**B329**

## IMPACT OF GENETIC ABNORMALITIES AFTER AUTOLOGOUS AND ALLOGENEIC STEM CELL TRANSPLANTATION IN MULTIPLE MYELOMA

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### Abstract

Objectives: Risk stratification in Multiple myeloma (MM), currently based on cytogenetic abnormalities, is critical for long term counseling of transplant-eligible patients, and application of risk-adapted treatment algorithms to maximize clinical outcomes. Methods: We examined the FISH-based risk stratification in a homogenously treated population of transplant-eligible myeloma patients. From 129 patients, 113 samples

were evaluated by FISH on isolated plasma cells. 104 patients were treated with Bortezomib, 45 patients received auto HSCT and 13 patients received allo HSCT .Patients were classified as High Risk (HR) if they had del(17p), t(14;20), t(14;16); and 1q abnormalities, as Standard Risk(SR) if they had t(11;14),t(6;14) and an extra copy of one or more odd-numbered chromosomes and as Intermediate Risk(IR) if they had t(4;14) or del(13)(q).Overall survival (OS) and relapse-free survival (RFS) were calculated from the time of Allo HSCT and Auto HSCT on day 0, from diagnosis to death or disease progression. Results: Results: The median age at presentation was 53.86 (range20-80) years, and 72 (63.7%) were men. At a median follow-up time of 18 months, 73% were alive.45 of the 113 patients with available FISH samples underwent Auto HSCT. 24 patients (53.3%) achieved CR and 21 patients (46.7%) relapsed. Of the 13 patients who had received Allo HSCT, 5 patients (38.5%) achieved CR and 5 patients (38.5%) remained alive. In patients who received Auto HSCT, the risk of relapse was 56% less than those never transplanted (P =0.02), but the difference was not significant in patients who received Allo HSCT. The relapse- free survival in HR patients was 6 months (P<0.001), in IR was 11 months (P<0.001) and in SR was 37.67 months (P<0.001). In transplant patients, RFS inHR patients was 5.73 times more than SR group (P <0.001) and in IR group was 3.35 times more than SR(P<0.001). The survival time in transplant patients was significantly better than non-transplanted patients(P<0.001). The median overall survival (OS) in HR patients was 25.45 months, in standard risk group 30months and in SR patients was 31 months. Conclusion: Cytogenetic abnormalities detected by FISH are ofsignificant value in classification, risk stratification and management of patients with MM. We can usecytogenetic data to provide prognostic information and also to guide management and clinical practice.

These data indicate that autologous stem cell transplantation could potentially be of benefit to myeloma patients.

### Disclosure of conflict of interest

None