Haematologica 2001; 86:E21

Complete haematological response with granulocyte colony stimulating factor (G-CSF) and hydroxyurea in relapsed acute myeloid leukaemia (AML) of the elderly

Lionello Camba, Massimo Bernardi, Alessandra Pescarollo
Ematologia e Trapianto di Midollo Osseo, Ospedale San Raffaele, Milan, Italy.

Correspondence: Lionello Camba, Ematologia e Trapianto di Midollo Osseo, Ospedale S Raffaele, via Olgettina 60, 20132 Milan. Italy. E-mail: lionello.camba@hsr.it

Text

Sastre et al.[1] report on a case of complete response obtained with granulocyte-macrophage colony stimulating factor (GM-CSF) and low dose cytarabine in an elderly patient with refractory AML. We would like to describe an elderly patient with relapsed AML, who responded to G-CSF and hydroxyurea. The patient presented in August 1998, aged 75, with anaemia, leucocytosis and 10% blast cells in the peripheral blood. Bone marrow aspirate confirmed the diagnosis of LMA-M4 and normal cytogenetics. He was treated with the Manchester Protocol (cytarabine 100 mg/m^{2}x2 for 5 days, mitoxanthrone 4 mg/m^2 for 4 days)[2] and went in to C.R. after the 2nd induction course. He was then consolidated with intermediate dose of Cytosine-arabinoside (1 g/m^2/day for 6 days) and Idarubicin (10 mg/m^2/day for 3 days). He relapsed after 16 months in January 2001. Because of his age he was treated conservatively with blood and platelet transfusions and put on Hydroxyurea to contain his leukaemia. G-CSF was started for his severe neutropenia. The haematological indices improved gradually, he became transfusion-independent, and by week 12 from starting treatment he was in C.R. without haematological or other complications (Table). G-CSF was then reduced. He is currently on 300 mg 10 days and HU 0.5 g/day.

Achievement of C.R. in elderly patients with G-CSF with and without chemotherapy has been described.[2,3] G-CSF is used in elderly AML patients to achieve rapid neutrophil recovery and to prime myeloblast growth to the cytotoxic action of chemotherapy[4] but C.R. rate and long term survival are not convincingly affected.[5,6] Large studies on the use of G-CSF or GM-CSF with non-myelotoxic low dose chemotherapy in elderly AML patients have not been systematically undertaken. Such studies might be able to establish whether this approach is worth pursuing: the high degree of compliance, the absence of myelotoxicity, the outpatient-only management make this treatment ideal for such patient population. Finally, why in a number of patients G-CSF is able to induce C.R. by restoring an effective haemopoiesis and repressing the leukaemic proliferation remains unknown. Differentiation of blast cells and stimulation of the non-leukaemic cell population may be hypothesised.[7]

top

References

1. Sastre JL, Ulibarrena C, Cantòn I, Iglesias M, Garcia-Torremocha S, Vazques MP. Low dose cytarabine and granulocyte/macrophage-colony stimulating factor induced long-term remission in patients with acute myeloid leukemia in early relapse after intensive

chemotherapy. Haematologica 2000; 85, E09.
2. Liu Yin JA, Johnson PR, Davies JM, Flanagan NG, Gorst DW, Lewis MJ. Mitozanthrone and cytosine arabinoside as first-line therapy in elderly patients with acute myeloid leukaemia. Br J Haematol. 1991; 79:415-20.
3. Saiko K, Nakamura Y, Aoyagi M, et al. Low dose cytarabine and aclarubicina with granulocyte colony-stimulating factor (CAG regimen) for previously treated patients with relapse or primary resistant acute myelogenous leukemia (AML) and previously untreated elderly patients with AML, secondary AML and refractory anaemia with excess blasts in transformation. Int J Hematol 2000; 71: 238-244.
4. Takahashi M, Koike T, Aizawa Y, et al. Complete reemission in three patients wit acute myeloblastic leukemia by administration of G-CSF without antileukemic agents. Am J Hematol 1997, 56; 42-44.
5. Estey EH. Growth factors in acute myeloid leukaemia. Best Practice and Research Clinical Haematology, 2001; 175-187.
6. Büchner T, Hiddemann W, Schoch C, Haferlach T, Sauerland M-C, Heinecke A. Acute myeloid leukaema (AML): treatment of older patient. Best Practice and Research Clinical Haematology, 2001; 139-151.
7. Vadhan-Raj S, Broxmeyer HE, Spitzer G, et al. Stimulation of nonclonal hematopoiesis and suppression of the neoplastic clone after treatment with recombinant human granulocyte-macrophage colony-stimulating factor in a patient with therapy-related myelodysplastic syndrome. Blood 1989; 74: 1491-1498.

top