

Abstract: P745

Title: CD56 EXPRESSION IN MYELODYSPLASTIC SYNDROMES: REVIEWING OLD DATA WITH FRESH EYES.

Abstract Type: Poster Presentation

Topic: Myelodysplastic syndromes - Biology & translational research

Background:

Several immunophenotypic abnormalities have been reported by multiparametric flow cytometry (MFC) in the bone marrow of patients with myelodysplastic syndromes (MDS), and their diagnostic and prognostic value has been confirmed in different large studies. Among these phenotypic abnormalities, CD56 expression on monocytes has been described as a frequent event in MDS patients (20-25%) but also in patients with chronic myelomonocytic leukemia (CMML) up to 60% of patients. The definition of CMML has evolved over time, in 2022, the cut-off of absolute monocytosis was lowered from $1.0 \times 10^9/L$ to $0.5 \times 10^9/L$ to incorporate cases formerly referred to as oligomonocytic CMML. Considering this new definition, we wondered if MDS patients showing excess of CD56+ monocytes should still be considered as MDS or would meet the recent definition of CMML.

Aims:

We aimed to evaluate the expression of CD56 on monocytes, on a cohort of MDS patients and non-clonal cytopenias and to analyze CD56 expression in relation to absolute and relative monocyte count.

Methods:

54 MDS patients and 51 patients with non-clonal cytopenias, diagnosed between 2020 and 2022, were included in this retrospective study. Diagnosis of MDS was made according to 2017 WHO criteria, extended Ogata MFC score (with CD7 and CD56) was performed for all patients. None of MDS patients had overt monocytosis at the time of the examination. The R-IPSS and IPSS-M were used to categorize MDS patients from a prognostic perspective. Flow cytometric data were acquired on BD FACSLyrics (Becton-Dickinson) and analyzed using Kaluza software (Beckman-Coulter).

Results:

35% of MDS patients had significant CD56 expression on monocytes (26-75%) compared to 8% of non-clonal cytopenias (20-29%). Comparison of bone marrow monocyte percentages relative to CD56 expression revealed no statistical difference. Close examination of complete blood counts revealed that 11 of 19 MDS patients (58%) had monocyte count over $0.5 \times 10^9/L$ and relative monocytosis ($\geq 10\%$). Strikingly, despite expression of CD56 in some cases, none of non-clonal cytopenias met the first prerequisite CMML diagnosis criteria.

Summary/Conclusion:

Extended Ogata MFC score has been shown to be helpful to stratify patients with genuine MDS. The detection of abnormal CD56 expression in MDS is one of the factors that increase the sensitivity of this score, especially in low-risk MDS. Retrospective evaluation of a cohort of 109 patients, including 54 MDS, has shown that this CD56 expression is in fact associated with oligomonocytic CMML which now meets the definition of CMML. As this reclassification of patients is important for their therapeutic management, CD56 expression should raise the alarm and prompt a search for CMML by triggering immunophenotyping of monocyte subpopulations.

Keywords: Myelodysplastic syndrome, Flow cytometry