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Prognostic impact of CD56 in paediatric acute myeloid leukemia

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CD56 is detected in a broad spectrum of lymphoproliferative diseases, Acute Myeloid Leukemia (AML) and other tumors like nasal lymphomas. Despite several reports of the poor prognostic role of CD56 in AML, the study of its relevance in paediatric AML is lacking. The aim of our study was to evaluate the impact of CD56 expression on the clinical outcome in paediatric AML patients. CD56 expression was studied on bone marrow aspirates of 100 consecutive pediatric patients diagnosed on morphology, cytochemistry and flow cytometry as de novo AML (excluding APL). Uniform induction therapy (3+7 course of 60 mg/m2 daunorubicin and 100 mg/m2 cytosine arabinoside) followed by consolidation (high dose cytarabine) was given to all the patients. The patients were followed up for a minimum period of one year and survival data: Event Free Survival (EFS), Disease-Free Survival (DFS), Overall Survival (OS) and Relapse Rate (RR) were calculated. Results showed the age of the study population ranged from 1-18 years. CD56 expression was seen in 39/100 (26 male, 13 female) of the patients. The EFS was 47.3% in the CD56 positive patients cohort (n=39) and 48.84% in the CD56 negative patients (n=61). DFS was 57.3% and 69.7% in CD56 positive and negative group, respectively. RR was 35.9% and 27.9% in CD56 positive and negative group, respectively. No significant difference was found in between the CD56 positive and negative groups with respect to EFS, DFS, RR and OS (p=0.65, 0.23, 0.40 and 0.97, respectively). This study shows that CD56 expression does not have any prognostic impact in pediatric AML patients. This is the first study, to our knowledge, to detect the significance of CD56 expression on prognosis and further studies in larger populations validating these results and also its significance with specific molecular sub-types are required.

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