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### 性別差異在蛋白尿與動脈硬化風險的相關性— 6.6年追蹤的世代研究

Gender Difference in the Relationship of Albumiuria and The Risk of Arterial Stiffness in Chinese Adults- a 6.6 Year Follow-up Cohort Study

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**Background :** Brachial-ankle pulse wave velocity (baPWV) reflects the stiffness of central and peripheral muscular arteries. Albuminuria is recognized as a marker of vascular dysfunction. Limited information is available for the association between albuminuria and risk of arterial stiffness in Chinese. We aimed to assess the association between arterial stiffness and albuminuria in a middle-aged population-based study.

**Methods :** This is a cross-sectional and longitudinal cohort study. A total of 2331 subjects aged 40 years and over were recruited in 2004 in Taiwan for cross-sectional analysis. Longitudinal analysis included 652 baseline non-arterial stiffness subjects with a mean 6.6 years follow-up. Albuminuria was defined as urinary albumin-to-creatinine ratio (ACR)  $\geq$  30 mg/g creatinine. Arterial stiffness was defined as BaPWV: 1540 cm/sec and BaPWV: 1480 cm/sec in male and female respectively, according to previous study. Multiple linear and logistic regression analyses were used to evaluate the relationship between albuminuria and prevalence and incidence of arterial stiffness.

**Results :** After 6.6 years follow up, 209 non-arterial stiffness subjects developed incident arterial stiffness. In this study, arterial stiffness is significantly associated with albuminuria in male adult, not in female adults. After adjusting for age, body mass index, mean arterial pressure, fasting glucose, triglycerides, total cholesterol, eGFR, smoking, alcohol drinking, and physical activity status, multiple linear regression analyses showed that  $\Delta$ baPWV was positively associated with urinary  $\Delta$ ACR in Chinese male adults. After 6.6 years follow up, using multiple logistic regression analyses, the adjusted odds ratio of having arterial stiffness among male subjects with albuminuria was 4.68(95% confidence interval (CI): 1.08-20.23), compared to the male subjects without albuminuria at baseline.

**Conclusion :** Subjects with albuminuria increase the risk of arterial stiffness among Chinese middle-aged male adults in 6.6 years follow up. These subjects may consider regular screen for arterial stiffness in the future.