



Images in Clinical Hematology

Gaucher-like cells in myelodysplastic syndrome with ring sideroblasts

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An 81-year-old male was hospitalized for fatigue, pallor and transfusion-dependent anemia. His physical exam was negative for lymphadenopathy or splenomegaly. Tests showed hemoglobin concentration of 8 g/dl, platelet count of $160 \times 10^9/l$, WBC of $6.2 \times 10^9/l$ with the following differential: neutrophils 60%, lymphocytes 20%, monocytes 7%, eosinophils 3%, basophils 1% and a low reticulocyte count of 0.5%RBC. Bone marrow aspirate showed increased cellularity mainly due to the proliferating erythroid lineage that displayed dyserythropoietic features (Figure 1A) with no evidence of blasts excess. Few atypical macrophages showing “Gaucher-like” morphological features were also noted (Figure 1B).

Iron stain revealed significantly increased ring sideroblasts which represented 54% of the counted erythroblasts (Figure 1C).

Secondary causes of sideroblastic anemia were ruled out. Additional investigations revealed a normal level of leukocyte β -glucosidase activity and a positive SF3B1 mutation.

Findings were consistent with a diagnosis of Myelodysplastic syndrome with ring sideroblasts (MDS-RS).

MDS-RS is an MDS characterized by cytopenias, morphological dysplasias and $\geq 15\%$ marrow ring sideroblasts. In most cases, there is an associated SF3B1 mutation.

Gaucher-like cells have been described in the context of hematologic disorders with high cellular turnover related to malignant proliferation such as chronic myeloid leukemia or multiple myeloma^{1–5}. They have also been reported in association with some subtypes of Congenital dyserythropoietic anemia⁶. Proliferation of the erythroid lineage reflecting an underlying inefficient erythropoiesis represents the common finding with this reported MDS-RS case.

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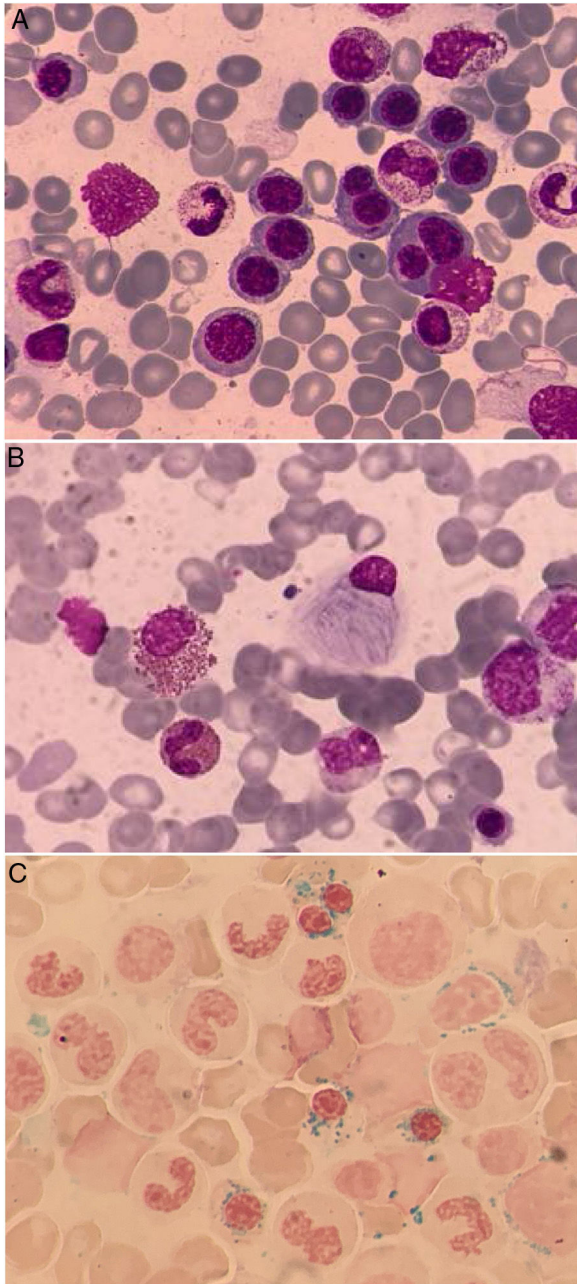


Figure 1 – (A) Bone marrow aspirate showing several erythroblasts displaying dyserythropoietic features (May Grunwald Giemsa stain, 1000×). (B) Atypical macrophage showing Gaucher-like cell morphology (May Grunwald Giemsa stain, 1000×). (C) Iron stain of bone marrow aspirate showing numerous ring sideroblasts (Iron stain, 1000×).

Conflicts of interest

The authors declare no conflicts of interest.

REFERENCES

1. Zidar BL, Hartsock RJ, Lee RE, Glew RH, LaMarco KL, Pugh RP, Raju RN, Shackney SE. Pseudo-Gaucher cells in the bone marrow of a patient with Hodgkin's disease. *Am J Clin Pathol.* 1987;87(April (4)):533–6.
2. Zaino EC, Rossi MB, Pham TD, Azar HA. Gaucher's cells in thalassemia. *Blood.* 1971;38(4):457–62.
3. Scullin DC Jr, Shelburne JD, Cohen HJ. Pseudo-Gaucher cells in multiple myeloma. *Am J Med.* 1979;67(August (2)):347–52.
4. Carrington PA, Stevens RF, Lendon M. Pseudo-Gaucher cells. *J Clin Pathol.* 1992;45(April (4)):360, <http://dx.doi.org/10.1136/jcp.45.4.360>.
5. Stewart AJ, Jones RD. Pseudo-Gaucher cells in myelodysplasia. *J Clin Pathol.* 1999;52(12):917–8.
6. Van Dorpe A, Orshoven Broeckaert-van, Desmet V, Verwilghen RL. Gaucher-like cells and congenital dyserythropoietic anaemia, type II (HEMPAS). *Br J Haematol.* 1973;25(2):165–70.