CORRESPONDENCE

Blast Crisis of Chronic Myelogenous Leukemia in Long-Lasting Systemic Lupus Erythematosus: Regression of Both Diseases After Autologous Bone Marrow Transplantation

To the Editor:

Recently, Euler et al[1] described 5 patients who received autologous bone marrow (ABMT) or peripheral blood transplantation for autoimmune diseases (AID). In these cases, transplantation failed to induce more than transient responses, and in some patients the autoimmune manifestations were even exacerbated. The investigators conclude that this would be considered as a cautionary note against the use of myeloablative therapy in these patients.[1]

We describe a young white female with long-lasting systemic lupus erythematosus (SLE) and subsequent chronic myelogenous leukemia (CML) undergoing unmanipulated ABMT after the onset and therapeutic remission of blastic crisis. ABMT was followed by a regression of clinical and serological evidence of autoimmune disease and by a durable remission of the hematologic malignancy.

SLE was diagnosed in this patient in 1980, at the age of 23 years. At diagnosis, the patient fulfilled 6 criteria of the Revised Classification for the diagnosis of SLE: photosensitivity, generalized arthralgia with fever, serositis, positive serum antinuclear antibodies, ulcers, and nephrotic syndrome with documented membranous proliferative glomerulonephritis.

Treatment consisted of 1 mg/kg prednisone (PDN) for 2 months, followed by gradual reduction without the possibility of complete discontinuation because of the persistent positivity of serum autoantibodies and arthritic symptoms.

In December 1989, the patient presented with Ph'^{+} CML, and subcutaneous α interferon (αIFN) at 9×10^6 IU/d was started. Cytogenetic evaluation after 24 months of therapy showed a major cytogenetic response (20% Ph'^{+} metaphases); therefore, bone marrow was harvested and stored and αIFN treatment was continued until April 1994. During the entire period, IFN administration was modulated upon hematologic toxicity and not influenced by AID manifestations. The patient remained steroid-dependent, with recurrent episodes of arthralgia and proteinuria; one of these, which was accompanied by positivity of antinuclear and anti-DNA antibodies and hypocomplementemia, required 400 mg/d hydroxycloroquine. Additionally, she became hypothyroid and thus required substitution.

In April 1994, because of lymphoid blastic transformation of CML (immunophenotype $CD19^{+}$, $CD10^{+}$), the patient received vincristine, idarubicin, prednisone, and intrathecal methotrexate, achieving a second chronic phase. In June 1994, because the patient lacked an HLA-identical sibling, BAVC regimen (800 mg/m^2 BCNU on day +1; 300 mg/m^2 ARA-C; 150 mg/m^2 AMSA; and 150 mg/m^2 VP16 on days +2, +3, and +4) followed by unmanipulated ABMT (nucleated cells infused at 1.5×10^8/kg) was administered.

Transplant toxicity was mild and on day +21 the patient was discharged in good clinical general conditions, with a neutrophil count of 0.5×10^9/L and a platelet count of 20×10^9/L.

On admission, serological tests showed no autoantibodies, normal renal parameters, and moderately high levels of C3 complement fraction (C3, 104 mg/dL). After transplantation, all laboratory values were normal, and the patient started maintenance chemotherapy with 6-mercaptopurine and methotrexate, which is still ongoing.

After 30 months of follow-up, the patient is in complete hematologic remission of CML (Ph'^{+} 80%) without clinical and serological evidence of autoimmune disease.

In our patient, ABMT for the treatment of CML in second chronic phase was a feasible approach, followed by a durable remission of leukemic disease together with a persistent reversal of SLE manifestations. Extensive studies in rodents and recent observations in humans suggest that intractable autoimmune disorders may respond favorably to high-dose therapy and autologous bone marrow or peripheral blood stem cell rescue, especially if associated to T-cell depletion.[3]

We feel that such an approach is worth being further investigated in patients with life-threatening autoimmune disorders not responding or badly responding to conventional immunosuppressive therapy, offering a chance of reduction in long-term steroid treatment morbidity and perhaps a better quality of life.[4-6]

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