

INTISARI

PENINGKATAN KONSENTRASI SERUM *ENDOTHELIN-1* DAN *ENDOTHELIN-3* TERHADAP KEJADIAN KARDIOVASKULAR MAYOR JANGKA PANJANG PADA PASIEN INFARK MIOKARD AKUT DENGAN ELEVASI SEGMENT-ST

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Latar Belakang

Peningkatan endothelin pada sirkulasi pembuluh darah saat sindroma koroner akut memberikan kontribusi vasokonstriksi pembuluh darah yang signifikan dan meningkatkan derajat keparahan infark miokard tersebut.

Tujuan Penelitian

Penelitian ini menganalisis perat peningkatan endothelin 1 (ET-1) dan endothelin 3 (ET-3) terhadap kejadian kardiovaskular mayor satu tahun setelah periode rawat inap.

Metode Penelitian

Studi kohort retrospektif menggunakan data pasien IMA-EST pasca revaskularisasi dari register kardiobiomarka periode Januari 2017- Januari 2018. Pemeriksaan biomarker ET-1 dan ET-3 dilakukan pada saat admisi menggunakan pemeriksaan ELISA dari IBL, Jepang. Outcome dari penelitian ini adalah kematian, gagal jantung akut, stroke, serangan jantung ulang, dan aritmia maligna (takikardi ventrikel dan fibrilasi ventrikel). Analisis statistik dilakukan dari mulai penentuan titik potong, analisis bivariat, dan analisis multivariat.

Hasil

Didapatkan 81 pasien yang memenuhi kriteria inklusi dan eksklusi dan dilakukan *follow-up* satu tahun setelah admisi. Berdasarkan analisis titik potong kurva *ROC* didapatkan nilai ET-1 dan ET-3 >17 ng/ml dengan nilai *AUC* 0.638. Berdasarkan analisis multivariat didapatkan bahwa nilai endothelin kumulatif merupakan variabel independen terhadap KKM 1 tahun (OR=5.34, 95% CI 1.36–21.07, p=0.017).

Simpulan

Peningkatan nilai endothelin kumulatif saat admisi memiliki nilai prognostik dan meningkatkan kemungkinan terhadap terjadinya KKM 1 tahun pada pasien IMA-EST

Kata kunci: endothelin-1, endothelin-3, sindroma koroner akut, IMA-EST

ABSTRACT

Increased Serum Endothelin-1 and Endothelin-3 Concentration in Patients with Acute Myocardial Infarction Associated with Long-term MACE

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Background

Increased Endothelin in circulation blood during acute myocardial infarction (AMI) contributes to more significant vasoconstriction and increases the severity of the myocardial infarction and ventricular remodeling. This study elaborates on the role of ET-1 and ET-3 on admission regarding major adverse cardiac events (MACEs) one year after AMI hospitalization.

Methods

This retrospective cohort study involved 81 patients with AMI; ET-1 and ET-3 were detected and quantified on admission using an ELISA assay kit (IBL, Japan). The outcomes were one year of major adverse cardiac events (MACE), i.e., a composite of death, acute heart failure, reinfarction, and resuscitated ventricular arrhythmia. The variables were analyzed using non-parametric logistic variables.

Results

Eighty-one patients were analyzed one year after myocardial infarction. The patient was divided into two groups based on their cumulative ET-1 and ET-3, with a rounded cut-off point of >17 and <17 . The ROC curve indicated that the AUC for the cumulative concentration of ET-1 and ET-3 was 0.638. The multivariate analysis of MACEs showed that the cumulative concentration of ET-1 and ET-3 >17 was independently associated with MACEs one year after the admission (OR=5.34, 95% CI 1.36–21.07, $p=0.017$).

Conclusion

A higher cumulative concentration of ET-1 and ET-3 on admission predicts MACE in one year of follow-up and provides prognostic value after AMI.

Keywords: Endothelin-1, Endothelin-3, acute myocardial infarction, STEMI