The complete blood count of a 40-year-old man showed a hemoglobin level of 6 g/dL, an erythrocyte count of $3.0 \times 10^{12}$/L, a leukocyte count of $62 \times 10^9$/L with 90% blasts, and a platelet count of $12 \times 10^9$/L. The bone marrow smears were hypercellular, with a preponderance of blasts (90%) with dispersed nuclear chromatin and multiple prominent nucleoli and a variable amount of cytoplasm. Its granularity (panel A) had the occasional presence of an eosinophil precursor (panel B). Some blasts showed myeloperoxidase positivity (panel C). On flow cytometry, the CD45/side-scatter gated cell cluster revealed an immunophenotype of CD13, CD33, CD14, CD11b, CD11c, and CD64. A multiplex reverse transcription-polymerase chain reaction confirmed the case as acute myeloid leukemia with t(16;16)(p13.1;q22); CBFB-MYH11. However, in view of the presence of a few microcytes and target cells (panels A-B), high-performance liquid chromatography was performed, and a coexisting hemoglobin E disease was confirmed.

The striking features of a dominating disease often cast shadows on another coexisting disease, leading to underdiagnosis of the latter. A practice of searching for ambiguities beyond the obviousness provides us a more complete diagnosis. In this case of acute myeloid leukemia, the coexistence of hemoglobin E disease may not have a significant impact on the treatment protocol, but a complete diagnosis always contributes to a more personalized therapy.

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Beyond the obviousness, searching for ambiguities…

Biswa Dip Hazarika