

P133

INCREASED FERRITIN AS A PREDICTOR FOR METABOLIC SYNDROME: A 5-YEAR FOLLOW-UP STUDY IN 1599 WORKERS IN AN ELECTRONIC-MANUFACTURING FACTORY IN TAIWAN

Lukas Lee,¹ Tun-Jen Hsiao,² Juei-Chan Chen,³ Jung-Der Wang⁴ ¹National Health Research Institutes, Miaoli, Taiwan; ²Hsiao's Charity Clinic, Taoyuan, Taiwan; ³Taoyuan General Hospital, Taoyuan, Taiwan; ⁴NTU, Taipei, Taiwan

10.1136/oemed-2011-100382.347

Objectives To investigate the relationship between ferritin and metabolic syndrome (MS).

Methods In 2002 and 2007, we conducted the annual physical examination for the workers in an electronic-manufacturing factory. Each individual underwent liver ultrasonographic examination and blood biochemistry tests. Body mass index (BMI), blood pressure, and waist circumference were measured by the registered nurses. Comprehensive study including ferritin, insulin resistance measured by homeostasis model assessment was available in 2002. MS was diagnosed if 3 or more of the following situations were fulfilled: waist circumference: male ≥ 90 cm or female ≥ 80 cm; fasting sugar ≥ 100 mg/dl; blood pressure $\geq 130/85$ mm-Hg; triglyceride ≥ 150 mg/dl; HDL-cholesterol: male < 40 mg/dl or female < 50 mg/dl.

Results A total of 1599 workers were recruited. Males accounted for 73%. The mean age was 33.6 ± 7.8 years. MS was diagnosed in 21% of all the workers. The prevalence of MS significantly increased with the tertiles of ferritin in 2002 for both genders. In analysis of the subgroup of BMI less than 24 in male adults, we found that ferritin ≥ 200 $\mu\text{g/l}$ was associated with MS with an OR of 2.8 (95% C.I. 1.2–6.7) after controlling for age, BMI and insulin resistance in multiple logistic regressions.

Conclusions Increased ferritin significantly predict the risk of MS 5 years later in an occupational cohort of healthy male

adults. Physicians should notice the increased risk of MS in the subjects with high ferritin level in addition to traditional risk factors.