Hypereosinophilia in acute lymphoblastic leukemia: an association to be remembered

A 18 year-old man, while asymptomatic, presented with marked eosinophilia. The blood count was the following: hemoglobin 14.2 g/L, leukocytes 19.0 x 10^9/L with 40% eosinophils and platelets 350 x 10^9/L. On physical examination no liver or spleen enlargement was noted. Two months later hypereosinophilia increased to 85% and leukocytes were 36.0 x 10^9/L; an echotomography showed a mild splenomegaly. A diagnosis of myelo-proliferative disorder with eosinophilic differentiation was considered and a treatment with alpha-interferon was started.

After a three months treatment, when the patient came to my observation, the hypereosinophilia was unmodified and a reassessment of the hematological disorder was needed. The bone marrow aspirate (Figure 1) showed a monomorphic lymphoblastic infiltration along with the presence of numerous hypogranular eosinophils (about 30% of the total cells); on immunophenotyping the lymphoid malignancy was defined as common-ALL with myeloid antigen; cytogenetic analyses showed a rearrangement of the short arms of chromosome 11, and RT PCR did not demonstrate any BCR-ABL rearrangement.

About twenty years ago Catowsky and I 1-3 highlighted the association between hypereosinophilia and common/T lymphoblastic leukemia or lymphoma. Such an event should be kept in mind as hypereosinophilia may mark the onset and the relapse of lymphoid malignancies.

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References

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Figure 1. Cytologic examination of a bone marrow aspirate showing lymphoblasts and hypogranular eosinophils (MGG x1000).