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### Comparison of insulin resistance and metabolic syndrome as a optimal criteria for metabolically obese, normal weight

Dong Wook Jeong(1,2), Hyerim Hwang(3)

(1) Pusan National University, Pusan, South Korea

(2) Pusan National University Yangsan Hospital, Yangsan, South Korea

(3) Pusan National University Hospital, Pusan, South Korea

*Corresponding author: Assistant Professor Dong Wook Jeong, Pusan National University Yangsan Hospital, Family Medicine, Yangsan-Si, Gyeongsangnam-Do, South Korea. E-mail: dwjeong75@hanmail.net*

**Background & Aim:** In certain populations with metabolic abnormalities, body mass index is not sufficient for defining obesity. In the present study, we aimed to determine the optimal criteria for metabolically obese, normal weight (MONW) with insulin resistance or with metabolic syndrome to complement body mass index in a Korean population.

**Method:** This was a cross-sectional study in which data from the Korean National Health and Nutrition Examination Survey in 2010-2012 were collected and retrospectively analysed. In total, 6274 normal weight adults were included in our analyses. The subjects were classified as MONW with insulin resistance (MONW-IR) and MONW with metabolic syndrome (MONW-Mets) to analyse the risk of cardiovascular events by using the Framingham risk score and atherosclerotic cardiovascular disease risk equation.

**Results:** Compared to those without insulin resistance, the odds ratio for the risk cardiovascular disease using the Framingham risk score in the MONW-IR group (1.132; 95% confidence interval, 0.854–1.502) was not significantly increased, whereas the odds ratio for the risk cardiovascular disease using the atherosclerotic cardiovascular disease risk equation in the MONW-IR group (1.809; 95% confidence interval, 1.410–2.322) was significantly increased. However, after excluding patients with diabetes mellitus, who represented the majority of MONW-IR subjects, the risk of cardiovascular disease was not significantly increased.

**Conclusions:** To diagnose MONW, using metabolic syndrome criteria may represent a useful screening tool in the Korean population. However, further prospective studies are hence needed to confirm our findings.