Low Hypodiploid Acute Lymphoblastic Leukemia with Burkitt-like Morphology

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Picture.

A 73-year-old man was admitted to our hospital because of fever. The patient's peripheral blood values were: hemoglobin 144 g/L, platelets $140 \times 10^9/\text{L}$ and leukocytes $2.6 \times 10^9/\text{L}$ with 5% blasts. The bone marrow was normocellular and contained 67.2% blasts, which exhibited round nuclei with fine nuclear chromatin, basophilic cytoplasm, and many vacuoles (Picture A, B). These blasts were negative for myeloperoxidase activity and the periodic acid-Schiff stain (Picture C, D). An immunophenotyping assay revealed the blasts to be positive for CD10, CD19, CD20, CD34, and HLA-DR. A chromosome analysis demonstrated 38,XY,-2,-3,-7,-9,-12,-13,-14,-17[6]/38,sl,-16,+mar1[2]/37,sl,add(4)(q21),-5,add(11)(p11.2),-22,+mar1[1]/46,XY[11] (Picture E). Therefore, a diagnosis of B-lymphoblastic leukemia/lymphoma with hypodiploidy was made.

The incidence of low hypodiploidy (33-39 chromosomes) was 0.40% of all patients with acute lymphoblastic leukemia

(ALL), and the median age was 15 years (1). Accordingly, low hypodiploidy is an extremely rare cytogenetic event in an older patient with ALL. Our findings, in conjunction with those of another case (2), suggest that there might be a possibility that leukemic cells with low hypodiploidy could be associated with a Burkitt-like morphology.

The authors state that they have no Conflict of Interest (COI).

References

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