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POSTER ABSTRACTS

652.MULTIPLE MYELOMA: CLINICAL AND EPIDEMIOLOGICAL

MASS-4 Is More Suitable Than MASS-3 for Prognostic Stratification in Transplant-Eligible Patients Withnewly Diagnosed Multiple Myeloma

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Introduction: In 2022, Mayo Clinic proposed the Mayo Additive Staging System (MASS), a new staging system for patients with newly diagnosed multiple myeloma (NDMM). Based on the number of risk factors (International Staging System III, elevated lactate dehydrogenase, 1q gain/ amplification, high-risk IgH translocations, chromosome 17 abnormalities), they were divided into the 3-tier MASS (MASS-3) (no, 1, ≥2 high-risk factors for stage I, II, III, respectively) and 4-tier MASS (MASS-4) (no, 1, 2, ≥3 high-risk factors for stage I, II, III, IV, respectively). Real-world studies have shown that MASS-3 and MASS-4 are suitable for prognostic stratification in Chinese patients with NDMM, but there is no clear evidence of their utility in transplant-eligible patients with NDMM.
Methods: A retrospective analysis of the clinical data of 215 NDMM patients who received "induction therapy-autologous hematopoietic stem cell transplantation (ASCT)" in our center was performed. The prognostic stratification value of the two stages was analyzed and compared in patients overall, with different transplant times, with different ages, and with different induction regimens.
Results: 72 (33.5%), 66 (30.7%), and 77 (35.8%) patients were classified as MASS-3 I, II, and III, respectively. The median progression-free survival (PFS) was 77.7, 87.7, and 50.5 months, respectively(P=0.011), and the median overall survival (OS) was not reached, 109.6, and 69.7 months, respectively(P=0.003). The PFS and OS of patients with MASS-3 III were significantly shorter than those of stage I (P<0.05). 72 (33.5%), 66 (30.7%), 54 (25.1%) and 23 (10.7%) patients were classified as MASS-4 I, II, III, and IV, respectively. The median PFS was 77.7, 87.7, 52.6, and 34.5 months, respectively (P=0.004), and the median OS was not reached, 109.6, 106.0, and 40.6 months, respectively (P<0.001). The PFS and OS of patients with MASS-4 III were significantly shorter than those of stage I (P<0.05). The PFS of patients with MASS-4 IV was significantly shorter than that of stage I, II, or III (P<0.001). The OS of stage IV was significantly shorter than that of stage I or II (P<0.01), and tended to be shorter than that of III (P =0.06). Among 118 (64.1%) Revised International Staging System II patients, MASS-3 could not distinguish their prognosis (P>0.05), but MASS-4 could differentiate their prognosis (P<0.05), with MASS-4 IV patients having significantly shorter PFS and OS compared with stage I, II, or III (P<0.05). In patients with single ASCT, different ages, and different induction regimens, the prognostic stratification of MASS-4 was also better than that of MASS-3. However, there was no significant difference in PFS and OS between different MASS-3 or MASS-4 stages in patients with tandem ASCT.
Conclusion: Among transplant-eligible patients with NDMM, the prognostic stratification value of MASS-4 was better than that of MASS-3, particularly distinguishing high-risk patients with poor prognosis. Compared with single ASCT, tandem ASCT may overcome the poor prognosis of high-risk MASS patients.

Disclosures No relevant conflicts of interest to declare.

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