

INTISARI

Latar belakang: Penyakit Jantung Koroner (PJK) merupakan penyebab utama kematian dan kecacatan di negara maju. Infark miokard akut berhubungan dengan peningkatan kadar endotelin-1. Peningkatan kadar ET-1 ini berhubungan dengan luasnya nekrosis otot-otot jantung, ukuran infark dan gangguan fungsi pompa ventrikel setelah terjadinya infark.

Tujuan : Penelitian ini bertujuan untuk membuktikan peran kadar endotelin-1 $\geq 2,9$ pg/mL saat masuk rumah sakit sebagai prediktor Kejadian Kardiovaskular Mayor (KKM) pada pasien Infark Miokard Akut (IMA) pada 7 hari perawatan di rumah sakit.

Metode: Penelitian ini merupakan penelitian dengan desain kohort prospektif. Subjek adalah pasien yang didiagnosis IMA dan dirawat di ICCU RSUP Dr. Sardjito. Kadar ET-1 diukur dengan menggunakan metode ELISA *sandwich* dari sampel darah perifer yang diambil pada saat subjek masuk rumah sakit. Berdasarkan kadar ET-1 subjek dibagi dalam dua kelompok yaitu subjek dengan kadar ET-1 $\geq 2,9$ pg/mL dan ET-1 $< 2,9$ pg/mL. Subjek diamati selama 7 hari perawatan di RS dan dinilai munculnya KKM.

Hasil: Subjek penelitian ini sebanyak 110 pasien, sebanyak 55 subjek masuk dalam kelompok ET-1 $\geq 2,9$ pg/mL dan 55 subjek masuk dalam kelompok ET-1 $< 2,9$ pg/mL. Selama pengamatan KKM dialami oleh 35 subjek (31,81%). Nilai median ET-1 subjek yang mengalami KKM 3,84 (1,47 – 9,70) pg/mL berbeda bermakna dengan kadar ET-1 pada subjek yang tidak mengalami KKM 2,57 (0,69 – 7,42) pg/mL dengan $p=0,000$. Kadar ET-1 $\geq 2,9$ pg/mL mempunyai kecenderungan meningkatkan risiko KKM dengan RR=3,414 ($p=0,011$; 95% CI:1,330 – 8,765)

Kesimpulan: Pasien IMA dengan kadar ET-1 $\geq 2,9$ pg/mL saat masuk rumah sakit secara bermakna meningkatkan risiko KKM pada 7 hari perawatan di rumah sakit.

Kata kunci: Endotelin-1, infark miokard akut, Kejadian Kardiovaskular Mayor

ABSTRACT

Background: Coronary Heart Disease (CHD) is a major cause of death and disability in developed countries. Acute myocardial infarction is associated with increased levels of endothelin-1. This increase in ET-1 levels is related to the extent of heart muscle necrosis, infarct size and impaired ventricular pump function after infarction.

Objective: The aim of this research was to investigate whether the endothelin-1 levels ≥ 2.9 pg / mL on admission associate with the occurrence Major Adverse Cardiovascular Events (MACE) in patients with acute myocardial infarction (AMI) during 7 days of hospitalized.

Method: The research was a prospective cohort study. Subjects were patients diagnosed with AMI and hospitalized at the ICCU RSUP Dr. Sardjito. The levels of ET-1 are measured using the ELISA sandwich method from peripheral blood samples which is withdrawn on admission. Based on ET-1 level, subjects were divided into two groups, i.e ET-1 ≥ 2.9 pg/mL and ET-1 < 2.9 pg/mL. Subjects were observed for 7 days hospitalisation and evaluate the occurrence of MACE.

Result: Subject enrolled were 110 patients, 55 subjects were ET-1 ≥ 2.9 pg/mL group and 55 subjects were ET-1 < 2.9 pg/mL group. During observation, MACE occurred in 35 subjects (31.81%). The median of ET-1 were significantly different subject with and without MACE (3.84 pg/mL vs. 2.57 pg/mL) with p value = 0,000. The level of ET-1 ≥ 2.9 pg/mL has a tendency increasing the risk of MACE with RR = 3.414 (p=0.011; 95%CI:1.330 – 8,765).

Conclusion: Patients with AMI with level serum of ET-1 ≥ 2.9 pg/mL on admission significantly increase the risk to develop MACE during 7 days hospitalized.

Keywords: Endothelin-1, acute myocardial infarction, major adverse cardiovascular events