

DISERTASI

PENGARUH *REMOTE ISCHEMIC POST-CONDITIONING* TERHADAP MEDIATOR CEDERA ISKEMIA REPERFUSI MIOKARDIUM AKUT PADA INTERVENSI KORONER PERKUTAN PRIMER



PROGRAM STUDI ILMU BIOMEDIS PROGRAM DOKTOR
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ABSTRAK

Pengaruh Remote Ischemic Post-Conditioning Terhadap Mediator Cedera Iskemia Reperfusi Miokardium Akut Pada Intervensi Koroner Perkutan Primer

Muhammad Fadil

Latar Belakang: Intervensi Koroner Perkutan Primer (IKPP) berpotensi menyebabkan cedera lebih lanjut pada miokardium. Suatu strategi protektif untuk melindungi organ dari cedera iskemia reperfusi adalah *Remote Ischemic Post Conditioning* (RIPC). ET-1, NO, eNOS, MIF, SDF-1a, TGF-P, dan miRNA-145 tampak bekerja melalui jalur pensinyalan seperti *Survivor Activating Factor Enhancement* (SAFE) dan *Reperfusion Injury Salvage Kinase* (RISK) yang juga dipengaruhi oleh RIPC. Penelitian ini bertujuan membuktikan pengaruh RIPC terhadap mediator-mediator tersebut.

Metode: Penelitian eksperimental ini merupakan suatu *pre and post test only with control group* yang meliputi pasien Infark Miokard Akut Elevasi ST (IMAEST) dan berlangsung sekitar 12 bulan. Analisis bivariat dilakukan untuk mengetahui perbedaan ekspresi rata-rata perubahan antara kelompok perlakuan dan kontrol dari ET-1, NO, eNOS, MIF, SDF-1a, TGF• p, and miRNA-145.

Hasil: Kelompok perlakuan dengan RIPC (n=30) dan kelompok kontrol tanpa RIPC (n=30) diikutsertakan dalam penelitian ini. Tidak terdapat perbedaan bermakna antara kelompok perlakuan dan kontrol pada rerata perubahan kadar ET-1 (p=0.263), MIF (p=0.52), eNOS (p=0.474), NO (p=0.563), SDF-1a (p=0.502), TGF-3 (p=0.735), miRNA-145 berdasarkan Cq (p=0.602), dan miRNA-145 berdasarkan *absolute quantification* (p=0.093).

Simpulan: Tidak terdapat perbedaan bermakna pada perubahan rerata dari NO, eNOS, MIF, SDF-1a, TGF-p, dan miRNA-145 pada pasien IMAEST dengan dan tanpa RIPC.

Kata Kunci: e-NOS, IKPP, IMAEST, MIF, miRNA-145 NO, Remote Ischemic Post Conditioning, SDF-1a, TGF-3

ABSTRACT

Effect of Remote Ischemic Post-Conditioning on Mediator of Acute Myocardial Reperfusion Ischemia Injury in Primary Percutaneous Coronary Intervention

Muhammad Fadil

Background: Primary Percutaneous Coronary Intervention (PPCI) therapy potentially cause further injury to the myocardium. A protective strategy to protect organ from ischemic• reperfusion injury is Remote Ischemic Post Conditioning (RIPC). ET-1, NO, eNOS, MIF, SDF• 1a, TGF-P, and miRNA-145 appear to act in signaling pathways such as Survivor Activating Factor Enhancement (SAFE) and Reperfusion Injury Salvage Kinase (RISK) which are also influenced by RIPC. This study aims to prove an impact from RIPC to these mediators.

Methods: This experimental research is a pre and post test only with control group that included ST Segment Elevation Myocardial Infarction (STEMI) patients in about 12 months. Bivariate analysis was conducted to determine differences in delta mean expression between treatment and control group of ET-1, NO, eNOS, MIF, SDF-1a, TGF-p, and miRNA-145.

Results: Treatment group with RIPC (n=30) and control group without RIPC (n=30) were used in this study. There were no significant differences between treatment and control group in delta mean levels of ET-1 (p=0.263), MIF (p=0.52), eNOS (p=0.474), NO (p=0.563), SDF-1a (p=0.502), TGF-3 (p=0.735), miRNA-145 based on Cq (p=0.602), and miRNA-145 based on absolute quantification (p=0.093).

Conclusion: There was no significant differences in delta mean expression of NO, eNOS, MIF, SDF-1a, TGF-p, and miRNA-145 in STEMI patients with and without RIPC.

Keywords: e-NOS, MIF, miRNA-145 NO, PPCI, Remote Ischemic Post Conditioning, SDF-1 STEMI, TGF-3