

Hubungan pemberian N-asetilsistein dengan Rasio Neutrofil-Limfosit pasien COVID-19 derajat berat di RSUP Persahabatan = Association between N-acetylcysteine administration and Neutrophil-Lymphocyte Ratio of severe COVID-19 patients at Persahabatan Central General Hospital

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Abstrak

Latar Belakang

N-asetilsistein (NAC) merupakan kandidat potensial untuk strategi drug repurposing dalam menangani pandemi COVID-19, terutama untuk menurunkan progresi COVID-19 derajat berat yang dapat diprediksi oleh rasio neutrofil-limfosit (RNL). Namun, belum banyak studi yang meneliti hubungan NAC dengan RNL. Oleh karena itu, penelitian ini bertujuan untuk menilai hubungan pemberian NAC dengan RNL pasien COVID-19 derajat berat di RSUP Persahabatan.

Metode

Penelitian potong lintang dilakukan melalui rekam medis 60 pasien COVID-19 derajat berat di RSUP Persahabatan (mendapat NAC: 30; tidak mendapat NAC: 30). Studi ini meninjau karakteristik subjek penelitian berdasarkan usia, jenis kelamin, komorbiditas, dan riwayat pengobatan lain. Fokus penelitian ini adalah parameter RNL sebelum dan setelah perawatan. Analisis dilanjutkan dengan menilai hubungan pemberian NAC terhadap RNL.

Hasil

Secara keseluruhan, terdapat 60 subjek yang mayoritas terdiri atas laki-laki (53,3%) dengan median usia 54 (23 – 69). Tidak ada perbedaan sebaran jenis kelamin, usia, komorbiditas, dan riwayat pengobatan lain antara kedua kelompok yang bermakna secara statistika. RNL kelompok yang mendapat NAC lebih rendah daripada kelompok yang tidak mendapat, baik sebelum perawatan (6,21 [2,21 – 33,32] vs 6,92 [2,25 – 36,15]) maupun setelah perawatan (5,14 [0,99 – 17,16] vs 5,74 [1,88 – 21,95]), tetapi perbedaan tersebut tidak signifikan secara statistika ($p = 0,941$; $p = 0,451$, masing-masing). Pemberian NAC tidak mempengaruhi penurunan RNL secara bermakna ($p = 0,060$). Adapun perbedaan median perubahan RNL antara dua kelompok tidak ditemukan bermakna ($p = 0,460$).

Kesimpulan

NAC tidak signifikan secara statistik dalam menurunkan RNL pasien COVID-19 derajat berat.

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Introduction

N-acetylcysteine (NAC) is a potential candidate for drug repurposing strategies in dealing with the COVID-19 pandemic, especially in reducing the development of severe COVID-19 which can be predicted by the neutrophil-lymphocyte ratio (NLR). However, due to limited research of NAC's effect on NLR, this study aims to assess their relationship in severe COVID-19 patients at Persahabatan Central General Hospital.

Method

A cross-sectional study from medical records of 60 severe COVID-19 patients at Persahabatan Central General Hospital (received NAC: 30; not received NAC: 30) reviewed the characteristics of the subjects

based on age, gender, comorbidities, and other treatment history. This study focused on NLR before and after treatment, assessing the relationship between NAC administration and NLR.

Results

Most of the overall subjects were male (53.3%) with a median age of 54 (23–69). There was no statistically significant difference in the distribution of gender, age, comorbidities, and other treatment history between two groups. Group that received NAC had lower NLR than group that didn't, both before treatment (6.21 [2.21–33.32] vs 6.92 [2.25– 36.15]) and after treatment (5.14 [0.99–17.16] vs 5.74 [1.88–21.95]), but the difference was not statistically significant ($p = 0.941$; $p = 0.451$, respectively). NAC administration did not significantly decrease NLR ($p = 0.600$). The difference in median changes in NLR between two groups was also not found to be significant ($p = 0.460$).

Conclusion

NAC did not statistically significant in reducing NLR in severe COVID-19 patients.