

中文題目：社區世代研究探討血清瘦體素在慢性腎病的角色

英文題目：Serum leptin is associated with low eGFR but not proteinuria in Chronic Kidney Disease: A community-based study

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Background: The burden and impact of Chronic Kidney Disease (CKD) remain area of concern from public health perspective. Substantial proportion of patient developed CKD in spite of proper control of traditional risk factors. Obesity has paradoxical effect on the outcome of renal patients. Several adipokines were proposed to have mechanistic implication on the development of this disease; however, the exact role on development of CKD remains unclear. Here, we investigated the association of leptin on the surrogates of renal functions in a large cohort of community habitants.

Methods: In this community-based study, we studied the association between serum leptin level and the eGFR and proteinuria in community habitants. 5072 participants were enrolled from communities of Northern Taiwan and 4071 participants have complete laboratory data for assessment. Correlation was used to evaluate the relationship of log serum level with different biochemical parameter. Logistic regression analysis was applied to elucidate the association between serum leptin and the outcome of interest.

Results: The mean age was 57.6 ± 12.97 years, mean eGFR was 94.9 ± 26 mL/min/1.73 m² and 34.7% were men. Diabetes was present in 16.1% of all participants. The prevalence of CKD was 18%. CKD patients were more likely to have low education levels, older age, diabetes, obesity, metabolic syndrome, hypertension and cardiovascular disease. Log leptin was significant correlated with creatinine, hemoglobin, P, Cl, CO₂, albumin, cholesterol, LDL, triglyceride, log iPTH, log vitamin D, log hs-CRP, log urine ACR, SBP, DBP, waist circumference, BMI and HOMA-IR. Multivariate logistic regression analysis revealed independent association of log serum leptin with eGFR < 60 ml/min (OR:1.369, 95%CI: 1.162~1.612, p<0.001) but not for proteinuria (OR: 1.034, 95%CI: 0.933~1.147, p=0.524).

Conclusions: Serum leptin may represent a novel serum biomarker for early diagnosis of CKD, in addition to other many traditional risk factors. Further work should be needed to clarify the mechanistic role of this finding and to design therapeutic intervention associated with manipulation of this biomarker.

Keywords: Chronic Kidney Disease, community, leptin, metabolic syndrome, obesity