DOES IMMUNOHISTOCHEMICAL STAINING PREDICT MOBILIZATION SUCCESS IN MULTIPLE MYELOMA PATIENTS?

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Introduction: Stem cell mobilization is essential for autologous stem cell transplantation (ASCT) in eligible patients with MM. We aim to define the risk factors of mobilization failure and investigate the any predictive value of CD56, c-myc, cyclinD1 expression, and BMF on mobilization.

Methods: In this single center, retrospective and observational study included 189 patients with MM. Patients who were collected <2 × 106/kg stem cells/kg defined as mobilization failure. Clinical, laboratory and treatment features were compared in patients who were successfully mobilized and who were not. Additionally, the survival outcomes of patients who were collected <2 × 106/kg, ≤ 5 × 106, and > 5 × 106 CD34+ cells/kg were evaluated.

Results: Mobilization failure rate was 11.1% (21) in our study group. Male gender, mobilization with only G-CSF, history of previous ASCT, lenalidomide exposure, and 2 lines of chemotherapy before stem cell mobilization were observed more commonly in mobilization failure group. In multivariate analysis, male gender, and lenalidomide therapy before mobilization continued to have independent predictive power. There is no relationship between mobilization failure and CD56, c-myc, and cyclin D1 expression status in patients who received either only GCSF or GCSF+ chemotherapy for mobilization. OS was not different in groups of patients who were successfully mobilized and who were not. 5-year OS was higher in patients who were collected > 5 × 106/kg than ≤ 5 × 106 /kg stem cells, which is not statistically contributed (76.5% vs 69.2%, p=0.200). Nevertheless, neutrophil engraftment was faster in patients who were collected > 5 × 106/kg stem cells (mean time was 13 vs 14 days, p=0.015). ECOG performance status (p=0.004), c-myc expression (p=0.005), lenalidomide therapy before mobilization (p=0.032), and mobilization with G-CSF+ chemotherapy was found to be predictive factors for OS.

Conclusion: Expression of CD56, c-myc, and cyclin D1 which have important roles of pathogenesis of myeloma do not have predictive impacts on mobilization in patients with MM.