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.
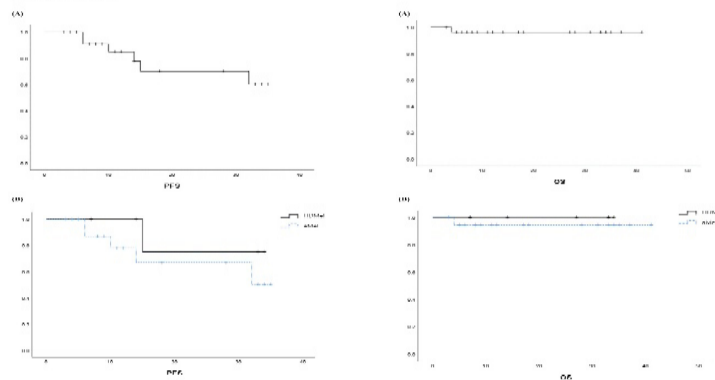
Figure legends

Figure 1. Progression free survival (A) all patients (B) MEL200 versus others

Figure 1. Overall survival (A) all patients (B) MEL200 versus others

Table 1. Baseline characteristics

Table 2. Outcomes of autologous stem cell transplantation