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651.MULTIPLE MYELOMA AND PLASMA CELL DYSCRASIAS: BASIC AND TRANSLATIONAL

Overexpression of Integrin β7 in Newly Diagnosed Multiple Myeloma with High Risk Cytogenetic Abnormality and Poorer Prognosis

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Introduction

The second most prevalent malignant blood malignancy is multiple myeloma (MM), but the condition is still incurable. In the interaction between MM cells and the bone marrow microenvironment, adhesion molecules are known to mediate adhesion and promote the survival and proliferation of MM cells. Integrin β7 (ITGB7) is a member of the adhesion molecule family. However, there are few clinical studies on ITGB7 in MM and there is no prognostic analysis. By analyzing the relationship between ITGB7 expression and clinical signs and prognosis, this study thus provides a basis for evaluating the clinical and prognostic importance of ITGB7 expression in MM patients.

Methods

In 39 patients with newly diagnosed multiple myeloma from 2021.1 to 2022.9, we assessed the expression of ITGB7 in relation to clinical characteristics and prognosis. Flow cytometry was used to detect the median fluorescence of ITGB7, detecting that ITGB7 median fluorescence intensity (MFI) in abnormal plasma cell was significantly higher than that in mature B cells (18.76 vs 5.62, P<0.001). ROC curve defines that ITGB7 best indicator for predicting MM disease is the abnormal plasma cell to mature B cells median fluorescence intensity ratio (MFI P/B), with a cut-off value of 4.025.

Results

Compared to patients with low expression of ITGB7, patients with high expression of ITGB7 showed a significant increase in mSMART stratification risk (82.60% vs 50.00%, P=0.041), while those with IgH/FGFR3 showed a significant increase (38.9% vs 6.30%, P=0.043). Patients with high expression of ITGB7 had poorer prognostic trends in PFS and OS, (PFS: P=0.071; OS: P=0.070).

Conclusion

Overexpression of ITGB7 is prone to merging with high risk cytogenetic abnormality and poorer prognosis in newly diagnosed MM patients.

Disclosures No relevant conflicts of interest to declare.

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