

DAFTAR ISI

HALAMAN JUDUL.....	i
HALAMAN PENGESAHAN.....	ii
PERNYATAAN BEBAS PLAGIASI.....	lii
KATA PENGANTAR	iv
DAFTAR ISI.....	x
DAFTAR GAMBAR	xiii
DAFTAR TABEL.....	xiv
DAFTAR SINGKATAN	xv
INTISARI	xviii
BAB I PENDAHULUAN.....	1
I.1. Latar Belakang.....	1
I.2. Masalah Penelitian.....	4
I.3. Pertanyaan Penelitian.....	5
I.4. Tujuan Penelitian	5
I.5. Manfaat Penelitian	5
I.6. Keaslian Penelitian	6
BAB II TINJAUAN PUSTAKA.....	8
II.1. Infark Miokard Akut dengan Elevasi Segmen ST	8
II.2. Patogenesis Luas Area Infark dan Faktor yang Mempengaruhinya.....	13
II.2.1. Patogenesis Luas Area Infark	13
II.2.1.1. Kaskade Iskemik.....	14
II.2.1.2. Obstruksi Mikrovaskular	14
II.2.1.3. Cedera Reperfusi	15
II.2.1.4. Fenomena <i>No-Reflow</i>	16
II.2.2. Faktor yang Mempengaruhi Pengaruh Luas Area Infark	16
II.2.2.1. <i>Multivessel Disease</i>	16
II.2.2.2. Waktu Iskemik.....	17
II.2.2.3. Strategi Reperfusi	18
II.2.2.4. Aliran TIMI	20
II.2.2.5. <i>Infarct Related Artery (IRA)</i>	20
II.3. Upaya Untuk Mengurangi Luas Area Infark	21

II.3.1. Strategi Reperfusi	21
II.3.2. Terapi Medikamentosa.....	23
II.3.2.1. Antikoagulan	23
II.3.2.2. Antiplatelet	24
II.3.2.3. Antiangina	26
II.3.2.4. Statin.....	26
II.4. Kejadian Kardiovaskular Mayor (KKM) Akibat Luas Area Infark	26
II.5. Modalitas Untuk Menilai Luas Area Infark	28
II.5.1. <i>Cardiovascular Magnetic Resonance</i> (CMR)	28
II.5.2. <i>Single Photon Emission Computed Tomography</i> (SPECT).....	30
II.5.3. Ekokardiografi Transtorakal	31
II.5.4. <i>Biomarker</i>	33
II.5.5. Elektrokardiografi.....	34
II.6. Penilaian Luas Area Infark Dengan Jumlah (sum) Deviasi Segmen-ST	39
II.7. Resolusi Jumlah (sum) Deviasi Segmen-ST Sebagai Faktor Prognosis	40
II.8. Kerangka Teori.....	42
II.9. Kerangka Konsep	43
II.10. Hipotesis Penelitian	43
BAB III METODOLOGI PENELITIAN	44
III.1. Rancangan penelitian	44
III.2. Tempat dan Waktu Penelitian	44
III.3. Populasi Penelitian	44
III.3.1. Populasi Terjangkau	44
III.3.2. Populasi Target.....	44
III.4. Teknik Pengambilan Sampel.....	45
III.5. Kriteria Subjek Penelitian	45
III.5.1. Kriteria Inklusi	45
III.5.2. Kriteria Eksklusi.....	45
III.6. Besar Sampel	46
III.7. Identifikasi Variabel.....	47
III.8. Definisi Operasional Variabel	47
III.9. Protokol Penelitian dan Pengukuran	53

III.9.1 Protokol Penelitian	53
III.9.2. Alat dan Bahan Penelitian	54
III.10. Alur Penelitian	55
III.11. Analisis Statistik	55
III.12. Pertimbangan Etik.....	55
BAB IV HASIL DAN PEMBAHASAN.....	56
IV.1. Hasil Penelitian	56
IV.1.1. Karakteristik Dasar Subjek Penelitian	57
IV.1.2. Uji Hipotesis Hubungan Resolusi Jumlah Deviasi Segmen-ST dengan Kejadian Kardiovaskular Mayor.....	60
IV.1.3. Analisis Bivariat dan Multivariat Faktor Perancu Kejadian Kardiovaskular Mayor	62
IV.2. Pembahasan	64
IV.2.1. Karakteristik Dasar Subjek Penelitian	64
IV.2.2. Uji Hipotesis Hubungan Resolusi Jumlah Deviasi Segmen-ST dengan Kejadian Kardiovaskular Mayor.....	66
IV.2.3. Analisis Bivariat dan Multivariat Faktor Perancu Kejadian Kardiovaskular Mayor	71
IV.2.4. Subanalisis Resolusi Jumlah Deviasi Segmen-ST dengan Komponen KKM.....	74
IV.2.5. Kelemahan Penelitian.....	72
BAB V SIMPULAN DAN SARAN	75
V.1. Simpulan	75
V.2. Saran	75
DAFTAR PUSTAKA	76
Lampiran 1. Formulir Laporan Kasus	82
Lampiran 2. <i>Ethical Clearance Form</i>	84

DAFTAR GAMBAR

Gambar 1. Progresivitas kerusakan miokard pada IMA-EST.....	10
Gambar 2. Area berisiko dan area infark pada CMR.....	13
Gambar 3. Gambar skema cedera reperfusi pada IMA-EST yang dilakukan reperfusi.....	15
Gambar 4. Hasil CMR pada pasien dengan oklusi pada LAD dengan infark anteroseptal.....	29
Gambar 5. <i>Myocardial strain</i> yang dinilai pada fase akut dibandingkan dengan <i>myocardial scarring</i> 9 bulan setelah fase akut.....	32
Gambar 6. Deviasi segmen-ST pada infark akut menurut teori cedera arus diastolik	36
Gambar 7. Sistem skoring QRS Selvester.....	38
Gambar 8. Rumus jumlah deviasi segmen-ST	40
Gambar 9. Kerangka teori	41
Gambar 10. Kerangka konsep.....	42
Gambar 11. Alur penelitian.....	55
Gambar 12. Alur pemilihan subjek penelitian	57

DAFTAR TABEL

Tabel 1. Keaslian penelitian	6
Tabel 2. Agen anti-koagulan dengan potensi yang berbeda dalam potensinya mengurangi luas area infark	23
Tabel 3. Agen antiplatelet dengan potensi yang berbeda dalam potensinya mengurangi luas area infark	24
Tabel 4. Rekomendasi penggunaan agen anti-platelet pada IKP primer berdasarkan bukti dari beberapa uji klinis	25
Tabel 5. Nilai ambang diagnostik elevasi segmen-ST.....	37
Tabel 6. Karakteristik dasar subjek penelitian pasien IMA-EST yang dilakukan reperfusi	59
Tabel 7. Uji hipotesis hubungan resolusi jumlah deviasi segmen-ST dengan KKM.....	62
Tabel 8. Analisis multivariat variabel perancu terhadap KKM.....	62
Tabel 9. Subanalisis resolusi jumlah deviasi segmen-ST dengan komponen KKM.....	63

DAFTAR SINGKATAN

Σ STD	<i>Sum of ST-deviation /jumlah deviasi segmen-ST</i>
ACE-I	<i>Angiotensin converting enzyme inhibitor</i>
AIVR	<i>Accelerated idiopathic ventricular rhythm</i>
APEX-AMI	<i>Assessment of Pexelizumab in Acute Myocardial Infarction</i>
APTS	<i>Angina Pektoris Tidak Stabil</i>
ARB	<i>Angiotensin -II receptor blocker</i>
ATOLL	<i>Acute STEMI Treated with primary PCI and intravenous enoxaparin Or UFH to Lower ischemic and bleeding events at short and Long term follow-up</i>
ATP	<i>Adenosine Triphosphate</i>
BMS	<i>Bare-metal Stent</i>
CHAMPION-	<i>Cangrelor vs. Standard Therapy to Achieve Optimal</i>
PHOENIX	<i>Management of Platelet Inhibition Trial</i>
CM-MB	<i>Creatinine kinase</i>
CMR	<i>Cardiovascular Magnetic Resonance</i>
COMMIT	<i>Clopidogrel and Metoprolol in Myocardial Infarction Trial</i>
CURE	<i>The Clopidogrel in Unstable Angina to Prevent Recurrent Events Trial</i>
DAPT	<i>Dual Antiplatelet Therapy</i>
DBT	<i>Door-to-balloon time</i>
DEFER-STEMI	<i>Randomized Trial of Deferred Stenting Versus Immediate Stenting to Prevent No- or Slow-Reflow in Acute ST-Segment Elevation Myocardial Infarction</i>
DES	<i>Drug-eluting Stent</i>
EKG	<i>Elektrokardiografi</i>
ESC	<i>European Society of Cardiology</i>
ETAMI	<i>Early thienopyridine treatment to improve primary PCI in patients with acute myocardial infarction trial</i>

FFR	<i>Fractional Flow Reserve</i>
GLS	<i>Global Longitudinal Strain</i>
GP IIb/IIIa	<i>Glycoprotein IIb/IIIa</i>
GUSTO-I	<i>Global Utilization of Streptokinase and Tissue Plasminogen Activator for Occluded Coronary Arteries-I</i>
HMG-CoA	<i>3-hydroxy-3-methylglutaryl coenzyme A</i>
HORIZON AMI	<i>The Harmonizing Outcomes with Revascularization and Stents in Acute Myocardial Infarction</i>
hs-cTnT	<i>High-sensitivity cardiac troponin T</i>
IGD	Instalasi Gawat Darurat
IK	Interval Kepercayaan
IKP	Intervensi Koroner Perkutan
IMA	Infark Miokard Akut
IMA-EST	Infark Aiokard Akut dengan Elevasi Segmen-ST
IMA-NEST	Infark Miokard Akut Non-Elevasi Segmen-ST
INFUSE AMI	<i>The Intracoronary Abciximab and Aspiration Thrombectomy in Patients with Large Anterior Myocardial Infarction</i>
IRA	<i>Infarct related artery</i>
ISIS-2	<i>Second International Study of Infarct Survival</i>
KKM	Kejadian Kardiovaskular Mayor
LAD	<i>Left Anterior Descending artery</i>
LGE	<i>Late Gadolinium Enhancement</i>
MIMI	<i>Mechanical Intervention Approach in Acute ST-Segment-Elevation Myocardial Infarction</i>
MPTP	<i>Mitochondrial permeability transition pore</i>
NACIAM	<i>N-acetylcysteine in Acute Myocardial Infarction</i>
NLR	<i>Neutrophil/lymphocyte ratio</i>
NO	<i>Nitric Oxide</i>
NT-pro-BNP	<i>N-terminal pro-B-type natriuretic peptide</i>
OASIS-5	<i>Organization for the Assessment of Strategies for Ischemic Syndromes-5</i>

OR	<i>Odds Ratio</i>
PJK	Penyakit Jantung Koroner
PKV	Penyakit Kardiovaskular
PLATO	<i>Placebo-controlled Platelet Inhibition and Patient Outcomes</i>
ROS	<i>Reactive Oxidative Stress</i>
RR	<i>Relative Risk</i>
RSUP	Rumah Sakit Umum Pusat
RWMA	<i>Regional Wall Motion Abnormality</i>
SBT	<i>Symptom-onset to balloon time</i>
SKA	Sindroma Koroner Akut
SPECT	<i>Single photon emission computed tomography</i>
STD-R	<i>Resolution of ST-segment depression/ Resolusi depresi segmen-ST</i>
STE-R	<i>Resolution of ST-segment elevation/ Resolusi elevasi segmen-ST</i>
TIMI	<i>Thrombolysis in Myocardial Infarction</i>
TRITON-TIMI	<i>Trial to Assess Improvement in Therapeutic Outcomes by Optimizing Platelet Inhibition with Prasugrel–Thrombolysis in Myocardial Infarction</i>
UFH	<i>Unfractionated Heparin</i>
WHO	<i>World Health Organization</i>
WMSI	<i>Wall Motion Score Index</i>