ABSTRAK

Penyebab utama kematian pada infeksi SARS CoV-2 berhubungan dengan *cytokine storm*. IL-6 merupakan kunci mediator dalam perkembangan *cytokine storm*. Peningkatan kadar IL-6 dan CRP merupakan faktor risiko *independent* untuk menilai tingkat keparahan COVID-19. Penelitian ini bertujuan untuk membuktikan peran IL-6 dan CRP sebagai faktor prognostik terhadap *outcome* pada pasien *severe* COVID-19.

Penelitian ini merupakan studi *cohort* retrospektif dengan sampel penelitian pasien rawat inap *severe* COVID-19 periode Agustus – Desember 2020. Analisis data menggunakan *sofware* SPPSS versi 23. Analisis bivariat menggunakan korelasi spearmans. Penentukan kadar CRP dan IL-6 sebagai faktor prognostik terhadap *outcome* menggunakan kurva ROC.

Dari hasil penelitian didapatkan 80 sampel penelitian yang terdiri 53 (71.25%) pasien sembuh, dan 23 (28.75%) pasien meninggal. Kadar CRP dan IL-6 berkorelasi positif dengan *outcome* yang buruk pada pasien *severe* COVID-19 dengan nilai p =0.013 dan p = 0.014 ($p<0.05$), tingkat korelasi rendah. Berdasarkan Kurva ROC, nilai AUC dari kadar CRP dan IL-6 masing – masing sebesar 0.659 dan 0.658, dimana keduanya lemah untuk menentukan prediksi *outcome* pasien *severe* COVID-19. *Cut-off* CRP yaitu 46.45 mg/L (sensitivitas 65.2%, spesifisitas 40,4%), nilai *cut off* IL-6 yaitu 101.64 pg/ml (sensitivitas 65.2%, spesifisitas 43.9%).

Kadar CRP dan IL-6 dapat digunakan sebagai faktor prognostik terhadap outcome pada pasien *severe* COVID-19.

Kata kunci : C-*reactive protein*, *Interleukin*-6, faktor prognostik, COVID-19

ABSTRACT

The leading cause of death in infections SARS CoV-2 associated with cytokine storms. IL-6 is a key mediator in the develompment of cytokine storm. Elevated levels of IL-6 and CRP are independent risk factor for assesing severity of COVID-19. This study aims to prove the role of IL-6 and CRP as prognostic factor in severe COVID 19 patients.

This research is a retrospective cohort study involving severe COVID-19 inpatient period August – Desember 2020. Data analysis used SPSS statistic software version 23. Bivariate analysis using Spearman's correlation. Detemination of CRP and IL-6 levels as prognostic factors for outcome using ROC curve.

In this study, 80 samples of cases presented 53 (71.25%) recovered and 23 (28.75%) death. Levels of CRP and IL-6 were positively correlated with patient ($p < 0.05$), the level of correlation was low. Based on the ROC curve, the AUC values of CRP and IL-6 levels were 0.659 and 0.658, respectively, both of which were weak to predict the outcome of severe COVID-19 patients. The cut-off CRP was 46.45 mg / L (sensitivity 65.2%, specificity 40.4%), the cut-off value for IL-6 was 101.64 pg / ml (sensitivity 65.2%, specificity 43.9%).

Levels of CRP and IL-6 level can be used as prognostic factors in severe COVID-19 patients.

Keywords : C-*reactive protein*, Interleukin-6, prognostic factors, COVID-19