ABSTRACT

Background: Myelodysplastic syndromes (MDS) are a group of hematological malignancies characterized clinically by bone marrow failure, ineffective clonal hematopoiesis, and blood cell dysplasia, resulting in one or more cytopenias. Myelodysplastic syndromes can affect children and be associated with life-threatening complications. So, early hematological assessment in childhood MDS is critical for clinicians to detect this disease early, monitor its progression, and avoid complications. The study aimed to determine the initial hematological profile of childhood MDS at Hasan Sadikin General Hospital, Bandung, between 2018 and 2022.

Methods: A cross-sectional descriptive study was conducted, and patients aged 0 to 18 years old with childhood MDS were identified from medical records registered January 2018–December 2022 at the Hematology-Oncology Division, Department of Child Health, Hasan Sadikin General Hospital. A total sampling method was applied. The variables included were patient demographic characteristics, clinical manifestation, hematology profile, and type of childhood MDS.

Results: Among 47 out of 85 childhood MDS patients at Hasan Sadikin General Hospital met the research inclusion criteria. Demographics showed a median age of 10.3 (0-17.1) years and a female predominance of 57.4%. In childhood MDS, pallor (72.3%) and fever (48.9%) are the most common initial manifestations. The hematology profile reveals that most patients at the initial diagnosis exhibit anemia, leukopenia, and thrombocytopenia. Other hematological characteristics also indicate normochromic, anisopoikilocytosis, and the absence of blasts in peripheral blood, while bone marrow analysis mostly shows normocellular, dyserythropoiesis, dysgranulopoiesis, increased thrombopoiesis activities, and blasts constituting less than 1%.

Conclusion: In this study, the hematological profiles of the majority of childhood MDS patients were anemia, normochromic, anisopoikilocytosis, absence of

blasts in peripheral blood, normocellular, dyserythropoiesis, dysgranulopoiesis, and blasts constituting less than 1% in bone marrow.

Keywords: Childhood MDS, Pediatric MDS, Cytopenia, Blast Cell, Dysplasia, RCC