

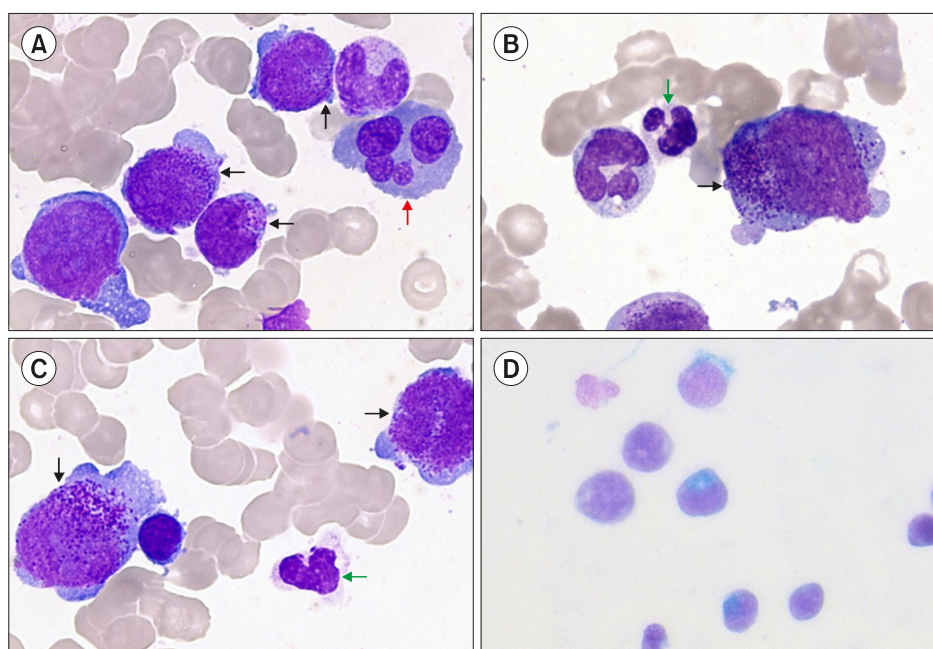
Acute myeloid leukemia with myelodysplasia-related changes and basophilic differentiation

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An 84-year-old woman presented with unexplained fatigue and dyspnea. Her WHO performance status was 3 with numerous comorbidities (non-insulin-dependent-diabetes, chronic obstructive pulmonary disease, glaucoma), but no hematological history. She had neither lymphadenopathy, nor splenomegaly, nor hepatomegaly. She presented anemia (Hb, 85 g/L), severe thrombocytopenia ($38 \times 10^9/L$), and slight leukocytosis ($11 \times 10^9/L$) with 20% blast cells. Bone marrow examination revealed 53% blasts of medium/large size, high nuclear-cytoplasmic ratio, round or oval nucleus with sometimes irregular shape, and basophilic cytoplasm with coarse basophilic granules (A, B, C, black arrow, May-Grünwald-Giemsa, $\times 1,000$). Alcian blue (D, $\times 400$) and toluidine blue staining were both positive. Dysplasia affected all myeloid lineages, but less than 50% of the cells [A, B, C, dysgranulopoiesis: green arrows (decreased granules)], dyserythropoiesis: red arrow (multinuclearity, May-Grünwald-Giemsa, $\times 1,000$). These features indicated acute basophilic leukemia, but the cytogenetic analysis showed a complex, monosomal karyotype (loss of chromosomes 5, 7, 12, 13, 17, and trisomy 8), leading to the diagnosis of acute myeloid leukemia with myelodysplasia-related changes (AML-MRC). Considering age, performance status of the patient, and poor prognosis, palliative care was provided. According to the WHO classification of hematopoietic and lymphoid tissue tumors, cytogenetic abnormalities override AML morphological categories. However, AML-MRC can be associated with basophilic differentiation.