Peranan penambahan Myocardial Performance Index ke dalam skor Global Registry of Acute Coronary Events untuk memprediksi Major Adverse Cardiovascular Events selama lima hari perawatan rumah sakit pada pasien infark miokard akut = The Role of Myocardial Performance Index added on Global Registry of Acute Coronary Events score in predicting Major Adverse Cardiovascular Events during five days of hospitalisation in patients with acute myocardial infarction

Dalimunthe, Naomi Niari, author

Abstrak

Latar Belakang: Skor Global Registry of Acute Coronary Events (GRACE) adalah model stratifikasi risiko yang secara luas telah digunakan untuk memprediksi luaran pada pasien infark miokard akut (IMA). Pasca IMA dapat terjadi disfungsi miokard baik sistolik maupun diastolik. Myocardial Performance Index (MPI) merupakan parameter ekokardiografi yang mampu menggambarkan fungsi sistolik dan diastolik ventrikel kiri secara bersamaan dan merupakan prediktor independen kejadian Major Adverse Cardiovascular Event (MACE) pasca IMA.
Tujuan: Mengetahui peranan penambahan MPI ke dalam skor GRACE untuk memprediksi MACE selama lima hari perawatan rumah sakit.
Metode: Penelitian kohort prospektif pada 75 pasien IMA di ruang perawatan intensif jantung RSCM antara Juli-November 2020. Dilakukan perhitungan total skor GRACE saat pasien masuk rumah sakit dan pemeriksaan ekokardiografi untuk mendapatkan nilai MPI dilaksanakan dalam 72 jam perawatan rumah sakit. Observasi terhadap kejadian MACE selama 5 hari perawatan rumah sakit dilakukan pada seluruh pasien. Peranan penambahan parameter MPI ke dalam skor GRACE dinilai menggunakan perubahan area under curve (AUC) metode DeLong, likelihood ratio test (LRT) dan continous net reclassification improvement (cNRI).
Hasil: Kemampuan prediksi skor GRACE baik (AUC 0,753 IK 95% 0,639-0,868). Penambahan MPI ke dalam skor GRACE secara signifikan meningkatkan performa model kombinasi (AUC 0,801 IK 95% 0,699-0,902 p=0,354, LRT 4,65 p=0,03 dan cNRI 0,515 IK 95% 0,008-1,021 p=0,046).
Simpulan: Penambahan MPI ke dalam skor GRACE signifikan meningkatkan kemampuan skor kombinasi untuk memprediksi MACE selama lima hari perawatan rumah sakit pada pasien IMA.
.....Background: The Global Registry of Acute Coronary Events (GRACE) risk score is widely recommended for risk assessment in patients with acute myocardial infarction (AMI). Myocardial infarction induces variable degrees of impairment in left ventricular (LV) systolic and diastolic function. Myocardial Performance Index (MPI) is an echocardiography parameter that capable of estimating combined systolic and diastolic LV performance and can independently predict Major

Adverse Cardiovascular Events (MACE) post AMI.
Objective: To investigate whether MPI has incremental predictive value over the GRACE risk score in predicting MACE during five days of hospitalization after AMI.
Methods: A prospective cohort study was conducted in 75 patients presented with AMI in Intensive Cardiac Care Unit Cipto Mangunkusumo Hospital between July to November 2020. Total GRACE score was calculated on patient admission and echocardiography was conducted within 72 hours of hospitalization for measurement of MPI. All patients were observed for the incidence of MACE during five days of hospitalization. The incremental predictive value of the GRACE risk score alone and combined with MPI was assessed by the change in area under curve (AUC) by DeLong's method, likelihood ratio test (LRT) and continuous net reclassification improvement (cNRI).
Results: The GRACE risk score demonstrated good discrimination for MACE (AUC 0.753 95% CI 0.639-0.868). Adding MPI to the GRACE risk score improved model performance significantly (AUC 0.801 95% CI 0.699-0.902 p=0.354, LRT 4.65 p=0.03 and cNRI 0.515 95% CI 0.008-1.021 p=0.046).
Conclusions: Adding MPI to the GRACE risk score significantly improves risk prediction of MACE during five days of hospitalization after AMI.