

INTISARI

NILAI *LEUKO GLYCEMIC INDEX* (LGI) SEBAGAI PREDIKTOR KEJADIAN KARDIOVASKULAR MAYOR (KKM) PADA INFARK MIOKARD AKUT ELEVASI SEGMENT ST (IMA-EST) YANG BERHASIL DILAKUKAN *PRIMARY PERCUTANEOUS CORONARY INTERVENTION*

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Latar Belakang : Infark miokard akut elevasi segmen ST (IMA-EST) adalah salah satu dari spektrum sindrom koroner akut. Meskipun telah dilakukan *Primary PCI*, IMA-EST masih dapat menimbulkan komplikasi kejadian kardiovaskular mayor (KKM) baik jangka pendek maupun panjang. Dibutuhkan penilaian prediktif agar dapat mengidentifikasi dan mengelola pasien dengan lebih baik. *Leuco-glycemic index* (LGI) diketahui dapat menjadi penanda sindrom respon inflamasi sistemik dan telah terbukti menjadi prediktor yang baik dari kejadian di berbagai skenario pengobatan perawatan kritis, seperti infark miokard akut dan stroke.

Tujuan: Menilai apakah LGI saat masuk rumah sakit dapat menjadi prediktor kejadian kardiovaskular mayor (KKM) selama rawat inap pada pasien dengan infark miokard akut elevasi segmen ST (IMA-EST) yang berhasil dilakukan *primary percutaneous coronary intervention* (PPCI).

Metode : Penelitian menggunakan metode kohort retrospektif, berlangsung pada bulan November 2021 sampai Oktober 2022 di RSUP dr. Sardjito Yogyakarta. Sumber data dari rekam medis fisik dan elektronik pasien IMA-EST yang berhasil dilakukan PPCI di tahun 2020 yang memenuhi kriteria inklusi maupun eksklusi. Analisis kurva *receiver operating characteristic* (ROC) digunakan untuk menentukan nilai *cut-off* optimal LGI dan mengevaluasi nilai prognostik LGI dalam memprediksi KKM selama rawat inap.

Hasil Penelitian : Sejumlah 108 pasien dianalisis dalam penelitian ini. KKM selama rawat inap adalah 20,4%. Nilai *cut off* optimal LGI sebesar 1713,05 dengan sensitivitas 95,5% dan spesifisitas 52,3%. Nilai LGI tinggi berhubungan dengan peningkatan risiko lebih tinggi mengalami KKM dibandingkan dengan LGI rendah (*RR* 13,36; 95% *CI* 1.87 – 95,67; *p*=0.001). Analisis bivariat LGI tinggi dengan komorbiditas diabetes melitus, lokasi infark inferior, lesi koroner multipel dan *LVEF* <50% lebih beresiko mengalami KKM. Pada analisis multivariat, nilai LGI tinggi (*OR* 14,09; 95% *CI* 1,66 – 119,30; *p*=0.015) tetap konsisten bermakna menjadi prediktor independen KKM selama rawat inap pasien IMA-EST yang berhasil dilakukan *primary percutaneous coronary intervention*.

Kesimpulan: Nilai LGI yang tinggi dapat menjadi prediktor independen KKM selama rawat inap pada pasien infark miokard akut elevasi segmen ST (IMA-EST) yang berhasil dilakukan *primary percutaneous coronary intervention*.

Kata kunci: *infark miokard akut elevasi segmen ST (IMA-EST), Leuco-glycemic index (LGI), primary percutaneous coronary intervention, kejadian kardiovaskular mayor*

ABSTRACT

VALUE OF LEUKO GLYCEMIC INDEX (LGI) AS A PREDICTOR OF MAJOR CARDIAC EVENTS (MCE) IN ST ELEVATION MYOCARDIAL INFARCT (STEMI) WHO SUCCESSFULLY PERFORMED PRIMARY PERCUTANEOUS CORONARY INTERVENTION

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Background : ST elevation myocardial infarction (STEMI) is one of spectrum of acute coronary syndromes. Even though Primary PCI has been performed, STEMI can still cause complications of major cardiovascular events (MCE) both in the short and long term. Predictive assessment is needed to better identify and manage patients. The leuco-glycemic index (LGI) is known to be a marker of systemic inflammatory response syndrome and has been shown to be a good predictor of incidence in various critical care treatment scenarios, such as acute myocardial infarction and stroke.

Objective : Analyze the value of LGI at hospital admission as a predictor of major cardiovascular events (MCE) during hospitalization in patients with ST elevation myocardial infarction (STEMI) who had primary percutaneous coronary intervention (PPCI) successfully performed.

Method : This retrospective cohort study was conducted from November 2021 to October 2022 at dr. Sardjito Hospital Yogyakarta. Data were obtained from the physical and electronic medical records of STEMI patients who were successfully performed PPCI in 2020, which met the inclusion and exclusion criteria. Receiver operating characteristic (ROC) curve analysis was used to determine the optimal cut-off value of LGI and evaluate the prognostic value of LGI in predicting MCE during hospitalization.

Result : A total of 108 patients were analyzed in this study. MCE during hospitalization was 20.4%. The optimal cut-off value of LGI was 1713.05 with 95.5% of sensitivity and 52.3% of specificity. A high LGI value is associated with a higher increased risk of experiencing MCE compared to a low LGI (RR 13.36; 95% CI 1.87 – 95.67; p=0.001). Bivariate analysis of high LGI value with comorbidity of diabetes mellitus, inferior infarct location, multiple coronary lesions and LVEF <50% are more at risk of experiencing MCE. In multivariate analysis, high LGI values (OR 14.09; 95% CI 1.66 – 119.30; p=0.015) remained consistently significant as an independent predictor of MCE during hospitalization of STEMI patients who successfully performed primary percutaneous coronary intervention.

Conclusion: A high LGI value can be an independent predictor of MCE during hospitalization in ST elevation myocardial infarction (STEMI) patients who have had primary percutaneous coronary intervention successfully performed.

Keywords : *ST elevation myocardial infarction (STEMI), Leuco-glycemic index (LGI), primary percutaneous coronary intervention, major cardiovascular events*