A case of microcytic anemia

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A 15-month-old male infant was admitted because of anemia lasting for a few months and delayed weight gain. There was no family history of anemia.

At admission, the patient was pale but showed no other pathological findings.

Hematological data were: Hb 8.6 g/dL, red cell count 4.86×10^{12}/L, Hct 28%, MCV 57.6 fL, MCH 17.7 pg, MCHC 30.7 g/dL, reticulocytes 194×10^{9}/L, white cell count 18.9×10^{9}/L with a normal differential count, platelet count 734×10^{9}/L. A peripheral smear showed moderate anisopoikilocytosis with hypochromic microcytes, some target cells, schistocytes and ovalocytes and an occasional dimorphic picture.

Serum iron concentration was 61 µg/dL, total iron binding capacity 280 µg/dL, and ferritin level 202 µg/L. Hemoglobin electrophoresis was normal and α-thalassemia syndrome was excluded through appropriate investigation.[1-5]

Bone marrow aspirate displayed normocellular marrow with a polymorphic picture; erythroid hyperplasia was evident: erythoblasts were small with abnormal condensation of nuclear chromatin, cytoplasm was often vacuolized or incompletely hemoglobinized and ragged with ill-defined edges, occasional Pappenheimer bodies were observed. Granulocytic and megakaryocytic series were normal (Figure 1).

Perls's reaction showed increased iron stores; more than 70% of the erythroblasts were ring sideroblasts (Figure 2). Cytogenetic analysis revealed a normal male karyotype. Therefore congenital sideroblastic anemia was diagnosed.

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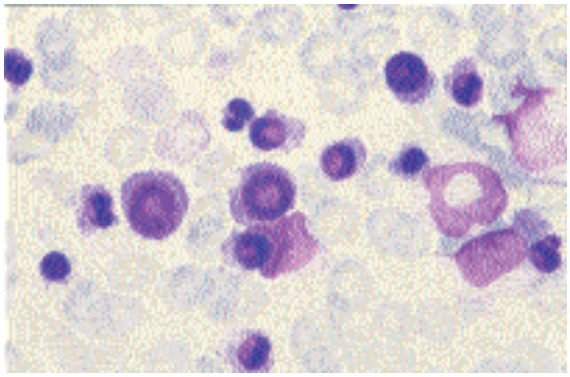

Figure 1. Bone marrow (MGG, ×1200). Prominent erythroid hyperplasia, with predominance of small late dystrophic erythroblasts.

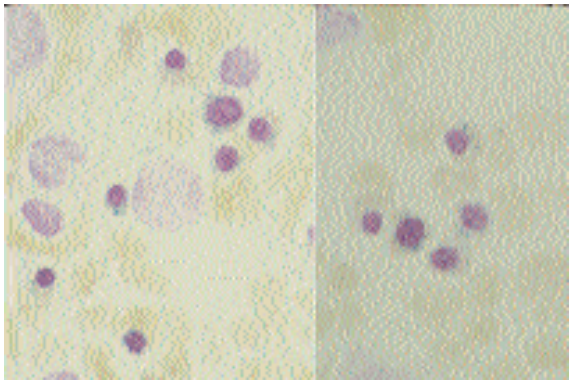

Figure 2. Bone marrow (Perls's reaction, ×1200). Most late erythroid precursors are ring sideroblasts.