

ABSTRAK

Latar Belakang: COVID-19 adalah penyakit infeksi saluran pernapasan yang dapat menimbulkan komplikasi serius, seperti emboli paru dan *acute respiratory distress syndrome* (ARDS), terutama pada pasien dengan derajat berat dan kritis. Emboli paru memiliki prevalensi tinggi pada pasien COVID-19 meskipun telah diberikan terapi antikoagulan. *Simplified pulmonary embolism severity index* (sPESI) sering digunakan sebagai alat prognosis untuk menilai risiko mortalitas dan komplikasi lain, termasuk ARDS, pada pasien emboli paru.

Tujuan: Mengetahui hubungan antara sPESI dan derajat keparahan ARDS pada pasien COVID-19 derajat berat dan kritis.

Metode: Penelitian ini menggunakan desain studi kohort retrospektif. Populasi dari penelitian ini adalah pasien COVID-19 derajat berat dan kritis dewasa di RSUP Dr. Sardjito periode bulan Maret – Desember tahun 2021. Skor sPESI pada tiap subjek penelitian dihitung berdasarkan kriteria klinis, yaitu usia, riwayat kanker, riwayat penyakit kardiopulmonal kronis, denyut jantung, tekanan darah sistolik, dan saturasi oksigen, yang tercatat pada rekam medis. Analisis statistik dilakukan secara univariat dan bivariat.

Hasil: Penelitian ini melibatkan 290 subjek dengan rerata nilai sPESI sebesar 1,4. Sebanyak 49 subjek (16,9%) memiliki sPESI rendah, sedangkan 241 subjek (83,1%) memiliki sPESI tinggi. Nilai cut-off sPESI adalah 1, sedangkan cut-off ARDS berdasarkan $\text{PaO}_2/\text{FiO}_2$ adalah 74,7. Analisis bivariat menunjukkan tidak terdapat hubungan signifikan secara statistik antara sPESI dan derajat keparahan ARDS, maupun antara jenis kelamin atau indeks massa tubuh terhadap ARDS.

Kesimpulan: Tidak terdapat hubungan antara sPESI dan derajat keparahan ARDS pada pasien COVID-19 derajat berat dan kritis.

Kata kunci: *simplified pulmonary embolism severity index*, derajat keparahan *acute respiratory distress syndrome*, COVID-19 derajat berat dan kritis, kohort retrospektif

ABSTRACT

Background: COVID-19 is a respiratory infectious disease that can lead to serious complications, such as pulmonary embolism and acute respiratory distress syndrome (ARDS), especially in severe and critical patients. Pulmonary embolism has a high prevalence in COVID-19 patients despite receiving anticoagulant therapy. The simplified pulmonary embolism severity index (sPESI) is often used as a prognostic tool to assess the risk of mortality and other complications, including ARDS, in pulmonary embolism patients.

Objective: To determine the relationship between sPESI and the severity of ARDS in severe and critical COVID-19 patients.

Method: This study used a retrospective cohort design. The population of this study consisted of adult severe and critical COVID-19 patients at RSUP Dr. Sardjito from March to December 2021. The sPESI score for each subject was calculated based on clinical criteria, including age, cancer history, chronic cardiopulmonary disease history, heart rate, systolic blood pressure, and oxygen saturation recorded in medical records. Statistical analysis was performed using univariate and bivariate tests.

Results: This study involved 290 subjects, with a mean sPESI score of 1.4. Of these, 49 subjects (16.9%) had a low sPESI, and 241 subjects (83.1%) had a high sPESI. The cut-off value for sPESI was 1, while the cut-off for ARDS based on $\text{PaO}_2/\text{FiO}_2$ was 74.7. Bivariate analysis showed no significant statistical relationship between sPESI and ARDS severity, nor between gender or body mass index and ARDS.

Conclusion: There is no significant relationship between sPESI and the severity of ARDS in severe and critical COVID-19 patients.

Keywords: simplified pulmonary embolism severity index, acute respiratory distress syndrome severity, severe and critical COVID-19, retrospective cohort