P-13

4년간 내장지방축적과 단백뇨 발생과의 연관성 조사

한림대학교 성심병원 신장내과

김영수, 김좌경, 송영림, 권영준, 김형직, 주영수, 김성균

Four-year Changes in Visceral Fat Mass and the Risk of Developing Proteinuria in the General Population

Youngsu Kim, Jwa-Kyung Kim, Young Rim Song, Young-Jun Kwon
Hyung Jik Kim, Young-Su Ju, Sung Gyun Kim

Department of Internal Medicine, Kidney Research Institute, Hallym University Sacred Heart Hospital

Background: Previous cross-sectional studies showed the close relationship between increased visceral fat and high prevalence of proteinuria. In this longitudinal cohort study with the general population, we evaluated the effects of baseline visceral fat mass (VFM) as well as 4-year changes in VFM (ΔVFM) on proteinuria development.
Method: A total of 2393 healthy individuals who participated in two health screening check-ups separated by a 4-year period were analyzed. VFM was measured using bioimpedance analysis, and subjects were divided into 3 groups by gender-specific tertiles of the baseline VFM and ΔVFM. Each patient was tested for proteinuria with a dipstick (-,±,1+,2+,or 3+), and proteinuria was defined as 1+ or greater.
Results: The mean age was 51.9±7.7 years, 23.4% were men, and the incidence of proteinuria was 3.9% (n=93). At baseline, increasing age and various obesity-related cardiometabolic parameters such as higher blood pressure (BP), increased waist circumference, and higher levels of VFM were significantly associated with future proteinuria development. Also, the incidence of proteinuria development was significantly increased with higher tertiles of Δ VFM. Even after adjustment of age, smoking, systolic and diastolic BP, serum creatinine and hs-CRP levels, each of the highest tertile of baseline VFM (men; OR 3.43, 95% CI 1.22-9.67, women; OR 2.01, 95% CI 1.05-4.15) and Δ VFM (men; OR 2.92, 95% CI 1.22-6.99, women; OR 3.16, 95% CI 1.56-6.39) were independent predictors of the proteinuria development. When both were adjusted, subjects with the highest tertile of baseline VFM and ΔVFM showed the highest risk of proteinuria development, suggesting the additive harmful effect of those two parameters.
Conclusion: Both baseline excess VFM and increased ΔVFM over the 4-years were important risk factors for developing proteinuria in the general population. Adequate education and interventions to prevent accumulation of visceral fat over time should be a major focus.

Key Words: 내장비만, 단백뇨, 추적관찰
Visceral fat mass, General population, Proteinuria development