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Carotid intima-media thickness in patients with type 2 diabetes and the metabolic syndrome related factors

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Objective: To evaluate the relationship between carotid intima-media thickness (IMT) and metabolic syndrome (MS) with its components in type 2 diabetes mellitus (T2DM) patients.

Methods: A random cluster sampling was conducted in 1884 employees of T2DM. All the subjects were divided into 2 groups according to the IMT levels, control group: IMT<0.90 mm (n=1083) and IMT increased group: IMT ≥ 0.90 mm (n=801). The risk factors of metabolic syndrome (MS) in T2DM subjects with IMT were investigated.

Results: Compared with the control group, age, BMI, duration of diabetes mellitus, waist circumference (WC), hip circumference (Hip), SBP (systolic blood pressure), LDL and lnCRP (log C-reactive protein, lnCRP) were significantly higher in the IMT increased group (p<0.05). Multifactor logistic regression analysis demonstrated that age ≥ 40 years, Duration ≥ 10 years, BMI ≥ 24 kg/m², WC ≥ 95 cm, Hip ≥ 101 cm, LDL ≥ 3.31 mmol/L, lnCRP ≥ 2.34 mg/L and hypertension (HTN) were independent risk factors of the IMT thickening in T2DM patients. Clustering analysis revealed that several metabolic syndrome (MS) components have a significant correlation with different levels of IMT and there is a dose-response relationship.

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