

Abstract Only:

Flow cytometric scoring system as a diagnostic and prognostic tool in myelodysplastic syndromes

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Abstract

The aim of this study is to validate the clinical utility of the flow cytometric scoring system (FCSS), quantifying phenotypic aberrancies in the myelomonocytic lineages, in the diagnosis and prognosis for conventionally treated myelodysplastic syndromes (MDS) patients. The bone marrow samples from 56 consecutive newly diagnosed MDS patients were characterized by the FCSS and compared with findings in 27 non-MDS cytopenic patients. The FCSS scores were significantly higher in patients with MDS than those in the non-MDS control. A flow score of 2 or more allowed for a specificity of 100% with 75% sensitivity in distinguishing these two groups. The FCSS scores correlated directly with validated prognostic systems including WHO classification, International Prognostic Scoring System (IPSS), WHO-adjusted prognostic scoring system (WPSS) and transfusion dependency. The median survival of conventionally treated MDS patients was directly related to FCSS group; severe: 6 months; moderate: 19 months and normal/mild: not reached. The multivariate analyses suggested the FCSS risk categories were an independent prognostic factor after adjustment for sex, age (above or below 70 years), IPSS or WPSS risk categories. These results confirm that quantifying aberrancies in the myelomonocytic lineage by FCSS is useful in MDS diagnosis and extends the prognostic utility for conventionally treated/untreated patients, especially among patients classified within the refractory cytopenia with multilineage dysplasia (RCMD) subgroup.