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Serum ferritin level is positively associated with insulin resistance and metabolic syndrome in postmenopausal women: A nationwide population-based study

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Serum ferritin, a marker of iron metabolism, has recently emerged as a biomarker of chronic low-grade inflammation. After menopause, there is a remarkable increase in insulin resistance (IR) and metabolic syndrome (MetS), which is increasingly being viewed as an inflammatory disease. We examined the associations of serum ferritin with insulin resistance and MetS in postmenopausal women. A nationwide cross-sectional study was conducted to examine the relationship between serum ferritin and IR and MetS in 2734 post-menopausal women using data from the 2010-2012 Korean National Health and Nutrition Examination Survey. The odds ratios (ORs) and 95% confidence intervals (CIs) for insulin resistance (HOMA-IR \geq 75th percentile, 3.04) and MetS were calculated using multiple logistic regression analyses across serum ferritin quartiles (Q1 \leq 36.25; Q2, 36.56-56.56; Q3, 56.57-85.98; and Q4 \geq 85.99 ng/ml). The mean values of most cardiometabolic variables tended to increase proportionally with serum ferritin quartiles. The proportion of insulin resistance and MetS significantly increased in accordance with serum ferritin quartiles. Compared to individuals in the lowest quartile, the ORs (95% CIs) in the highest quartile were 2.06 (1.23-3.45) for IR and 1.92 (1.44-2.55) for MetS after adjusting for age, cigarette smoking, alcohol intake, and regular exercise. In summary, serum ferritin levels were positively and independently associated with IR and MetS in postmenopausal women. These findings suggested serum ferritin to be an additional biomarker for IR and MetS in postmenopausal women.

Biography

Jin Young Hwang has completed his Medicine at Yonsei University College of Medicine. She is currently PGY-2 Family Medicine Resident Physician at the Gangnam Severance Hospital. Her research interests include insulin resistance and the risk of metabolic syndrome in postmenopausal women.

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