Menopause is an independent predictor of metabolic syndrome in Iranian women

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Abstract: Background: Gender differences in prevalence and consequences of the metabolic syndrome as a strong predictor of cardiovascular disease (CVD), are challenging problems. Postmenopausal status may explain in part the cause of acceleration of CVD with aging. The purpose of this study was to investigate the relation of menopause and metabolic syndrome independent of aging among Iranian women.

Methods: On the basis of consecutive recruitment, 940 women between 20 and 76 years old participated in the study. Anthropometric indices, fasting blood glucose, lipid profile were measured, Framingham risk score and homeostasis model assessment (HOMA-IR) were calculated for all participants. The metabolic syndrome (MetS) was defined according to the National Cholesterol Education Program Adult Treatment Panel III. We used IDF definition for metabolic syndrome modified by our recent local data as an alternative measurements.

Results: The overall prevalence of metabolic syndrome was 26.4%. Its prevalence was 53.5% in postmenopausal versus 18.3% in premenopausal women. On binary logistic regression analysis, HOMA index, body mass index, waist to hip ratio, family history of diabetes and hypertension had an independent and significant effect on metabolic syndrome. Age-adjusted odds ratio (OR) of postmenopausal status for metabolic syndrome was 2.85 (95%CI: 1.31-6.20) (P<0.008). Framingham risk score was 8.3 +/- 7.7 in MetS+ve cases versus 1.9 +/- 2.1 in MetS-ve cases (P<0.001). There were significant differences between Framingham risk score in postmenopause 9.1 +/- 6.4 versus premenopause 1.6 +/- 1.6 (P<0.001). A significant correlation was found between Framingham risk score and body mass index, waist to hip ratio, HOMA-IR and components of metabolic syndrome (P<0.001). Forty percent of participants with premature menopause had metabolic syndrome versus 24% in age-matched group and Framingham risk score was significantly higher than normal cases 5.4 +/- 4.9 versus 2.0 +/- 2.3 (P<0.001).

Conclusion: Menopausal status can be a predictor of metabolic syndrome independent of age in Iranian women. Menopause is a process closely related to insulin resistance and cardiovascular risk factors. (C) 2009 Elsevier Ireland Ltd. All rights reserved.

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