# Pengaruh pemberian atorvastatin dosis tinggi sebelum intervensi koroner perkutan primer pada pasien infark miokard akut dengan elevasi segmen ST terhadap perfusi mikrovaskular = Effect of high loading dose of atorvastatin before primary percutaneus coronary intervention on microvascular perfusiob in St elevation myocardial infarction patients

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Abstrak

Latar Belakang: Statin (3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors) melalui efek pleiotrofiknya telah terbukti menurunkan angka kejadian kardiovaskular mayor (KKM) setelah intervensi perkutan pada pasien angina pektoris stabil maupun pasien sindroma koroner akut. Namun masih banyak perdebatan mengenai manfaat statin segera sebelum dilakukan intervensi perkutan primer (IKPP) pada pasien IMA-EST. Tujuan: Untuk mengetahui pengaruh pemberian terapi akut atorvastatin dosis tinggi (80 mg) dan plasebo sebelum IKPP terhadap perfusi mikrovaskular pada pasien IMA-EST yang dinilai dengan teknik IRM (indeks resistensi mikrovaskular). IRM merupakan pemeriksaan mikrovaskular yang spesifik dan bersifat kuantitatif, dapat memberikan nilai prognostik dan prediktor perbaikan fungsi ventrikel kiri setelah dilakukannya IKPP. Metode: Penelitian ini merupakan studi eksperimental acak yang tersamar ganda. Diberikan atorvastatin dosis 80 mg atau plasebo. Sampel diambil secara consecutive dari populasi terjangkau IMA-EST yang menjalani IKPP dan memenuhi kriteria inklusi dan eksklusi. Reperfusi miokardium dinilai dengan parameter IRM dengan menggunakan kawat dengan sensor tekanan dan suhu setelah IKPP selesai dilakukan. Hasil Penelitian: Terdapat 66 sampel yang terbagi dalam 2 kelompok yakni 32 orang mendapatkan atorvastatin 80 mg dan 34 orang mendapatkan plasebo. Tidak didapatkan perbedaan yang signifikan pada kelompok yang mendapatkan atorvastatin 80 mg dan plasebo dalam hal parameter fractional flow reserve (FFR) (0.94 vs. 0.96, p = 0.39), coronary flow reserve (CFR) (1.1 vs. 1.2, p = 0.09) dan IRM (41.54 [12.8-198.2] vs. 41.60 [10.4 ? 200.3], p = 0.61). Kesimpulan: Pemberian terapi atorvastatin dosis tinggi 80 mg sebelum tindakan IKPP pada pasien IMA-EST tidak memberikan pengaruh terhadap perfusi mikrovaskular yang dinilai dengan parameter IMR. .....Background: Statin (3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors), given before percutaneous coronary intervention (PCI) was proven to reduce Major Cardiovascular Events (MACE) in patient with stable angina as well as acute coronary syndromes through its pleiotropic effect. Nevertheless, the debate regarding statin administration before primary PCI (PPCI) in STEMI patients is still on the rise. Objective: To establish therapeutic effect of high dose atorvastatin (80 mg) and placebo before primary PCI on microvascular perfusion in STEMI patient using index of microcirculatory resistance (IMR). IMR are specific and quantitative assessment of coronary microvascular dysfunction, reliable on-site predictors of short-term myocardial viability and left ventricle functional recovery of patients undergoing primary PCI for STEMI. Methods: This study is a double blind randomized controlled trial. A high loading dose of atorvastatin (80 mg) or placebo was administered before PPCI. Samples were taken from the population of STEMI patients which underwent PPCI and meet the inclusion and exclusion criteria. The primary end point of this study is IMR. After successful primary percutaneous coronary intervention, IMR was measured using a pressure-temperature

sensor-tipped coronary guidewire. Result: Total of 66 patients was divided into 2 groups, atorvastatin group (32 patients) and placebo group (34 patients). There were no significant differences between both groups in regard of fractional flow reserve (FFR) (0.94 vs. 0.96, p = 0.39), coronary flow reserve (CFR) (1.1 vs. 1.2, p = 0.09) and also IMR (41.54 [12.8-198.2] vs. 41.60 [10.4 ? 200.3], p = 0.61). Conclusion: Administration of high loading dose of atorvastatin (80 mg) before primary PCI in STEMI patients didn?t have effect on microvascular perfusion measured by index of microcirculatory resistance.