Risk factors of proteinurina by ordinal logistic regression; Korean National Screening Data

Yu-Mi Yang¹, Soon Kil Kwon¹, Hye-Young Kim¹, Sun Moon Kim¹, Hyunjeong Cho¹, Tae-Young Heo²
¹Department of Internal Medicine-Nephrology, Chungbuk National University Hospital, Korea, Republic of
²Department of Statistics, Chungbuk National University, Korea, Republic of

Objectives:
Routine dipstick screening for proteinuria is biennially provided to all Korean population. Proteinuria is an independent risk factor of renal disease progression and also could be an important marker of atherosclerosis and vascular inflammation. However, there is still lack of data about the association between proteinuria and other cardiovascular and renal risk factors in the general population. We investigated parameters which used for routine metabolic disease screening to whom showed incidental proteinuria.

Methods:
We used data of National Health Insurance Screening Data in 2015 of 1,000,000 random individuals. Compared proteinurina with screening markers such as weight, waist circumference, blood pressure, lipid, creatinine, smoking and drinking. All data were analyzed by ordinal logistic regression.

Results:
Total 93,654 individuals were enrolled, and 89,509 (95.6%) were negative for proteinuria. 2,194 (2.3%) were trace and 1,951 (2.1%) were 1+ of dipstick proteinuria. There was significant association between proteinurina (-, trace, +) and waist circumference (80.8±9.6 vs. 80.9±105 vs 83.3±11.4 cm; ρ < 0.001), fasting glucose (97.3±21.4 vs. 100.6±28.1 vs. 113.3±45.0; ρ < 0.001), triglyceride (128.4±92.3 vs. 129.9±96.9 vs. 153.2±119.0; ρ < 0.001), and gamma GT (37.4±46.3 vs. 41.7±56.0 vs. 51.5±74.1; ρ < 0.001) as metabolic syndrome markers. Also, there was significant association proteinurina and systolic blood pressure (120.6±13.7 vs. 121.0±15.7 vs. 125.6±16.7; ρ < 0.001), diastolic blood pressure (75.4±9.6 vs. 75.7±10.7 vs. 77.9±11.4; ρ < 0.001), and serum creatinine (0.88±0.36 vs. 0.88±0.23 vs. 1.04±0.72; ρ < 0.001) as cardio and renal markers.

Conclusions:
Proteinurina on routine screening of healthy individuals also could be an important indicator for metabolic and vascular disease.