Images of Hematology

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Refractory anemia with ring sideroblasts in a young individual

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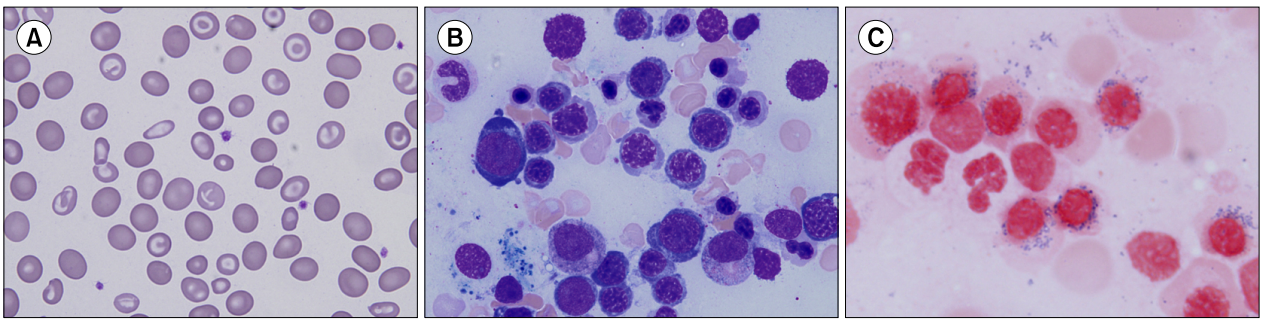

A 29-year-old female, with a 3-year history of anemia and iron therapy, admitted for the work-up of refractory anemia. Blood cell counts were: leukocyte counts 3.4×10^9/L, hemoglobin 7.8 g/dL, and platelet counts 155×10^9/L. Peripheral blood film showed macrocytosis and severe poikilocytosis **(A)**. Bone marrow (BM) aspirate showed marked erythroid hyperplasia with prominent dyserythropoiesis. Dysplastic changes were not evident in granulocytic and megakaryocytic lineages, and myeloblasts were 0.2% of all nucleated cells **(B)**. Iron stain of BM aspirate revealed abundant ring sideroblasts (45% of the erythroid precursors) **(C)**. Cytogenetic study of marrow cells showed 46,XX[20]. Fluorescent *in situ* hybridization analyses for myelodysplastic syndromes (MDS) were all negative. Non-clonal causes of sideroblastic anemia were excluded, and the diagnosis of refractory anemia with ring sideroblasts (RARS) was made. MDS mainly occurs in older individuals, and RARS is a rare subtype of MDS. Children and young adults, however, are not spared from the diagnosis of MDS. This case emphasizes that MDS may occur in young individuals.