

INTISARI

Latar Belakang: Operasi bedah jantung dengan cardiopulmonary bypass (CPB) memicu respons inflamasi sistemik yang ditandai peningkatan kadar Interleukin-6 (IL-6), yang berpotensi memperpanjang durasi rawat ICU. Penelitian ini bertujuan mengeksplorasi hubungan antara kadar IL-6 dengan durasi rawat ICU pada pasien pascaoperasi bedah jantung dengan CPB di RSUP Dr. Sardjito, Yogyakarta.

Metode: Studi cohort prospektif melibatkan pasien dewasa (≥ 17 tahun) dengan NYHA kelas III. Eksklusi mencakup penggunaan alat bantu sirkulasi praoperasi, inflamasi berat, atau bedah emergensi. Analisis menggunakan uji normalitas Shapiro-Wilk, korelasi Spearman, serta analisis bivariat dan multivariat.

Hasil: Sebanyak 47 pasien dianalisis dengan rerata usia $46,43 \pm 13,47$ tahun (median 48 tahun) dan mayoritas laki-laki (57,4%). Durasi CPB ≥ 90 menit terjadi pada 48,9% pasien. Rerata kadar IL-6 post-CPB sebesar $143,06 \pm 171,39$ pg/mL (median 94,08 pg/mL). Rerata durasi rawat ICU $100,37 \pm 72,26$ jam (median 80,0 jam, rentang 31,5–387,0 jam). Uji Spearman menunjukkan hubungan negatif lemah yang signifikan antara IL-6 post-CPB dengan durasi rawat ICU ($r = -0,277$; $p = 0,030$). Analisis multivariat mengidentifikasi hipertensi sebagai faktor yang secara signifikan memengaruhi durasi rawat ICU ($B = 47,685$; $p = 0,049$), sedangkan IL-6 tidak signifikan secara independen ($B = -0,090$; $p = 0,138$).

Kesimpulan: Tidak terdapat hubungan positif antara kadar IL-6 post-CPB dengan durasi rawat ICU pada pasien bedah jantung dengan mesin pintas jantung-paru di RSUP Dr. Sardjito, Yogyakarta.

Kata Kunci: IL-6, Durasi rawat ICU, Bedah jantung, Mesin pintas jantung-paru

ABSTRACT

Background: Cardiac surgery with cardiopulmonary bypass (CPB) frequently triggers a systemic inflammatory response characterized by elevated Interleukin-6 (IL-6) levels, which may prolong ICU length of stay. This study aimed to explore the relationship between IL-6 levels and ICU length of stay in patients undergoing cardiac surgery with CPB at Dr. Sardjito General Hospital, Yogyakarta.

Methods: This prospective cohort study included adult patients (≥ 17 years) with NYHA class III. Exclusion criteria comprised preoperative circulatory assist device use, severe inflammatory conditions, or emergency surgery. Analysis included Shapiro-Wilk normality test, Spearman correlation, bivariate, and multivariate analysis.

Results: A total of 47 patients were analyzed with a mean age of 46.43 ± 13.47 years (median 48 years), majority male (57.4%). CPB duration ≥ 90 minutes occurred in 48.9% of patients. Mean post-CPB IL-6 was 143.06 ± 171.39 pg/mL (median 94.08 pg/mL). Mean ICU length of stay was 100.37 ± 72.26 hours (median 80.0 hours, range 31.5–387.0 hours). Spearman correlation revealed a significant weak negative relationship between post-CPB IL-6 and ICU length of stay ($r = -0.277$; $p = 0.030$). Multivariate analysis identified hypertension as a significant predictor of ICU length of stay ($B = 47.685$; $p = 0.049$), while post-CPB IL-6 was not independently significant ($B = -0.090$; $p = 0.138$).

Conclusion: No positive relationship was found between post-CPB IL-6 levels and ICU length of stay in cardiac surgery patients with CPB at Dr. Sardjito General Hospital, Yogyakarta.

Keywords: IL-6, ICU length of stay, Cardiac surgery, Cardiopulmonary bypass