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# **VASCULAR ENDOTHELIAL FUNCTION MEASUREMENT AND INSULIN RESISTANCE INDEX CONTRIBUTE TO THE PREDICTION OF ERECTILE DYSFUNCTION IN YOUNG MAN**

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**Objectives** Investigate the relationship between glycometabolic disorders and erectile dysfunction (ED) without organic aetiology in young man under the age of 40 years.

**Methods** 192 patients and 33 normal controls were enrolled. ED was evaluated by using the International Index of Erectile Function-5 (IIEF-5) questionnaire. We measured traditional cardiovascular risk factors, hormone levels and vascular parameters. The HOMA index was calculated as the product of the fasting plasma insulin level ( $\mu\text{U}/\text{ml}$ ) and the fasting plasma glucose level ( $\text{mmol}/\text{l}$ ), divided by 22.5. Insulin Resistance (IR) was measured by homeostasis model assessment (HOMA).

**Results** Patients with ED had significantly higher systolic blood pressure (SBP), High-sensitivity C-reactive protein (hsCRP), high Insulin resistance index (HOMA- IR) and carotid intima- media thickness (IMT), compared with controls. Brachial artery endothelium- dependent flow- mediated vasodilation (FMD) was significantly reduced in ED patients. By multivariate logistic regression analysis, FMD, SBP, hsCRP and HOMA- IR were significantly associated with ED. In receiver- operating characteristic (ROC) analysis, FMD was a significant predictor of ED (area under the curve (AUC) 0.928,  $p < 0.001$ ). The cut-off value of FMD  $< 9.6\%$  had sensitivity of 80.9% and specificity of 100%. HOMA- IR were also predictor of ED (AUC of HOMA- IR 0.762,  $p < 0.001$ ).

**Conclusions** ED may be the first clinical sign of endothelial dysfunction and a clinical marker of cardiovascular and metabolic diseases. Endothelial dysfunction, underlying insulin resistance in young ED patients without well-known related risk factors may be the underlying pathogenesis of ED in young patients as in elderly one. Measurement of FMD, HOMA- IR can improve our ability to predict ED in young man.