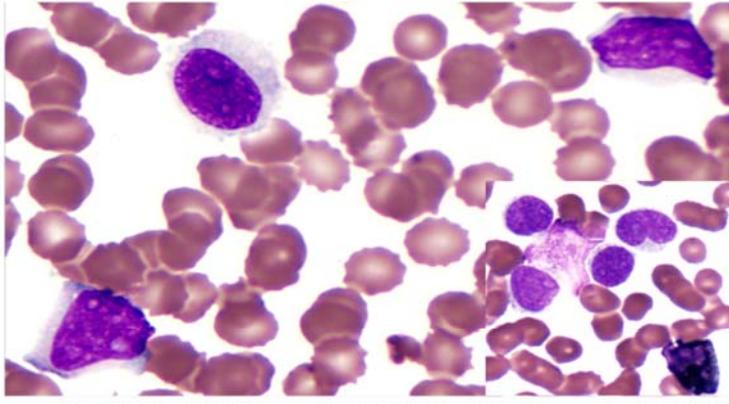
This case highlights the indolent course of HCL can coexist with the acute process of ALL.

Conflict of Interest Statement: Nothing to report.

Funding: This work was supported by grants from National Natural Science Foundation of China (81802075).

References

Ivo, M. B. F. & Katherine, R. C. (2019) Hairy cell leukemia coexistent with chronic lymphocytic leukemia. *Blood*, **133**, 1264.



Uncorrected proof