Bone marrow aspirate, trephine biopsy, and clot section: Acute myeloid leukemia with myelodysplasia-related changes.

History of myelodysplastic syndrome

Microscopic Findings

PERIPHERAL BLOOD: Normochromic and normocytic anemia is observed. Some anisocytosis is present. Leukemic blasts are noted, comprising approximately 27% of leukocytes. The blasts are medium to large sized cells with finely dispersed nuclear chromatin with one prominent nucleolus, scant amount of cytoplasm containing rare granules. Auer...
Rods are not observed. No monocytosis is present. Lymphocytes are normal. Platelets are decreased with occasional large ones; no platelet clumps are seen.

**BONE MARROW ASPIRATE:** The aspiration slides are hypercellular. Megakaryocytes are decreased with normal morphology. Numerous leukemic blasts are present, comprising approximately 55% of nucleated marrow cells. The morphologic features of the blasts are similar to the features of leukemic blasts of the peripheral blood. Dysgranulopoiesis is observed with left shift. Some dyspoietic granulocytes show hypo-granulation and hyposegmentation. Also present is evidence of mild dyserythropoiesis. Monocytes and lymphocytes are normal. No basophilia or eosinophilia is seen.

**IRON STATUS:** Iron store is increased. Many ringed sideroblasts are present, comprising approximately 45% of nucleated red blood cells.

**BONE MARROW BIOPSY and CLOT SECTION:** The core biopsy sample measures 2.8 cm. in length. It is markedly hypercellular (approximately 100%) for the patient’s age. Sheets of leukemic blasts replace the marrow space. Megakaryocytes are decreased. There are a few scattered dyspoietic granulocytes and erythroid precursors. No evidence of lymphoid or epithelial infiltrates is seen. Clot section reveals similar morphologic alterations.

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