

Tesis



**UNIVERSITAS ANDALAS**  
**KORELASI KADAR *ENDOTHELIAL NITRIC OXIDE SYNTHASE***  
**DENGAN KEJADIAN KARDIOVASKULAR MAYOR SELAMA RAWATAN PADA**  
**PASIEN INFARK MIOKARD AKUT ELEVASI SEGMENT-ST**

**TESIS**

**dr. BENNY ANTAMA SYANT**

**NIM. 1750311208**

**Pembimbing I**  
**Pembimbing II**

**: Dr. dr. EKA FITHRA ELFI, Sp.JP(K)**  
**: Dr. dr. MASRUL SYAFRI, Sp.PD, Sp.JP(K)**

**PROGRAM STUDI PENDIDIKAN PROFESI DOKTER SPESIALIS-1 ILMU**  
**PENYAKIT JANTUNG DAN PEMBULUH DARAH**  
**FAKULTAS KEDOKTERAN**  
**UNIVERSITAS ANDALAS PADANG**

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## ABSTRAK

Nama : Benny Antama Syant  
Program Studi : Ilmu Penyakit Jantung dan Pembuluh Darah  
Judul : Korelasi Kadar *Endothelial Nitric Oxide Synthase* Dengan Kejadian Kardiovaskular Mayor Selama Rawatan Pada Pasien Infark Miokard Akut Elevasi Segmen- ST

**Latar Belakang:** Infark Miokard Akut Elevasi Segment ST (IMA-EST) dapat menyebabkan terjadinya Kejadian Kardiovaskular Mayor (KKM), walaupun pasien dengan IMA-EST telah mendapatkan tindakan Intervensi Koroner Perkutan Primer (IKPP) untuk mendapatkan reperfusi miokard. Pada pasien IMA-EST telah terjadi penurunan kadar *Endothelial Nitric Oxide Synthase* (eNOS), eNOS memiliki efek protektif terhadap endotel, sehingga penurunan kadar eNOS berefek terjadinya disfungsi endotel yang dapat berkontribusi terjadinya infark miokard akut. Disfungsi endotel juga menjadi kontributor terjadinya Kejadian Kardiovaskular Mayor (KKM).

**Metode Penelitian:** Penelitian ini adalah penelitian historikal kohort pada pasien IMA-EST yang menjalani IKPP pada Instalasi Pusat Jantung RSUP M. Djamil Padang yang dilaksanakan sejak bulan Maret 2022 – Juni 2022. Pemeriksaan kadar eNOS dinilai saat rawatan, luaran klinis menilai KKM (kematian, reinfark, syok kardiogenik, gagal jantung, dan stroke) pada saat rawatan. Dilakukan uji Spearman untuk menilai korelasi dan koefisien korelasi antara kadar eNOS dan KKM.

**Hasil Penelitian:** Terdapat total 38 subyek penelitian yang diikutsertakan yang dipilih sesuai *consecutive sampling* untuk dinilai kadar eNOS dan KKM saat rawatan. 17 (44%) subjek mengalami KKM saat rawatan. Kadar eNOS pada pasien yang mengalami KKM nilai 42.331 pg/ml. Berdasarkan uji korelasi *Spearman* didapatkan kadar eNOS mempunyaikorelasi negatif sedang ( $r = - 0.516$ ) dengan KKM, bermakna secara statistik ( $p = 0.001$ ).

**Kesimpulan:** Penurunan kadar eNOS berkorelasi dengan terjadinya KKM saat rawatan pada pasien IMA-EST yang telah menjalani IKPP.

**Kata Kunci:** *Endothelial Nitric Oxide Synthase* (eNOS), Infark Miokard Akut Elevasi Segmen ST (IMA-EST), kejadian Kardiovaskular Mayor (KKM).

## ABSTRACT

*Name* : Benny Antama Syant  
*Study Program* : Cardiology and Vascular Medicine  
*Title* : *Correlation of Endothelial Nitric Oxide Synthase Levels With Major Cardiovascular Events During Treatment In Patients with ST Elevation Myocardial Infarction*

**Background:** ST Elevation Myocardial Infarction (STEMI) can lead to the occurrence of Major Cardiovascular Events (MACE), although patients with STEMI have received Primary Percutaneous Coronary Intervention (PPCI) measures to obtain myocardial reperfusion. In STEMI patients there has been a decrease in levels of Endothelial Nitric Oxide Synthase (eNOS), eNOS has a protective effect on the endothelium, so that a decrease in eNOS levels has the effect of endothelial dysfunction which can contribute to the occurrence of acute myocardial infarction. Endothelial dysfunction is also a contributor to the occurrence of Major Cardiovascular Events (MACE).

**Research Methods:** This study is a historical cohort study in STEMI patients undergone PPCI at the Cardiac Center Installation of RSUP M. Djamil Padang which will be held from March 2022 – June 2022. Examination of eNOS levels was assessed during treatment, clinical outcomes assessed MACE (death, reinfarction, cardiogenic shock, heart failure, and stroke) at the time of treatment. The Spearman test was carried out to assess the correlation and correlation coefficient between eNOS level and MACE.

**Research Results:** There were a total of 38 research subjects included who were selected according to *consecutive sampling* to assess eNOS and MACE levels during treatment. 17 (44%) of subjects experienced MACE during treatment. The average eNOS level in patients experiencing MACE was 42,331 pg/ml. Based on the *Spearman* correlation test, it was found that eNOS levels had a moderate negative correlation ( $r = -0.516$ ) with MACE, statistically meaningful ( $p = 0.001$ ).

**Conclusion:** The decrease in eNOS levels correlates with the occurrence of MACE during treatment in STEMI patients who have undergone PPCI.

**Keywords:** Endothelial Nitric Oxide Synthase (eNOS), ST Elevation Myocardial Infarction (STEMI), Major Cardiovascular Events (MACE).