

## Scoring system development and added value of albuminuria to estimate carotid intima-media thickness (CIMT) in type 2 diabetes mellitus patients / Indra Wijaya, Em Yunir, Dharmeizar, Ika P. Widjaya, Siti Setiati

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### Abstrak

Tujuan: mengembangkan sistem skor dan menentukan nilai tambah diagnostik albuminuria dalam mengestimasi carotid intima-media thickness (CIMT). Metode: studi potong lintang dilakukan di poliklinik endokrin RSCM bulan Maret-Mei 2012 pada pasien DMT2 tanpa komplikasi serebrokardiovaskular, penyakit ginjal kronis (PGK) stadium &#8805; III, dan tidak merokok. Kami melakukan analisis statistik yang dilanjutkan dengan pembuatan sistem skor. Hasil: dari 71 subjek, didapatkan CIMT dan albuminuria masing-masing sebesar 67,6% dan 73,3%. Dari 48 subjek dengan CIMT, sebanyak 87,5% mengalami albuminuria. Pemeriksaan albuminuria memiliki sensitivitas sebesar 87,5%. Penambahan nilai albuminuria akan meningkatkan AUC sebesar 2,3%. Skor estimasi untuk variabel lama terdiagnosis DM, hipertensi, dislipidemia berturut-turut sebesar 1, 2, 1. Skor probabilitas CIMT pada skor <2, 2, dan >2 sebesar 15%, 57%, dan 90%. Kesimpulan: pemeriksaan albuminuria meningkatkan nilai tambah diagnostik CIMT. Sistem skor dapat digunakan sebagai alat skrining terhadap CIMT pada pasien DM tipe 2 tanpa komplikasi serebrokardiovaskular, PGK stadium &#8805; III, dan tidak merokok.

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Aim: to develop a scoring system and measure the diagnostic added value of albuminuria to estimate CIMT. Methods: cross-sectional study was done in Endocrine Outpatient Clinic Cipto Mangunkusumo Hospital between March-May 2012 in T2DM patients without history of cerebrocardiovascular event, CKD stage &#8805; III, and smoking.

Bivariate analysis and multivariate (logistic regression) analysis was done, followed by developing the scoring system. Results: from 71 subjects, there were 67.6% with increased CIMT and 73.3% with albuminuria. From 48 subjects with increased CIMT, 87.5% had albuminuria. Albuminuria measurement had high sensitivity (87.5%).

Adding albuminuria measurement will increase the AUC as 2.3%. Estimation score for duration of DM, hypertension, dyslipidemia were as follows 1, 2, 1 respectively. Probability score of increased CIMT for score <2, 2, and >2 was as follows 15%, 57%, and 90%. Conclusion: albuminuria measurement increase the diagnostic value of CIMT.

Scoring system can be used as a screening tool to estimate the increased of CIMT in type 2 DM patients without history of cerebrocardiovascular event, CKD stage &#8805; III, and smoking