Haematology and Blood Transfusion Vol. 29
Modern Trends in Human Leukemia VI
Edited by Neth, Gallo, Greaves, Janka

Bone Marrow Transplantation for Acute Leukemia *

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Between May 1976 and December 1983, 200 patients underwent bone marrow transplantation (BMT) for hematologic malignancies at our center; 164 had acute leukemia. After administration of high dose radiochemotherapy for marrow ablation and immunosuppression, these 164 patients received marrow grafts from histocompatible sibling donors. Graft-versus-host disease prophylaxis (and therapy) consisted of either methotrexate and prednisone or cyclosporin A and prednisone. All patients have been followed for a minimum of 3 months after BMT. Results are summarized in Table 1 and Fig. 1.

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A total of 92 patients had acute myeloblastic leukemia (AML); 53 of them were in first complete remission (CR), 12 were in second or third CR, and 27 were in relapse at the time of BMT. The 53 patients with AML who were in first CR had the following subtypes according to FAB criteria: M1 4 patients; M2 19 patients; M3 6 patients; M4 17 patients, M5 6 patients; M6 1 patient. Actuarial survival in continued CR without further chemotherapy for the three groups of patients is 51%, 17%, and 19%, respectively, with a follow-up ranging from 6 to 89 months (median 34, 13, and 25 months).

A total of 72 patients had acute lymphoblastic leukemia (ALL); 21 of them were in first CR, 30 were in second CR, and 21 in relapse at the time of BMT. The 21

Table 1. Allogeneic BMT for 164 patients with ANLL or ALL at the City of Hope National Medical Center since May 1976

	Remission status at BMT	1st CR	2nd and 3rd CR	Relapse
ANLL	Number of patients transplanted	53	12	27
(N=92)	Age at BMT median/range (years)	27/1–41	29/15–38	27/2–54
	Relapse after BMT (%)	7 (13)	3 (25)	9 (33)
	Time to relapse: median/range (months)	8/5–19	6/4–9	4/1–14
	Patients alive in continued CR (%)	29 (55)	2 (17)	7 (26)
	Age of survivors; median/range (years)	25/1–39	33/28–38	23/2–39
ALL	Number of patients transplanted	21	30	21
(N=72)	Age at BMT: median/range (years)	26/2–41	20/8–48	17/5–36
	Relapse after BMT (%)	1 (5)	9 (30)	9 (43)
	Time to relapse: median/range (months)	3	5/3–17	10/2–38
	Patients alive in continued CR (%)	13 (62)	14 (47)	6 (29)
	Age of survivors: median/range (years)	25/2–31	24/8–33	19/5–32

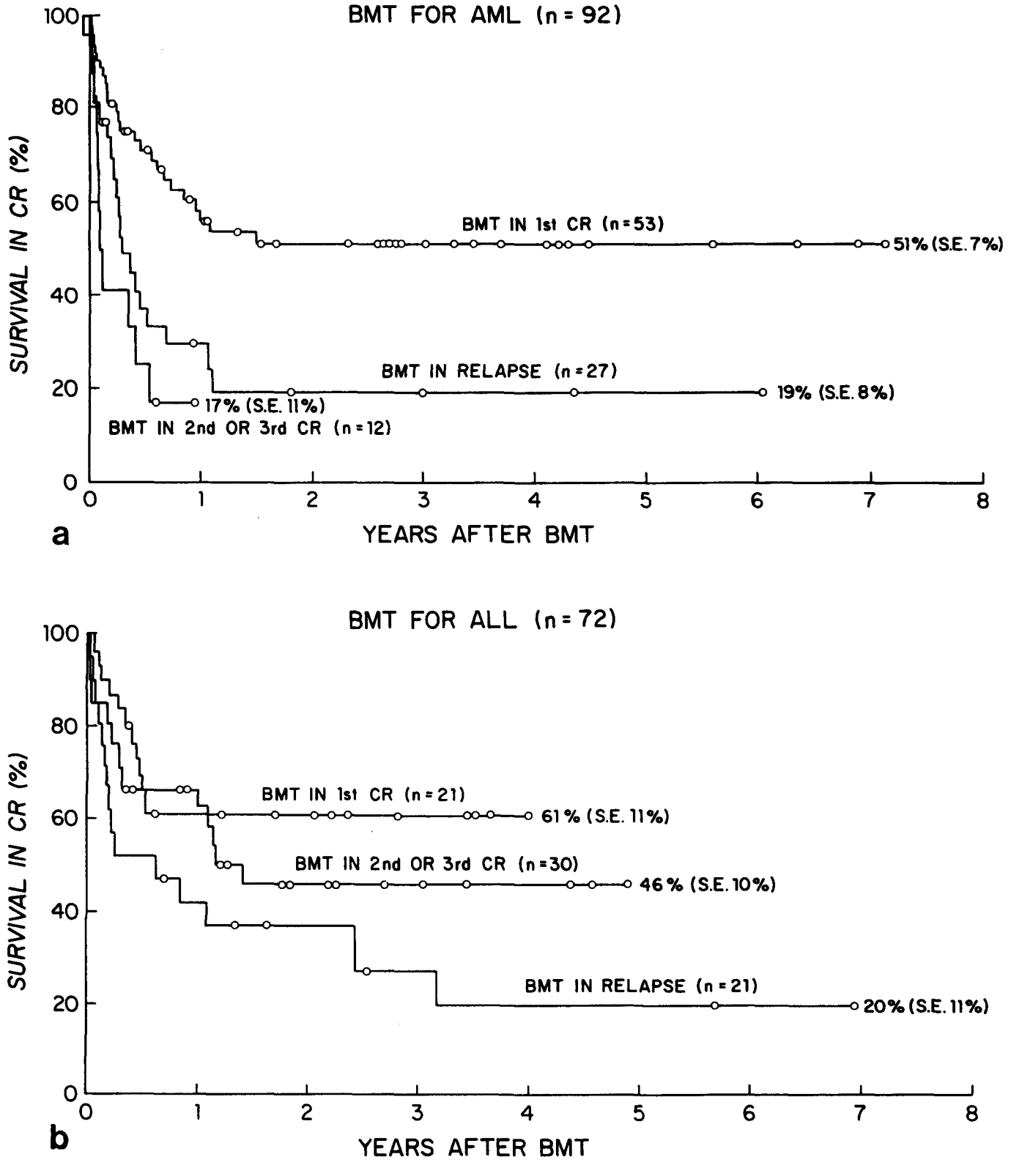

Fig. 1 a, b. Allogenic BMT for 164 patients with **a** AML and **b** ALL at the City of Hope National Medical Center. Date of analysis 9 February 1984

patients with ALL who were in first CR had the following subtypes of their disease: T cell 9 patients; CALLA-positive 5 patients; null 3 patients; not classified 4 patients. Actuarial survival in continued CR for the three groups of patients is 61%, 46%, and 20%, respectively, with a follow-up ranging from 7 to 62 months (median 30, 29, and 27 months).

Age, pre-BMT remission status, and extramedullary leukemic involvement at any time prior to BMT are the major factors which determine outcome of BMT for patients with acute leukemia [1–8].

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