Predictors of ischaemic heart disease in a Malaysian population with the metabolic syndrome

Abstract

Aims Cardiovascular disease is the foremost cause of mortality in Malaysia but little is known about the prevalence of the metabolic syndrome and its associations with other known cardiovascular risk markers. We undertook a population-based study to examine these. Methods For the study, 4341 subjects were selected using a multistage stratified sampling method. Subjects were interviewed for personal and past medical history. Biomedical markers and anthropometric indices were measured. The metabolic syndrome was defined using the harmonized criteria. The associations between the metabolic syndrome and cardiovascular risk markers, including high-sensitivity C-reactive protein, microalbuminuria and HbA 1c were examined. Results The prevalence of the metabolic syndrome was 42.5%. Subjects with the metabolic syndrome are significantly more likely to have higher BMI (>25kg/m 2), HbA 1c [≥42mmol/mol (6.0%)], LDL (≥2.6mmol/l), elevated albumin:creatinine ratio (>2.5μg/mmol creatinine for men, 3.5μg/mmol creatinine for women) and high-sensitivity C-reactive protein (>3mg/l); odds ratio 5.48, 6.14, 1.44, 3.68 and 1.84, respectively, $P<0.001$. The presence of an elevated albumin:creatinine ratio and high-sensitivity C-reactive protein are strong predictors for the presence of a higher number of positive criteria of the metabolic syndrome. HbA 1c >48mmol/mol (6.5%) is associated with increased relative risk of elevated albumin:creatinine ratio, high-sensitivity C-reactive protein and LDL (relative risk 3.10, 2.46 and 1.65 respectively, $P<0.001$). Conclusions We confirmed the high prevalence of the metabolic syndrome in Malaysia. Our study revealed a strong relationship between risk markers of elevated BMI, HbA 1c, LDL, albumin:creatinine ratio and high-sensitivity C-reactive protein with the presence of the metabolic syndrome, putting them at a statistically high risk for cardiovascular mortality. © 2012 The Authors. Diabetic Medicine.