ABSTRAK

Latar belakang: *C Reactive Protein* (CRP) adalah protein fase akut yang diproduksi hepar akibat adanya inflamasi. Kadar CRP pada pasien COVID-19 meningkat sesuai dengan beratnya penyakit. Hepsidin berfungsi sebagai pengatur utama zat besi di sirkulasi, sehingga secara langsung dapat mempengaruhi kadar besi serum dan dapat digunakan sebagai petanda infeksi pada pasien COVID-19.

Tujuan: Menganalisis hubungan kadar CRP dengan kadar hepsidin dan besi serum pada pasien COVID-19.

Metode: Penelitian belah lintang pada 33 pasien COVID-19 di Instalasi Rawat Inap Rumah Sakit Nasional Diponegoro (RSND) pada bulan Juni-Oktober 2022. Pemeriksaan CRP dengan *immunoturbidimetry*, besi serum dengan *photoelectric colorimetry*, dan hepsidin dengan *enzyme-linked immunosorbent assay* (ELISA). Analisis data hubungan antara kadar CRP dengan kadar hepsidin dan besi serum menggunakan uji korelasi Spearman.

Hasil: Median kadar hepsidin 0,46 (0,36-0,51) μg/dL, median kadar besi serum 37,6 (7,5-171,4) μg/dL, dan rerata kadar CRP 67,27 ± 61,55 mg/L. Analisa statistik hubungan antara CRP dengan hepsidin (p = 0,020, r = 0,402) dan hubungan antara CRP dengan besi serum pada pasien COVID-19 (p = 0,013, r = 0,426).

Simpulan: Terdapat hubungan positif sedang antara hepsidin dan besi serum dengan CRP pada pasien COVID-19.

Kata kunci: CRP, hepsidin, besi serum, COVID-19, petanda inflamasi

ABSTRACT

Background: *C Reactive Protein (CRP) is an acute phase protein produced by the liver due to inflammation. CRP levels in COVID-19 patients increase according to the severity of the disease. Hepcidin functions as the main regulator of circulating iron, so it can directly affect serum iron levels and it can be used as a marker of infection in COVID-19 patients.*

Objective: *The general aim of this study was to analyzed the correlation between hepcidin and serum iron with CRP in COVID-19 patients.*

Methods: *A cross-sectional study was condunted on COVID-19 patients of Diponegoro National Hospital (RSND) from June to October 2022. Examination of CRP by immunoturbidimetry, serum iron by photoelectric colorimetry, and hepcidin by enzyme-linked immunosorbent assay (ELISA). The Spearman correlation test was used for statistical analysis.*

Results: *The median hepcidin level was 0.46 (0.36-0.51) µg/dL, the median serum iron level was 37.6 (7.5-171.4) µg/dL, and the mean CRP level was 67.27 ± 61.55 mg/L. Statistical analyzed correlation between CRP with hepcidin in COVID-19 patients ($p = 0.020$, $r = 0.402$) and correlation between CRP with serum iron in COVID-19 patients ($p = 0.013$, $r = 0.426$).*

Conclusion: *There is a moderate positive corellation between hepcidin and iron serum with CRP in COVID-19 patients.*

Keywords: *CRP, hepcidin, iron serum, COVID-19, inflammation marker.*