# INTISARI

## HUBUNGAN RESOLUSI JUMLAH DEVIASI SEGMEN-ST DENGAN KEJADIAN KARDIOVASKULAR MAYOR PADA PASIEN INFARK MIOKARD AKUT DENGAN ELEVASI SEGMEN-ST YANG DILAKUKAN REPERFUSI

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**Latar Belakang:** Kejadian infark miokard akut dengan elevasi segmen-ST (IMA-EST) menyebabkan adanya area infark yang perluasannya dapat dikurangi dengan adanya tindakan reperfusi. Luas area infark dapat memprediksi kejadian kardiovaskular mayor (KKM). Perubahan segmen-ST pada elektrokardiografi (EKG) merupakan salah satu modalitas penilaian luas area infark. Resolusi jumlah deviasi segmen-ST yang terjadi pada IMA-EST telah dikaitkan dengan luaran klinis yang lebih buruk mesikpun mekanismenya masih belum pasti.

**Tujuan:** Mengetahui hubungan resolusi jumlah deviasi segmen-ST dengan kejadian kardiovaskular mayor pada pasien IMA-EST yang dilakukan reperfusi.

**Metode Penelitian:** Observasi analisis ini dilakukan secara kohort *ambi-directional* menggunakan data sekunder di RSUP Dr. Sardjito sejak periode Juli 2019-Juni 2022 pada populasi pasien IMA-EST yang dilakukan reperfusi, baik IKP primer ataupun farmakoinvasif. Dilakukan penelusuran terhadap karakteristik dasar, EKG, data reperfusi, dan luaran klinis. Data resolusi jumlah deviasi segmen-ST didapatkan dari persentase selisih EKG diagnostik dan EKG pasca reperfusi terhadap EKG diagnostik. Resolusi signifikan bila ≥ 50% dan tidak signifikan bila <50%.

**Hasil:** Dari total 140 subjek penelitian, didapatkan 92 subjek mengalami KKM dan 48 subjek tidak mengalami KKM. Pada subjek dengan resolusi signifikan, tidak didapatkan penurunan KKM yang bermakna (70,5% vs 70,8%, p=0,774). Pada analisa multivariat didapatkan fraksi ejeksi ventrikel kiri (OR 0,73; 95%IK 0,65-0,82; p=0,001) dan aliran TIMI pasca IKP (OR 0,28; 95%IK 0,09-0,9; p=0,033) mempengaruhi KKM secara signifikan. Pada subanalisis resolusi jumlah deviasi segmen-ST terhadap komponen KKM, didapatkan hasil hubungan yang bermakna pada aritmia (p=0,018) dan reinfark (p=0,011).

**Simpulan:** Resolusi jumlah deviasi segmen-ST yang signifikan pada pasien IMA-EST yang dilakukan reperfusi tidak memiliki hubungan yang bermakna terhadap penurunan KKM.

**Kata Kunci:** resolusi jumlah deviasi segmen-ST, kejadian kardiovaskular mayor, IMA-EST

# ABSTRACT

## ASSOCIATION OF RESOLUTION OF SUM ST-SEGMENT DEVIATION WITH MAJOR ADVERSE CARDIOVASCULAR EVENTS IN PATIENTS WITH ST-ELEVATION MYOCARDIAL INFARCTION AFTER REPERFUSION

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**Background:** The incidence of acute myocardial infarction with ST-segment elevation (STEMI) causes an infarct area which expansion can be reduced by reperfusion strategies. The infarct size can predict major cardiovascular events (MACE). The changes of ST-segment on electrocardiography (ECG) are one of the modalities for assessing infarct size. Resolution of sum ST-segment deviations occurring in STEMI has been associated with worse clinical outcome although the mechanism is uncertain.

**Objective:** To determine the relationship between the resolution of the number of ST-segment deviations with major cardiovascular events in STEMI patients undergoing reperfusion.

**Research Methods:** Analytical observational study with ambi-directional cohort using secondary data at RSUP Dr. Sardjito were conducted in July 2019-June 2022. The STEMI patient undergoing reperfusion were enlisted, either primary PCI or pharmacoinvasive. The data was including basic characteristics, ECG, reperfusion data, and clinical outcomes. Resolution of sum ST-segment deviations were obtained from the percentage of diagnostic ECG and post-reperfusion ECG to the sdiagnostic ECG. Resolution is significant if ≥ 50% and not significant if <50%.

**Results:** Of a total 140 subjects, 92 subjects experienced MACE and 48 subjects did not. In subjects with significant resolution, there was no significant in MACE (70.5% vs. 70.8%, p=0.774). In multivariate analysis, left ventricular ejection fraction (OR 0.73; 95% CI 0.65-0.82; p=0.001) and TIMI flow after PCI (OR 0.28; 95% CI 0.09-0.9; p=0.033) significantly affect MACE. In the sub-analysis of the resolution of sum ST-segment deviations to the MACE components, the results obtained a significant relationship between arrhythmias (p=0.018) and reinfarction (p=0.011).

**Conclusion:** The significant resolution of sum ST-segment deviations in STEMI patients undergoing reperfusion did not have a significant relationship with MACE.

**Keywords:** resolution of sum ST-segment deviation, major adverse cardiovascular events, STEMI