PERUBAHAN *RADIOLOGIC SEVERITY INDEX* (*RSI*) SCORE PADA PASIEN COVID-19 PASCA PEMBERIAN OBAT REMDESIVIR

Studi dilakukan pada kelompok pasien dengan CRP tinggi dan kelompok pasien dengan D-Dimer tinggi

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ABSTRAK

Latar Belakang: Pandemi COVID-19 memiliki mortalitas dan morbiditas yang tinggi. Paru merupakan target organ utama dengan variasi gejala asimtomatik hingga gagal nafas. Rontgen thorax memainkan peran penting dalam diagnosis, tatalaksana, serta prognosis. Salah satu sistem penilaian rontgen thorax yang digunakan adalah *Radiology Severity Index* (RSI). Kadar CRP dan D-dimer serum juga dapat digunakan untuk menentukan derajat keparahan COVID-19. Penelitian ini bertujuan untuk meneliti perubahan skor RSI pasca terapi remdesivir pada pasien COVID-19 dengan nilai CRP dan D-dimer tinggi.

Metode: Penelitian kohort prospektif pada 64 pasien COVID-19 di RSUP Dr. Kariadi Semarang periode Juli 2020-2021. Masing-masing terdiri dari 32 pasien dengan kadar CRP tinggi (>5 ng/mL) dan D-dimer tinggi (>500 ng/mL). Pasien diberi terapi Remdesivir 200 mg hari ke-1, dilanjutkan 100 mg/hari sampai hari ke-9. Rontgen thorax dilakukan sebelum dan hari ke-7 paska terapi awal. Pasien dengan CHF, keganasan, autoimun, TB paru, penyakit paru intertisial dan mendapat terapi azythromycin dikeluarkan dari penelitian. Dilakukan analisis korelasi antar variabel dengan uji Spearman rho dan uji komparasi antar kelompok. Hasil signifikan bila $p < 0,05$.

Hasil: Terdapat penurunan signifikan skor RSI pasien COVID-19 dengan kadar CRP dan D-dimer tinggi pasca terapi, masing-masing 21,97±16,88 dan 21,22±19,92 menjadi 15,69±14,12 dan 15,78±15,69 ($p<0,001$). Terdapat hubungan lemah signifikan antara kadar CRP tinggi dengan RSI *score* pre-terapi (r=0,473, p=0,006) dan kadar D-dimer tinggi dengan RSI *score* pasca terapi (r=0,362, p=0,041).

Kesimpulan: Remdesivir memberikan efek signifikan berupa penurunan skor RSI pada pasien COVID-19 dengan kadar CRP tinggi maupun D-dimer tinggi

Kata Kunci: COVID-19, CRP, D-Dimer, RSI *Score*, Remdesivir

CHANGES IN RADIOLOGIC SEVERITY INDEX (RSI) SCORE IN COVID-19 PATIENTS POST REMDESIVIR DRUG ADMINISTRATION

The study was conducted in a group of patients with high CRP and a group of patients with high D-Dimer

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ABSTRACT

Background: The COVID-19 pandemic has high mortality and morbidity. The lung is the main target organ with various symptoms from asymptomatic to respiratory failure. Chest X-ray plays a vital role in diagnosis, management and prognosis. One of the chest X-ray scoring systems used is the Radiology Severity Index (RSI). Serum CRP and D-dimer levels can also be used to determine the severity of COVID-19. This study examines changes in the RSI score after remdesivir therapy in COVID-19 patients with high CRP and D-dimer levels.

Methods: A prospective cohort study of 64 COVID-19 patients at Dr. Kariadi Semarang from July 2020 until July 2021. Each consisted of 32 patients with high CRP (>5 ng/mL) and high D-dimer (>500 ng/mL) levels. Patients were given Remdesivir therapy 200 mg day 1, followed by 100 mg/day until day 9. Chest X-rays were performed before and on the 7th day after the initial therapy. Patients with CHF, malignancy, autoimmune, pulmonary TB, interstitial lung disease, and receiving azythromycin therapy were excluded from the study. Correlation analysis between variables was performed using Spearman's rho test and comparison test between groups. Significant results if $p < 0.05$.

Results: There was a significant decrease in the RSI score of COVID-19 patients with high CRP and D-dimer levels post-therapy, respectively 21.97±16.88 and 21.22±19.92 to 15.69±14.12 and 15.78±15.69 ($p<0.001$). There was a weak significant correlation between high CRP levels and RSI score pre-therapy ($r=0.473$, $p=0.006$) and high D-dimer levels and RSI score post-therapy ($r=0.362$, $p=0.041$).

Conclusion: Remdesivir has a significant effect by reducing the RSI score in COVID-19 patients with high CRP or D-dimer levels.

Key words: COVID-19, CRP, D-Dimer, RSI Score, Remdesivir