SKOR PREDIKTOR PREOPERATIF MORTALITAS DALAM RUMAH SAKIT PADA PASIEN BEDAH PINTAS ARTERI KORONER DI RS KARIADI SEMARANG

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ABSTRAK

Latar Belakang: Angka mortalitas pasien Bedah Pintas Arteri Koroner (BPAK) di Indonesia cukup tinggi. Sistem skoring seperti EuroSCORE II dan STS Score dirancang pada populasi negara maju, sehingga menjadi tidak prediktif pada populasi di Indonesia. Penelitian ini dirancang untuk mengembangkan sistem skoring prediktor mortalitas baru sesuai dengan populasi di Indonesia.

Metode: Desain penelitian retrospektif, menggunakan data rekam medis pasien yang menjalani BPAK *on-pump* di RS Kariadi Semarang dari Januari 2020-Mei 2024. Faktor risiko yang potensial menjadi prediktor mortalitas dalam rumah sakit di-analisis bivariat, kemudian dilakukan multivariat regresi logistik metode backward stepwise. Kurva ROC dibuat untuk setiap model, dan nilai AUC digunakan untuk mengevaluasi kemampuan diskriminasi setiap model. Kemampuan kalibrasi model diuji menggunakan uji *Hosmer-Lemeshow.*

Hasil: Total sampel 226 pasien dengan nilai tengah usia 58 (31-71) tahun dan didominasi laki-laki (88.1%). Angka mortalitas dalam rumah sakit 15.5%. Sembilan variabel yang signifikan pada analisis bivariat selanjutnya dilakukan analisis multivariat regresi logistik. Didapatkan model skoring terbaik dengan total 5 variabel, yaitu: usia, kelas fungsional NYHA CHF, LVEF, nilai NLR, dan penggunaan beta-blocker. Performa diskriminasi dan kalibrasi model skoring ini mempunyai hasil baik dengan AUC ROC 0.827 (IK 95% 0.752-0.902) *P*=0.000 dan *Hosmer-Lemeshow test P*=0.943.

Kesimpulan: Usia, kelas fungsional CHF, LVEF, nilai NLR, dan penggunaan beta-blocker merupakan prediktor independen mortalitas pada pasien yang menjalani BPAK elektif di RS Kariadi. Lima variabel tersebut dapat disusun menjadi suatu sistem skoring prediktor mortalitas pada pasien BPAK elektif.

Kata kunci: *mortalitas dalam rumah sakit, bedah pintas arteri koroner, prediktor mortalitas, sistem skoring, stratifikasi risiko*

PREOPERATIVE MORTALITY PREDICTOR SCORE IN PATIENTS WITH CORONARY ARTERY BYPASS SURGERY AT KARIADI HOSPITAL SEMARANG

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ABSTRAK

Background: The mortality rate for patients receiving coronary artery bypass grafts (CABG) in Indonesia remains significantly high. Existing scoring systems, such as EuroSCORE II and STS Score, were established for populations in developed countries, making them less predictive for the Indonesian population. This study aims to develop a new mortality predictor scoring system tailored to the Indonesian population undergoing CABG.

Methods: This retrospective study utilized electronic medical record data from patients who underwent on-pump CABG at Kariadi Hospital Semarang from January 2020 to May 2024. Potential risk factors for in-hospital mortality were first investigated using bivariate analysis, followed by multivariate logistic regression using the backward stepwise method. ROC curves were constructed for each model, and AUC values were assessed for the models' discriminatory performance. The model's calibration was evaluated using the Hosmer-Lemeshow test.

Results: The study included 226 patients, with median age of 58 (31-71) years, and 88.1% were male. The in-hospital mortality rate was 15.5%. Nine variables were found to be significant in the bivariate analysis and were subsequently included in the multivariate logistic regression analysis. The final predictive model included five variables: age, CHF NYHA functional class, LVEF, NLR, and beta-blocker use. The scoring model demonstrated good discriminatory and calibration performance with an AUC ROC of 0.827 (CI 95% 0.752-0.902) *P*=0.000 and *Hosmer-Lemeshow test P*=0.943.

Conclusion: Age, NYHA functional class of CHF, LVEF, NLR values, and the use of beta-blockers are independent predictors of mortality in patients undergoing elective CABG at RS Kariadi Semarang. These five variables can be integrated into a scoring system to predict mortality in elective CABG patients.

Keywords: *in-hospital mortality, coronary artery bypass grafts, mortality predictor, scoring system, risk stratification*