

Hubungan derajat Neuropati Perifer Diabetik dengan Ankle Brachial Index, Toe Brachial Index dan Transcutaneous Partial Oxygen Pressure Pada Pasien Diabetes Melitus Tipe 2 = The Association between degree of Diabetic Peripheral Neuropathy with Ankle Brachial Index, Toe brachial index, and Transcutaneous Partial Oxygen Pressure in Patients with type 2 diabetes mellitus

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Abstrak

Latar belakang: Diabetes melitus merupakan faktor risiko penting terjadinya aterosklerosis, aterosklerosis merupakan penyakit sistemik yang bisa terjadi di seluruh pembuluh darah baik pada mikrovaskular maupun makrovaskular. Adanya bukti iskemia akibat stenosis yang disebabkan aterosklerosis pada salah satu pembuluh darah, mengharuskan kita lebih waspada akan adanya proses aterosklerosis di tempat lain. NPD di kaki terjadi akibat komplikasi diabetes pada mikrovaskular yang akhirnya mengakibatkan kerusakan pada persarafan di kaki. Maka perlu mewaspadai proses aterosklerosis di tempat lain, baik pada pembuluh arteri makro maupun mikrovaskular di kaki. Pemeriksaan non invasif untuk melihat adanya gangguan makrovaskular di kaki menggunakan ABI dan TBI sedangkan untuk gangguan mikrovaskular dengan TcPO₂. Penelitian ini dilakukan untuk dapat menilai hubungan derajat neuropati perifer diabetik yang dinilai dengan TCSS dengan proses aterosklerosis dipembuluh darah kaki, baik yang makrovaskular dengan ABI dan TBI maupun mikrovaskular TcPo₂ pada pasien DM tipe 2.

Metode: Penelitian potong lintang dilakukan pada pasien DM tipe 2 dengan NPD dengan nilai TCSS >5 di Poliklinik Pelayanan Jantung Terpadu, poliklinik Endokrin dan Metabolik dan Poliklinik Ilmu Penyakit Dalam Umum RSCM. Data diperoleh dari wawancara, rekam medik, pemeriksaan ABI, TBI dan TcPO₂. Variabel penelitian berupa derajat neuropati perifer, ABI, TBI dan TcPO₂. Analisis bivariat terhadap masing-masing variable dengan menggunakan uji Spearman.

Hasil: Sebanyak 36 subjek yang memenuhi kriteria pemilihan diikuti dalam penelitian, rerata usia 62 tahun dengan 20 (55,6%) di antaranya perempuan dan median lama diabetes 12 tahun. Berdasarkan analisa bivariat dengan uji spearman penelitian ini mendapatkan korelasi negatif yang bermakna secara statistik dengan koefisien korelasi sedang antara derajat neuropati perifer diabetik yang dinilai dengan TCSS dengan ABI ($r = -0,475$, $p = 0,003$) dan TBI ($r = -0,421$, $p = 0,010$). Dan pada pemeriksaan TcPO₂ juga di dapatkan korelasi negatif yang bermakna secara statistik dengan koefisien korelasi sedang ($r = -0,399$, $p = 0,016$)

Simpulan : Terdapat korelasi negatif yang bermakna secara statistik antara derajat neuropati perifer diabetik dengan ABI, TBI dan TcPO₂.

.....Background: Diabetes mellitus is important risk factor of atherosclerosis.

Atherosclerosis is systemic disease that can occur in all blood vessels both microvascular and macrovascular. There is evidence of ischemia due to stenosis caused by atherosclerosis in one blood vessel, which requires us to be more aware with the process of atherosclerosis in other places. Diabetic peripheral neuropathy (DPN) in the lower extremity results from complications of diabetes in the microvascular which can damage nerve in the lower extremity. Then it is necessary to be aware of the process of atherosclerosis elsewhere, both in the macro and microvascular arteries in the lower extremity. Non-invasive examination to look macrovascular disorders in the lower extremity are using ankle brachial index (ABI) and toe brachial index (TBI) while for microvascular disorders with TcPO₂. This study was conducted to assess the association of the degree of diabetic peripheral neuropathy assessed by Toronto Clinical Scoring System (TCSS) with the process of atherosclerosis in the blood vessels of the lower extremity, both macrovascular with ABI and TBI as well as microvascular TcPO₂ in Patients with type 2 diabetes mellitus (DM)

Methods: Cross-sectional study was carried out in patients with type 2 DM with DPN with TCSS values > 5 in the Integrated Cardiac Polyclinic, Endocrine and Metabolic Polyclinic, and Internal Medicine Polyclinics at RSCM. The Data were obtained from interviews, medical records, ABI, TBI and TcPO₂ examinations. The research variables are the degree of peripheral neuropathy, ABI, TBI and TcPO₂. Bivariate analysis of each variable was used the Spearman test.

Results: Total of 36 subjects who met the selection criteria were included in the study, the average age was 62 years with 20 (55.6%) of whom were women and the median duration of diabetes was 12 years. Based on bivariate analysis with the Spearman test, this study found a statistically significant negative correlation with moderate correlation coefficient between the degree of diabetic peripheral neuropathy assessed by TCSS with ABI ($r = -0.475$, $p = 0.003$) and TBI ($r = -0.421$, $p = 0.010$). The TcPO₂ examination also found a statistically significant negative correlation with moderate correlation coefficient ($r = -0.399$, $p = 0.016$)

Conclusion : There is a statistically significant negative correlation between the degree of diabetic peripheral neuropathy with ABI, TBI and TcPO₂ examinations.