

ABSTRAK

PERAN DISGLIKEMIA TERHADAP KADAR IL-6 DAN MORTALITAS PADA COVID-19 DERAJAT SEDANG-BERAT

Eva Niamuzisilawati
20/468588/PKU/19043

Latar Belakang: *Coronavirus Disease 2019* (COVID-19) merupakan permasalahan kesehatan global disebabkan infeksi *Severe Acute Respiratory Syndrome Coronavirus* (SARS-CoV-2). Infeksi COVID-19 menyebabkan tingginya kadar sitokin pro-inflamasi diantaranya IL-6. Disglikemia merupakan abnormalitas indeks glikemik yang meliputi diabetes melitus (DM), prediabetes dan hipoglikemia. Disglikemia dihubungkan dengan *low grade inflammation* dan ditandai tingginya kadar IL-6 yang diperberat oleh infeksi COVID-19 sehingga meningkatkan risiko terjadinya “badai sitokin” dan mortalitas.

Metode: Model penelitian dengan kohort retrospektif. Sampel penelitian adalah pasien COVID-19 di RSUD Dr. Moewardi Surakarta. Penelitian dibagi menjadi kelompok non-disglikemia dan disglikemia. *Cut off* variabel data kontinyu ditentukan dari analisis kurva *Receiver Operating Characteristic* (ROC). Uji hipotesis dilakukan dengan uji *binary logistic regression* dan *multivariate logistic regression*.

Hasil: Total sampel penelitian ini 435 pasien dengan 188 pasien dengan disglikemia dan 247 pasien non-disglikemia. Kelompok derajat berat memiliki median IL-6 90 pg/ml dan kelompok disglikemia (hiperglikemia) 73 pg/ml. Mortalitas kelompok disglikemia (hiperglikemia) sebesar 61,8%. Disglikemia memiliki peran signifikan terhadap IL-6 (p 0,003; OR 1,78; 95%CI 1,21-2,62) dan terhadap mortalitas COVID-19 (p 0,000; OR 2,15; 95% CI 1,46-3,17). *Corona virus disease 2019* akan menyebabkan peningkatan kadar IL-6 dan akan lebih tinggi pada pasien dengan disglikemia.

Kesimpulan: Terdapat peran disglikemia kelompok hiperglikemia terhadap tingginya kadar IL-6 dan mortalitas COVID-19 derajat sedang-berat

Kata kunci: disglikemia, COVID-19, IL-6, Mortalitas

ABSTRACT

ROLE OF DISGLYCEMIA ON IL-6 LEVEL AND MORTALITY IN MODERATE-SEVERE COVID-19 PATIENT

Eva Niamuzisilawati
20/468588/PKU/19043

Background: Coronavirus Disease 2019 (COVID-19) is global health problems that caused by Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2). Coronavirus Disease 2019 infection cause inflammation and increase cytokine pro-inflammation especially IL-6. Dysglycemia is an abnormality in glucose index such as diabetes melitus, prediabetes, and hypoglycemia. Dysglycemia is associated with low grade inflammation that represent with high cytokine proinflammation such as IL-6 that is worsen by COVID-19 infection and leads to cytokine storm and mortality.

Metode: This is restrospective cohort model study. Sample in this study was COVID-19 inpatient in RSUD Dr. Moewardi Surakarta, Indonesia hospital. Sample divided into non-dysglycemia and dysglycemia. Cut off of continues variables were determined from Receiver Operating Characteristic (ROC) curve. Hypothetical analysis was done with binary logistic regression and multivariate logistic regression.

Result: Total sample was 435 patients, 188 patients dysglycemia and 247 patients non-dysglycemia. Median of IL-6 in severe group was 90 pg/ml and in dysglycemia (hyperglycemia) group was 73 pg/ml. Mortality in dysglycemia group was 61,8%. Dysglycemia has a significant effect on IL-6 (p 0.003; OR 1.78; 95% CI 1.21-2.62) and significant effect on COVID-19 mortality (p 0.000; OR 2.15; 95%CI 1.46-3.17).

Conclusion: There is an effect of dysglycemia hyperglycemia group on high levels of IL-6 and moderate to severe Covid-19 mortality

Keywords: dysglycemia, COVID-19, IL-6, mortality