

INTISARI

Latar Belakang : Bedah jantung terbuka merupakan tindakan operasi memperbaiki kelainan anatomi dan fungsi jantung dimana dada dibuka dan operasi dilakukan pada otot, katup atau arteri jantung yang menggunakan mesin CPB. CPB digunakan untuk menggantikan fungsi jantung secara sementara. Perubahan fisiologis saat pengoperasian CPB dapat menyebabkan berbagai komplikasi : aktivasi inflamasi, mikroemboli, fibrinolisis koagulasi, perubahan hemostasis, perubahan suhu, kerusakan darah akibat tekanan (*shear stress*) sehingga durasi CPB merupakan faktor risiko intraoperatif yang berpengaruh terhadap lama rawat di *intensive care unit* (ICU).

Tujuan : Mengetahui hubungan lama CPB dengan lama rawat ICU pasien paska operasi bedah jantung terbuka di RSUP (Rumah Sakit Umum Pusat) Dr. Sardjito.

Metode : Penelitian ini merupakan penelitian analitik observasional dengan metode kohort retrospektif. Data yang dikumpulkan berupa rekam medis pasien paska operasi bedah jantung terbuka yang dirawat di ICU RSUP Dr. Sardjito pada periode 1 Januari 2019 sampai 31 Desember 2020. Hubungan CPB dengan lama rawat di ICU yang berskala numerik dianalisis dengan uji korelasi pearson, koefisien relasi $> r$ tabel maka ada hubungan yang signifikan dan nilai $P < 0,05$ menunjukkan hubungan yang bermakna secara statistik. Faktor-faktor yang mempengaruhi lama rawat di ICU di analisa dengan analisa bivariat dan multivariable logistik regresi.

Hasil : Dari hasil uji korelasi terdapat hubungan positif yang sangat lemah antara durasi CPB dan lama rawat di ICU dengan koefisien korelasi $r = 0,162$, terdapat perbedaan yang signifikan antara CPB ≤ 60 menit dan CPB > 60 menit terhadap lama rawat di ICU $p = 0,031$. Dari keseluruhan sampel rata-rata usia $39,58 \pm 13,24$ tahun, BMI $21,51 \pm 4,35$, mayoritas jenis kelamin perempuan 58,3%, proporsi METs terbanyak pada METs $= 4$ 56,1%, dan mayoritas LVEF $> 50\%$ 100%.

Kesimpulan : Terdapat hubungan positif yang sangat lemah antara lama CPB terhadap lama perawatan di ICU pada pasien paska operasi bedah jantung terbuka di RSUP Dr. Sardjito.

Kata Kunci: Bedah jantung terbuka, durasi *cardiopulmonary bypass*, lama rawat di *intensive care unit*.

ABSTRACT

Background: Open heart surgery is an operation to correct anatomical abnormalities and heart function where the chest is opened and surgery is performed on the muscles, valves or arteries of the heart using a CPB machine. CPB is used to temporarily replace cardiac function. Physiological changes during CPB operation can cause various complications: inflammatory activation, microembolism, coagulation fibrinolysis, changes in hemostasis, temperature changes, blood damage due to pressure (shear stress) so that the duration of CPB is an intraoperative risk factor that affects the length of stay in the intensive care unit (ICU).

Objective: To determine the correlation between CPB duration and length of stay (LOS) of ICU patients after open heart surgery at RSUP (Central General Hospital) Dr. Sardjito.

Methods: This study is an observational analytic study with a retrospective cohort method. The data collected in the form of medical records of post-open heart surgery patients who were treated in the ICU of Dr. Sardjito in the period January 1, 2019 to December 31, 2020. The relationship between CPB and length of stay in the ICU on a numerical scale was analyzed using the Pearson correlation test, the correlation coefficient $> r$ table, so there was a significant relationship and the P value $< 0,05$ showed a statistically significant relationship. Factors affecting length of stay in the ICU were analyzed by bivariate analysis and multivariable logistic regression.

Results : From the results of the correlation test, there is a very weak positive relationship between the duration of CPB and length of stay in the ICU with a correlation coefficient of $r=0.162$, there is a significant difference between CPB 60 minutes and CPB >60 minutes on length of stay in the ICU $p=0.031$. From the overall sample, the average age was $39.58+13.24$ years, BMI $21.51+4.35$, the majority were female 58.3%, the highest proportion of METs was METs = 4 56.1%, and the majority LVEF $> 50\%$ 100%.

Conclusion : There is a very weak positive relationship between the length of CPB and the length of stay in the ICU in patients after open heart surgery at Dr. RSUP. Sardjito.

Keywords: Open heart surgery, duration of cardiopulmonary bypass, length of stay in intensive care unit.