

INTISARI

Latar belakang

COVID-19 adalah penyakit yang disebabkan oleh virus SARS-CoV-2 dengan manifestasi klinis utama gangguan pernapasan. Manifestasi klinis pasien COVID-19 memiliki spektrum yang luas, mulai dari tanpa gejala, gejala ringan, sedang, berat dan kritis. Pasien dengan gejala berat dan kritis membutuhkan terapi oksigenasi selama perawatan. Tingkat mortalitas COVID-19 di Indonesia sebesar 8,9%, merupakan yang tertinggi di Asia Tenggara. Interleukin-6 berperan dalam perjalanan penyakit dan berhubungan dengan keparahan klinis COVID-19. IL-6 berpotensi sebagai salah satu parameter pemeriksaan untuk memperkirakan luaran pasien COVID-19.

Tujuan

Mengetahui hubungan antara kadar IL-6 terhadap mortalitas, hari rawat dan hari penggunaan oksigenasi tekanan positif pasien COVID-19 di RSUP Dr. Sardjito.

Metode

Desain penelitian adalah observasional kohort retrospektif dengan mengambil data sekunder dari rekam medis pasien terkonfirmasi COVID-19 yang diperiksa IL-6 serum selama perawatan periode April 2020-Maret 2021 di RSUP dr.Sardjito. Pengambilan data dilakukan di Instalasi Catatan Medik RSUP dr. Sardjito. Hubungan variabel IL-6 terhadap luaran diuji dengan metode regresi logistic dan dilanjutkan dengan analisis survival Kaplan-Meier dan Cox regression.

Hasil

Didapatkan 302 subjek penelitian dengan rerata usia 55.45 (± 14.79) tahun, pria 183 (60,6%) dan wanita 119 (39,4%). Subjek dengan IL-6 >80 pg/mL mempunyai risiko kematian lebih tinggi dibandingkan dengan IL-6 ≤ 80 ($p=0.000$, HR=4.68). Sebanyak 87,4% diantaranya membutuhkan bantuan oksigenasi selama dirawat. Terapi oksigenasi tekanan positif menggunakan HFNC, NIV dan ETT secara signifikan lebih banyak dibutuhkan pada kelompok subjek dengan nilai IL-6 >80 ($p=0.000$) dengan perbedaan lama penggunaan oksigenasi tekanan positif pada subjek IL-6 >80 adalah 9,3($\pm 5,9$) hari secara statistik berbeda bermakna ($p=0.005$) dibandingkan kelompok subjek IL-6 ≤ 80 6($\pm 2,9$) hari. Lama hari rawat berbeda bermakna antar kelompok subjek, dengan median hari rawat subjek IL-6 >80 adalah 25 hari sedangkan pada subjek IL-6 ≤ 80 adalah 13 hari ($p=0.000$).

Kesimpulan

Terdapat hubungan bermakna antara kadar IL-6 >80 pg/mL terhadap peningkatan resiko mortalitas, hari rawat dan penggunaan oksigenasi tekanan positif pasien COVID-19.

Kata Kunci

COVID-19, IL-6, mortalitas, lama rawat, oksigenasi tekanan positif

ABSTRACT

Background

COVID-19 is a disease caused by the SARS-CoV-2 virus with the main clinical manifestations of respiratory disorders. The clinical manifestations of COVID-19 patients have a broad spectrum, ranging from asymptomatic, mild, moderate, severe and critical symptoms. Patients with severe and critical symptoms require oxygenation therapy during treatment. The COVID-19 mortality rate in Indonesia is 8.9%, which is the highest in Southeast Asia. Interleukin-6 plays a role in the course of the disease and is associated with the clinical severity of COVID-19. IL-6 has the potential as one of the test parameters to estimate the outcome of COVID-19 patients.

Aim

To know the relationship between IL-6 levels and the outcome of mortality, length of stay (LOS) and positive pressure oxygenation days of COVID-19 patients during hospitalization at Dr. Sardjito hospital.

Methods

The study design was a retrospective observational cohort by taking secondary data from the medical records of hospitalized COVID-19 confirmed patients who were examined for serum IL-6 during April 2020-March 2021 at dr.Sardjito Hospital. Data collection was carried out at the Medical Records Instalation of Dr. Sardjito Hospital. The relationship of the IL-6 variable to the outcome was tested by logistic regression method and further analyzed with Kaplan-Meier and Cox regression analysis of survival.

Results

There were 302 research subjects with a mean age of 55.45 (± 14.79) years, 183 male (60.6%) and 119 female (39.4%). Subjects with IL-6 >80 pg/mL had a higher risk of death than those with IL-6 ≤ 80 ($p = 0.000$, HR=4.68). As many as 87.4% of the subject required oxygenation therapies during hospitalization. Positive pressure oxygenation therapy using HFNC, NIV and ETT was significantly more required in the group of subjects with an IL-6 value >80 ($p=0.000$), with the difference in the duration of using positive pressure oxygenation in subjects with IL-6 >80 was 9.3($\pm 5,9$) days, significantly different compared to the group of subjects with IL-6 ≤ 80 6($\pm 2,9$) days($p=0.005$). The difference in LOS was significantly different between groups of subjects, with the median LOS for subjects with IL-6 >80 was 25 days, while for subjects with IL-6 ≤ 80 was 13 days ($p= 0.000$).

Conclusion

There was a significant relationship of IL-6 levels >80 pg/mL with increased risk of mortality, length of stay and the requirement of positive pressure oxygenation therapies in COVID-19 patients.

Keywords:

COVID-19, IL-6, mortality, length of stay, positive pressure oxygenation