

Single center experience of autologous stem cell transplant in elderly patients with multiplemyeloma

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Background/Aims: Recently autologous stem cell transplant (ASCT) is becoming more reasonable option for multiple myeloma (MM) patients in old age worldwide. ASCT has shown improvement of response rate in old age but worries regarding toxicity still remains.

Methods: We performed a retrospective analysis of newly diagnosed MM patients older than 64 years who underwent ASCT using either high dose melphalan (200mg/m², HDMel) or attenuated melphalan (140, 120, or 100 mg/m², aMel) for conditioning regimen. This is a single center experience for ASCT in MM. 26 patients, 7 HDMel group and 19 aMel group, medical records who underwent ASCT between March 2017 to December 2020 were reviewed. Response of ASCT, Progression free survival (PFS), and Overall survival (OS) was analyzed. Time for hematologic recovery from ASCT and toxicity after ASCT was also analyzed.

Results: Median time to ASCT was 6 months. Stringent complete response (sCR) plus complete response (CR) rate increased from 4 (15.4%) to 15 (57.7%) after ASCT and high quality response (stringent complete response + complete response + very good partial response) increased from 17 (55.4%) to 24 (92.3%). For median follow up of 14 months after ASCT, both median OS and median PFS were not reached. There was no significant difference in time to neutrophil engraftment (11.29 vs. 11.74 days), time to platelet recovery (16.57 vs. 17.21 days), and hospitalization duration (19.57 vs. 21.42 days) between HDMel group and aMel group, respectively. There was no transplant related mortality. Infection was documented in 15.4%, grade 3 nausea in 46.2%, diarrhea in 19.2%, mucositis in 19.2%, and higher than 3 times AST/ALT upper normal limit in 7.7%.

Conclusions: ASCT is an effective and safe option for elderly patients with MM. Dose attenuation of melphalan can be considered in 64 years old or older patients with similar efficacy and toxicity outcome.

Figure legends

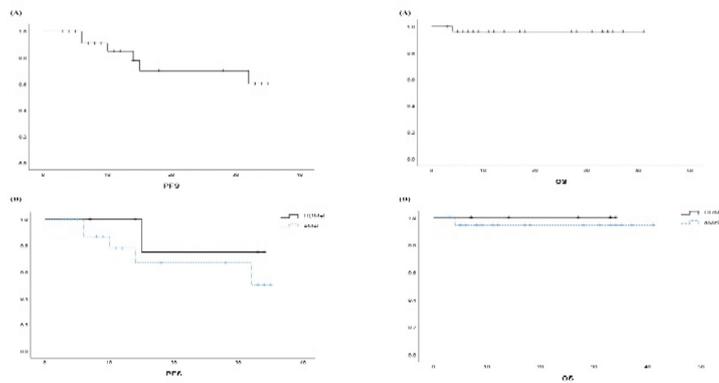


Figure 1. Progression free survival (A) all patients (K) MPI-500 users (H).

Figure 1. Overall survival (A) all patients (K) MPI-500 users (H).

Table 1. Baseline characteristics

Characteristic	HDMel (n=7)	aMel (n=19)	P-value
Age (years)	68.1 ± 4.2	67.5 ± 5.1	0.85
Male (%)	100	89.5	0.52
Stage at diagnosis			
I	0	0	
II	0	0	
III	0	0	
IV	7	19	0.001
Time to ASCT (months)	6.1 ± 3.2	6.2 ± 3.5	0.98
Response rate (%)			
sCR + CR	100	89.5	0.52
High quality response	100	89.5	0.52

Table 2. Outcomes of autologous stem cell transplantation

Characteristic	HDMel (n=7)	aMel (n=19)	P-value
Time to ASCT (months)	6.1 ± 3.2	6.2 ± 3.5	0.98
Time to neutrophil engraftment (days)	11.29 ± 2.1	11.74 ± 2.3	0.85
Time to platelet recovery (days)	16.57 ± 1.5	17.21 ± 1.8	0.72
Hospitalization duration (days)	19.57 ± 1.2	21.42 ± 1.5	0.12
Transplant related mortality (%)	0	0	
Infection (%)	0	15.8	0.15
Grade 3 nausea (%)	0	47.4	0.02
Diarrhea (%)	0	21.1	0.08
Mucositis (%)	0	21.1	0.08
AST/ALT > 3x ULN (%)	0	7.9	0.12

Abbreviations: ASCT, autologous stem cell transplantation; sCR, stringent complete response; CR, complete response; High quality response, sCR + CR + very good partial response; PFS, progression free survival; OS, overall survival; HDMel, high dose melphalan; aMel, attenuated melphalan.