

1 가 Cytarabine, Melphalan,

가 * † * † * † † † † †

_____ : 가 1
 가 가 1
 가 cytarabine, melphalan
 _____ : 1995 1 1999 12 1 가
 29 33 (16 ~ 47) 가
 cytarabine (3.0 gm/m², 3), melphalan (100 mg/m², 1)
 6 MV 가 200 cGy 1 2 5 1000 cGy
 _____ : 3 ~ 58 40 4 69.0%
 41.5 . 4 27.6%
 FAB (M₃ vs. M₃ ; p=0.048, p=0.043). 9
 _____ : 1 가 melphalan, cytarabine

: , 가 ,

가
40 ~ 70%

6
 .¹⁾ 60 ~ 80%

5 30%
 .^{2,3)}

60% 가 25 ~
 .^{7,8)}

가 1

가

가

20

2003 5 21

2003 8 25

가 .^{9,10)}

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8 : 1

가

Cytarabine, Melphalan,

가

Table 1. Patient Characteristics

Characteristics	Number of patients
Age (years) (median)	16 ~ 47 33
Sex	
Male	17 (58.6%)
Female	12 (41.4%)
FAB classification	
M ₁	5 (17.2%)
M ₂	9 (31.0%)
M ₃	9 (31.0%)
M ₄	2 (6.9%)
M ₅	3 (10.3%)
M ₆	1 (3.4%)
Immunophenotype	
CD34 (+)	5 (17.2%)
CD34 (-)	12 (41.4%)
Unknown	12 (41.4%)
WBC at diagnosis	
Median (range)	15000/mm ³ (1200 ~ 115000/mm ³)
Platelet at diagnosis	
Median (range)	14000/mm ³ (8000 ~ 42000/mm ³)
Chromosome group	
Good	10 (34.5%)
Intermediate	9 (31.0%)
Unknown	10 (34.5%)

가
가
1
1
11 ~ 14)
1 가
cytarabine, mel-
phalan
1.
1995 1 1999 12
1 가 29
47 33 가 17
(58.4%), 12 (41.4%) . FAB M₁ 5
(17.2%), M₂ 9 (31.0%), M₃ 9 (31.0%), M₄ 2 (6.9%), M₅ 3
(10.3%), M₆ 1 (3.4%)

Table 1

2)

가
6MV 가

2.
1) 가
가
(Idarubicin + BHAC)
1 가
가 2
7
G-CSF 5 µg/kg .¹⁵⁾
가 1,000/mm³
CD 34+ FACScan (FACS Ca-
libuer, Becton Dickinson,) 0.3%
COBE Spectra Apheresis System (Ver-
sion 7.0, Gambro,) 5
7.5% DMSO 10%
-196°C . 2
가

10 cGy 1 200 cGy , 1 2 , 3
5 1000 cGy
가
.¹⁵⁾ 가
cytarabine, melphalan 24
cytarabine 3.0 gm/m², 3
, melphalan 100 mg/m², 1
가
3)
laminar airflow HEPA
filter가 가
가 가
prostaglandin-E , chlorhexidine
가 4 /
2% lidocaine (1 : 50

Table 2. Univariate Analyses of Prognostic Factors Influencing on Disease Free Survival and Relapse Rate

Variables	4-year DFS* (%)	p-value	4-year RR† (%)	p-value
Age				
< 33	64.3		30.8	
33	69.8	0.893	21.2	0.714
Sex				
Male	56.0		41.2	
Female	63.3	0.065	36.7	0.062
FAB classification				
M ₃	79.4		20.6	
Others	62.4	0.048	36.6	0.043
Immunophenotype				
CD34 (+)	59.4		31.5	
CD34 (-)	66.1	0.874	33.9	0.943
WBC at diagnosis				
< 20000/mm ³	68.7		33.3	
20000/mm ³	56.5	0.868	43.5	0.732
Platelet at diagnosis				
< 14000/mm ³	66.7		27.8	
14000/mm ³	72.2	0.927	33.3	0.783
Chromosome risk group				
Good	75.0		34.0	
Other	65.0	0.874	41.7	0.906

*Disease free survival, †Relapse rate

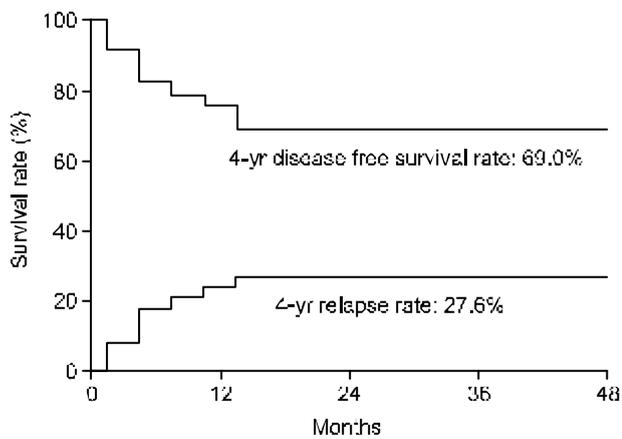


Fig. 1. Diseasefree survival and relapse rate of patients with AML.

가
 가
 69.0%
 9
 4
 41.5
 27.6%
 , FAB , immuno-
 phenotype,
 (Table 2). FAB
 79.4% M₃
 62.4%
 (p=0.048, Fig.
 14
 15)
 16)

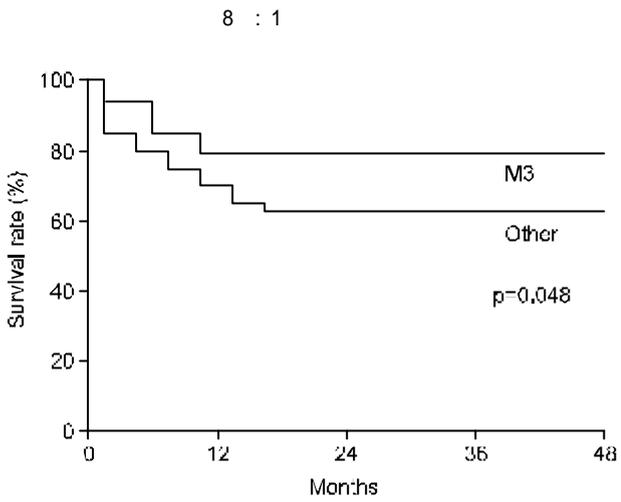


Fig. 2. Disease free survival according to FAB classification of patients with AML in first remission.

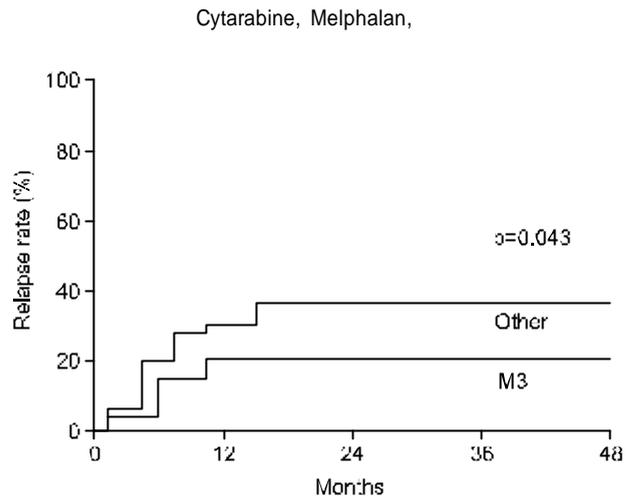


Fig. 3. Relapse rate according to FAB classification of patients with AML in first remission.

2). FAB M₃ 4 가

20.6% M₃ 36.6%

($p=0.043$, Fig. 3).

29 9 1

8

70 ~ 80%

가 가 가

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가 가 가

가

^{15,17} 1990

가

^{10,15}

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Abstract

Effect of Cytarabine, Melphalan, and Total Body Irradiation as Conditioning for Autologous Stem Cell Transplantation for Patients with AML in First Remission

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Purpose: Current results of autologous stem cell transplantation (SCT) suggest that this procedure may prolong disease free survival in patients with acute myeloid leukemia (AML). Autologous SCT is increasingly used as treatment for AML in first remission. The aim of this study was to evaluate the outcome of autologous SCT for patients with AML in first remission treated by autologous SCT using cytarabine, melphalan and total body irradiation (TBI) as the conditioning regimen.

Materials and Methods: Between January 1995 and December 1999, 29 patients with AML in first remission underwent autologous SCT. The median age of patients was 33 years (range, 16 to 47). The conditioning regimen consisted of cytarabine (3.0 gm/m² for 3 days), melphalan (100 mg/m² for 1 day) and TBI (total 1000 cGy in five fractions over 3 days).

Results: The median follow up was 40 months with a range of 3 to 58 months. The 4-year cumulative probability of disease free survival was 69.0%, and median survival was 41.5 months. The 4-year relapse rate was 27.6%. The factor influencing disease free survival and relapse rate was the French-American-British (FAB) classification (M₃ group vs. other groups; p=0.048, p=0.043). One patient died from treatment-related toxicity.

Conclusion: Although the small number of patients does not allow us to draw any firm conclusion, our results were encouraging and suggest that the association of cytarabine, melphalan and TBI as a conditioning regimen for autologous SCT for AML in first remission appears to be safe and effective.

Key Words: AML, Autologous stem cell transplantation, Total body irradiation