

Perbandingan carotid stiffness pada pasien penyakit jantung koroner stabil dengan dan tanpa diabetes mellitus tipe 2 = Comparison of carotid stiffness between stable coronary artery disease with and without type 2 diabetes mellitus

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Abstrak

[Latar Belakang: Carotid stiffness (CS) merupakan perubahan fungsional pada arteri karotis akibat aterosklerosis. Diabetes mellitus tipe 2 (DMT2) akan mempercepat dan memperburuk aterosklerosis sehingga meningkatkan risiko kejadian kardiovaskular. Sampai saat ini belum ada data di Indonesia tentang CS pada pasien penyakit jantung koroner (PJK) stabil dengan DMT2 yang menggunakan sistem otomatis echotracking ultrasound berbasis frekuensi radio. Penelitian ini bertujuan untuk membandingkan CS pada pasien PJK stabil dengan dan tanpa DMT2.

Metode: Comparative cross-sectional antara kelompok pasien PJK stabil dengan dan tanpa pasien DMT2. Pemeriksaan CS dilakukan dengan posisi pasien berbaring telentang secara non-invasif pada 1 cm sebelum bulbus arteri karotis kiri dan kanan menggunakan automatic echotracking radiofrequency-based ultrasound dengan probe linear 3-13 MHz. Pengukuran CS dilakukan sebanyak enam kali pada masing-masing sisi arteri karotis dengan nilai tertinggi rerata carotid Pulse Wave Velocity (car-PWV) sebagai nilai CS individu.

Hasil: Dari total 42 pasien (21 pasang) yang diperiksa didapatkan nilai rerata car-PWV pasien PJK stabil dengan DMT2 lebih tinggi dibandingkan pasien PJK stabil tanpa DMT2 ($9,8 \pm 1,3 \text{ m/s}$ vs $6,7 \pm 1,3 \text{ m/s}$, $p < 0,001$).

Kesimpulan: Nilai carotid stiffness pasien PJK stabil dengan DMT2 lebih tinggi dibandingkan pasien PJK stabil tanpa DMT2.;Background: Carotid stiffness (CS) represents the functional changes in carotid

arteries due to atherosclerosis. Progression of atherosclerosis was more accelerated in type 2 diabetes mellitus (T2DM) compared to non-diabetic patient, thus increasing the risk of cardiovascular events. Until now there is no data of CS in stable coronary artery disease (CAD) with T2DM in Indonesia using automatic echotracking radiofrequency-based ultrasound. The aim of this study was to compare CS in stable CAD with and without T2DM patient.

Method: Comparative cross-sectional between group of stable CAD with and without T2DM patients. CS was measured in patient lying down non-invasively at 1 cm proximal to bulbus of the left and right carotid artery using automatic echotracking radiofrequency-based ultrasound system, 3-13 MHz linear probe. The highest mean carotid pulse wave velocity (car-PWV) value of six measurements of both side was used as an individual CS.

Result: Total 42 patients (21 pairs) was examined. Mean value of car-PWV stable CAD with T2DM patient is higher than stable CAD without T2DM patient (9.8 1.3 m/s vs. 6.7 1.3 m/s, $p < 0.001$)

Conclusion: Carotid stiffness value of stable CAD with T2DM patient is higher than stable CAD without T2DM patient.;Background: Carotid stiffness (CS) represents the functional changes in carotid

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