

INTISARI

Latar Belakang: *Myelodysplastic syndrome* (MDS) adalah penyakit hematopoietik klonal yang ditandai dengan sitopenia perifer, displasia sel, dan risiko transformasi menjadi leukemia mieloid akut (AML). Saat ini, transplantasi sel punca hematopoietik adalah satu-satunya terapi kuratif yang tersedia, tetapi hanya kurang dari 10% pasien yang dapat menerimanya. Terapi yang lebih umum digunakan adalah agen immunosupresif seperti cyclosporine, baik dalam bentuk monoterapi maupun kombinasi, serta terapi suportif berupa transfusi sel darah merah. Kegagalan sumsum tulang dalam memproduksi sel darah menyebabkan anemia kronis sehingga pasien MDS bergantung pada transfusi sel darah merah yang dapat menurunkan kualitas hidup. Terapi immunosupresif telah diteliti dapat berpotensi mengurangi kebutuhan transfusi pada pasien MDS, tetapi perbedaan kebutuhan transfusi antara pasien yang memperoleh monoterapi cyclosporine dibandingkan terapi kombinasi berbasis cyclosporine belum sepenuhnya dipahami.

Tujuan: Mengidentifikasi perbedaan kebutuhan transfusi antara pasien MDS di RSUP Dr. Sardjito yang memperoleh pemberian monoterapi cyclosporine dibandingkan dengan yang memperoleh terapi kombinasi berbasis cyclosporine.

Metodologi: Jenis penelitian ini adalah observasional analitik dengan pendekatan kuantitatif dan desain *cross-sectional*, menggunakan data sekunder dari rekam medis pasien MDS di RSUP Dr. Sardjito tahun 2019-2025. Sampel penelitian diambil secara *purposive sampling* berdasarkan kriteria inklusi. Variabel independen pada penelitian ini adalah terapi berbasis cyclosporine (monoterapi cyclosporine atau terapi kombinasi berbasis cyclosporine), sedangkan variabel dependen adalah kebutuhan transfusi (*Transfusion dependent* atau *Non-transfusion dependent*). Analisis dilakukan dengan uji *Mann-Whitney-U* dan *Chi-Square* untuk menentukan apakah terdapat hubungan yang signifikan antara jenis terapi dan kebutuhan transfusi pasien.

Hasil : Hasil uji statistik menggunakan uji *Chi-Square* dan *Mann-Whitney* menunjukkan bahwa jenis terapi tidak mempengaruhi kebutuhan transfusi pasien, baik pada kelompok monoterapi maupun kombinasi. Sebagian besar pasien dalam kedua kelompok ini termasuk dalam kategori *non-transfusion dependent*. Meskipun terdapat variasi dalam subtype MDS, temuan ini menunjukkan bahwa terapi yang diberikan tidak secara langsung mempengaruhi kebutuhan transfusi pasien dalam jangka waktu pengamatan minimal 6 bulan.

Kesimpulan : Monoterapi cyclosporine dan terapi kombinasi berbasis cyclosporine menunjukkan efikasi yang serupa dalam mencapai kondisi tidak bergantung terhadap transfusi sel darah merah (*Non-transfusion dependent*). Namun, karena keterbatasan data mengenai kecepatan peningkatan kadar hemoglobin pada kedua kelompok, penelitian ini belum dapat merekomendasikan modalitas terapi yang lebih unggul maupun menentukan apakah terapi kombinasi dapat ditinggalkan dalam praktik klinis.

Kata kunci: *Myelodysplastic syndrome* (MDS), Monoterapi cyclosporine, Terapi kombinasi berbasis cyclosporine, *Transfusion Dependent*, *Non-transfusion dependent*.

ABSTRACT

Background: Myelodysplastic syndrome (MDS) is a clonal hematopoietic disease characterized by peripheral cytopenia, cellular dysplasia, and a risk of transformation into acute myeloid leukemia (AML). Currently, hematopoietic stem cell transplantation is the only available curative therapy, but less than 10% of patients can receive it. More commonly used therapies are immunosuppressive agents like cyclosporine, both in monotherapy and combination forms, along with supportive therapies such as red blood cell transfusions. The failure of bone marrow to produce blood cells leads to chronic anemia, causing MDS patients to rely on red blood cell transfusions, which can decrease their quality of life. Immunosuppressive therapy has been studied for its potential to reduce transfusion needs in MDS patients; however, the difference in transfusion needs between patients receiving monotherapy cyclosporine compared to those receiving combination therapy based on cyclosporine is not yet fully understood.

Objective: To identify the differences in transfusion requirements between MDS patients at RSUP Dr. Sardjito who receive monotherapy cyclosporine compared to those who receive combination therapy based on cyclosporine.

Methods: This study is an observational analytical research with a quantitative approach and cross-sectional design, utilizing secondary data from medical records of MDS patients at RSUP Dr. Sardjito from 2019 to 2024. The sample is taken through purposive sampling based on inclusion criteria. The independent variable in this study is cyclosporine-based therapy (monotherapy cyclosporine or combination therapy based on cyclosporine), while the dependent variable is the transfusion requirement (Transfusion dependent or Non-transfusion dependent). Analysis is conducted using the Mann Whitney-U and Chi-Square test to determine if there is a significant relationship between the type of therapy and the transfusion needs of patients.

Result : Statistical analysis using Chi-Square and Mann-Whitney tests revealed no significant effect of therapy type on transfusion requirements, whether in the monotherapy or combination therapy groups. The majority of patients in both groups were classified as non-transfusion dependent. Despite variations in MDS subtypes, these findings suggest that the therapy administered did not significantly impact transfusion needs over the 6-month observation period.

Conclusion : This study indicates no significant difference in transfusion requirements between MDS patients receiving monotherapy cyclosporine and those receiving cyclosporine-based combination therapy. It demonstrated comparable efficacy in achieving Non-transfusion dependent status. However, due to limited data regarding the rate of hemoglobin level improvement in both groups, this study cannot recommend a superior therapeutic modality nor determine whether combination therapy can be omitted in clinical practice.

Keywords: Myelodysplastic syndrome (MDS), Monotherapy cyclosporine, Combination therapy based on cyclosporine, Transfusion Dependent, Non-transfusion dependent.