Plasma concentrations of adiponectin in patients with coronary artert disease and coronary slow flow

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Abstrak

Background: Adiponectin, an adipocyte-secreted hormone involved in energy homeostasis, has broad anti-inflammatory, antioxidant, and endothelium- and myocardial-protective effects, together with a potentially positive regulatory function in coronary microcirculation. Although the physiological role of adiponectin has not yet been fully elucidated, it may well be involved in the regulation of many of the inflammatory processes or lipid metabolisms that contribute to atherosclerosis. In this study we investigate the plasma concentration of adiponectin in patients with coronary artery disease (CAD), those with coronary slow flow (CSF) and in healthy subjects.
Methods: this study was conducted according to a cross-sectional design involving 30 CAD, 30 CSF, and 30 healthy subjects. These subjects were sourced from the Dr. Zainoel Abidin Center Hospital, Banda Aceh, Indonesia, between December 2017 and February 2018. The plasma concentration of adiponectin was measured using enzyme-linked immunosorbent assay (ELISA) according to the manufacturer's specifications. Results: there were statistically significant differences at p<0.001 between the CAD, CSF, and healthy-subject groups in terms of age, sex, systolic blood pressure, total cholesterol, triglycerides, and creatinine. Mean plasma concentrations of adiponectin in patients with CAD were significantly lower than in patients with CSF and in healthy subjects (CAD: 3.40 (0.87) g/ml; CSF: 4.58 (2.32) g/ml; healthy subjects: 5.65 (4.87) g/ml; P<0.001).
Conclusion: the findings suggest that low plasma adiponectin concentration is associated with atherosclerosis. Plasma concentrations of adiponectin may be related to the pathophysiology role of cardiovascular disease in both CAD and CSF patients.
.....Latar belakang: Adiponektin, hormon yang disekresikan oleh adiposit yang berperan pada homeostasis energi dan memiliki efek antiinflamasi, antioksidan, endothelium serta efek protektif terhadap endotelium dan miokard dengan fungsi regulasi yang positif terhadap mikrosirkulasi koroner. Meskipun secara fisiologis peran adiponektin masih belum diketahui secara pasti,namun adiponektin berperan pada proses inflamasi atau metabolisme lipid, yang berkontribusi terhadapa proses aterosklerosis. Pada studi ini, kami melakukan evaluasi kadar konsentrasi adiponektin pada pasien CAD, aliran darah lambat dan subjek sehat.
Metode: penelitian ini dilakukan dengan design cross-sectional yang melibatkan 30 pasien CAD, 30 pasien SCF dan 30 pasien subjek sehat dari Desember 2017-Februari 2018 di RSUD dr. Zainoel Abidin, Banda Aceh, Indonesia. Kadar plasma adiponektin di ukur dengan menggunakan alat immunosorbent enzyme-linked (ELISA) sesuai dengan spesifikasi alat.
Hasil: terdapat hasil yang signifikan bermakna secara statistik di antara subjek CAD, SCF dan subjek sehat dalam hal usia, jenis kelamin, tekanan darah sistolik, kolesterol total, trigliserida dan kreatinin dengan p<0,001. Rerata kadar konsentrasi adiponektin pada pasien CAD secara signifikan menunjukkan nilainy yang lebih rendah dibandingkan pasien dengan SCF dan subjek sehat (CAD 3,40 (0,87) g/ml; SCF 4,58 (2,32) g/ml; subyek sehat 5,65 (4,87) g/ml; P<0,001).

Kesimpulan: penelitian ini menunjukkan kadar plasma adiponektin yang rendah merupakan molekul penting yang berhubungan dengan aterosklerosis. Kadar plasma adiponektin mungkin berhubungan dengan peran terjadinya patofisiologi dari penyakit kardiovaskular baik pasien CAD dan CSF