ANSWER

Acute erythroleukemia, erythroid/myeloid

Acute erythroleukemia (AEL) is a rare form of acute myeloid leukemia (AML) characterized by a predominant erythroid population. It primarily affects people older than 50 years and accounts for less than 5% of all AML cases.

There are two subtypes according to WHO 2008 classification. Acute erythroleukemia (erythroid/myeloid) is defined by the presence in bone marrow (BM) of ≥50% erythroid precursors in the entire nucleated cell population and ≥20% myeloblasts in the nonerythroid cell population. Pure erythroid leukemia is defined by neoplastic proliferation of immature cells (undifferentiated or proerythroblastic in appearance) committed to the erythroid lineage (≥80% of BM cells) with no evidence of a significant myeloblastic component. In this case, the erythroid precursors are approximately 75% of the nucleated cells and the myeloblasts are approximately 30% of the non-erythroid lineage, fulfilling the diagnostic criteria of acute erythroleukemia, erythroid/myeloid (FAB classification: AML-M6a).

Patients with AEL often have severe anemia. Thrombocytopenia and leukopenia are also common. The bone marrow is usually hypercellular. In bone marrow aspirate smears, erythroid precursors predominate by definition and are often left shift in maturation and demonstrate dysplasia: abundant megalobastoid forms, nuclear budding, bizarre nuclear shapes, multinucleation, or cytoplasmic vacuoles. Prominent multilineage dysplasia is common, involving megakaryocytes or graulocytes or both.

No specific chromosome abnormalities have been described in AEL. Complex karyotypes with multiple structural abnormalities are common. The most frequent abnormalities include monosomy 5 or del(5q), monosomy 7 or del(7q) and trisomy 8.