P872 DEL(1P32) REMAINS A POWERFUL PROGNOSTIC FACTOR IN A LARGE COHORT OF NDMM PATIENTS: AN UPDATE

Topic: 13. Myeloma and other monoclonal gammopathies - Biology & Translational Research

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Background:

Multiple myeloma (MM) is the second hematological malignancy in the Western countries. Currently, the Revised International Staging System (R-ISS) is widely used to assess patients’ prognosis. Cytogenetic abnormalities (CA) affecting the chromosome 1, gain 1q and del(1p32), were not included in the new criteria of HR CA despite their relatively high frequencies (respectively 35% and 11%), due to insufficient data in the study. However, we have recently confirmed the significant impact on del(1p32) on myeloma’s prognosis, being the second most pejorative abnormality, just after del(17p).

Aims:

The aim of this study is to update our data about the prognostic impact of del(1p32) on a large cohort of NDMM patients.

Methods:

Clinical data were obtained from 2551 NDMM patients, followed up for ≥ 36 months or having died or progressed within 36 months post treatment. Informed consent was obtained for all included patients. 1258 patients were treated by an intensive therapy. Follow-up duration was estimated using reverse Kaplan-Meier method. Overall survival (OS) and progression free survival (PFS) curves were estimated using the Kaplan-Meier method and were compared using the log-rank test. Tests were two-sided, and P < .05 was considered significant. All analyses were performed using R version 4.1.1.

Results:

We observed 12.4% of patients displaying del(1p32), which was the expected proportion. Median follow-up was 67.4 months.

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months. The OS of patients harboring del(1p32) was twice as short as the OS of patients without del(1p32) (60.4 and 123.9 months, respectively, \(P < 0.0001\)) (Figure 1). Likewise, PFS was significantly shorter in del(1p32) patients (18.1 and 29.1 months, respectively, \(P < 0.0001\)). These poorer outcomes were observed even in patients treated with an intensive therapy (del(1p32) vs. no del(1p32); PFS 26.5 vs. 37.0 months, \(P < 0.0001\); OS 72.0 vs. 127.4 months, \(P < 0.0001\)).

We observed higher frequencies of del(17p) and gain 1q in del(1p32) patients (21.3% and 53.2% respectively), compared to general MM population. To check if the poor survival is not only due to these higher levels of association, we have decided to focus on patients harboring del(1p32) without the main high-risk (HR) CA. HR CA were defined by the presence of del(17p), t(4;14) and/or gain 1q. Patients without HR CA had a lower PFS and OS when they carried del(1p32) (del(1p32) vs. no del(1p32); PFS 25.6 vs. 34.8 months, \(P = 0.0004\); OS 83.0 vs. 136.1 months, \(P = 0.0002\)).

It is now widely admitted that cumulating HR CA worsen the prognosis. Thus, we have assessed the effect of additional CA on the prognosis of del(1p32) patients. Additional CA were CA defined as HR CA above. As expected, the overall survival of del(1p32) patients significantly decreases when this abnormality was associated with other CA (OS: del(1p32) alone 83.0 months, del(1p32) with 1 HR CA 45.8 months, del(1p32) with 2 HR CA or more 36.5 months, \(P < 0.0001\)).

**Image:**

![Image](https://journals.lww.com/hemasphere/pages/default.aspx)

**Figure 1.** Kaplan-Meier survival curves for overall survival of NDMM patients according to del(1p32), irrespective of the treatment. The red curve corresponds to patients with del(1p32), the blue curve to patients without del(1p32).

**Summary/Conclusion:**

Here we have confirmed the pejorative impact of del(1p32) in multiple myeloma on the largest cohort of NDMM patients ever evaluated to our knowledge (316 del(1p32) patients). Our results demonstrate the importance of the detection of del(1p32) at diagnosis because of its huge impact on the prognosis, especially in the era of risk-adapted treatment strategy. The multivariate analysis is in progress.