Images from the Haematologica Atlas of Hematologic Cytology: acute myeloid leukemia with t(8;21)(q22;q22.1); *RUNX1-RUNX1T1*

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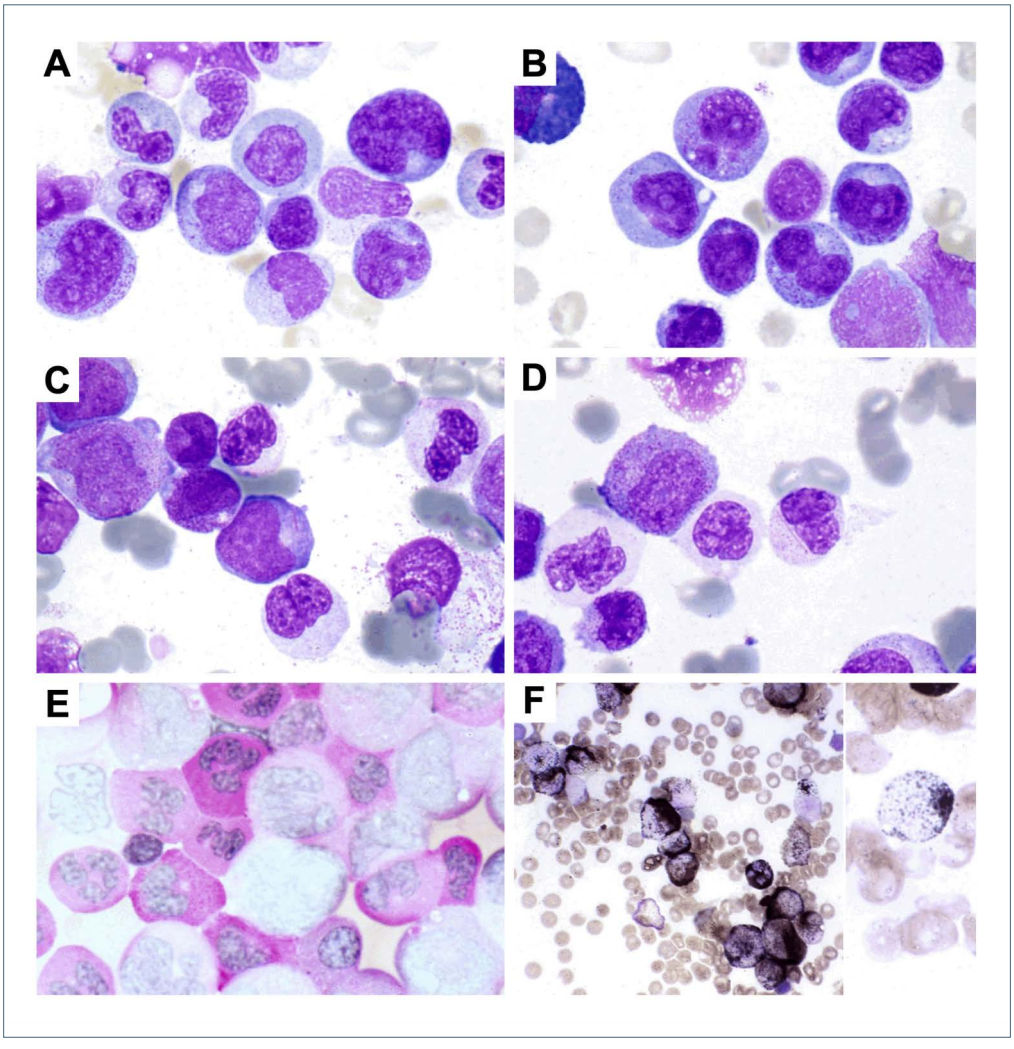

In the World Health Organization classification of acute myeloid leukemia (AML) specific categories are recognized on the basis of cytogenetic findings and cellular morphology with relevant prognostic significance. Distinctive morphological features of AML with t(8;21)(q22;q22.1); *RUNX1-RUNX1T1* are illustrated in the Figure showing bone marrow smears. Granuloblastic hyperplasia with increased blast percentage is evident. Blasts are large, with eccentric, often indented or cleaved nucleus, basophilic cytoplasm with a clear area at the nuclear indentation and sometimes many azurophilic granules (A). Maturing myeloid cells show asynchronous nuclear:cytoplasmic maturation with open chromatin and prominent nucleoli also in the presence of many secondary cytoplasmic granules (B). In panel (C), in the center, note a blast with abundant cytoplasm, peripheral basophilia, a prominent Golgi zone, and an Auer rod. In panel (D), a neutrophil shows a very long slender Auer rod, demonstrating its derivation from a leukemic blast. Note also the neutrophil degranulation and abnormal nuclear segmentation. Blasts are not stained by periodic acid Schiff (E) but show positivity for Sudan black, sometimes in a restricted area at the nuclear indentation (F). This AML subtype is characterized by a relatively favorable outcome.[1]

Disclosures

No conflicts of interest to disclose

Reference

1. Invernizzi R. Acute myeloid leukemia and related precursor neoplasms. Haematologica. 2020; 105(Suppl. 1):98-121.