

## Association of Serum Adiponectin Level with Albuminuria in CKD Patients: (KNOW-CKD)

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**Background:** A decreased adiponectin concentration has been known to be associated with insulin resistance or metabolic syndrome such as obesity. The relationship between circulating adiponectin and albuminuria has yielded conflicting biphasic pattern. It remains to be clarified whether elevated levels of serum adiponectin are pathogenically related to the development of microvascular complications or represent a beneficial counter-regulatory response.

**Methods:** We investigated the association between serum adiponectin and albuminuria in CKD stage 1-5 (non-dialysis) patients in Korea based on the baseline data obtained from a prospective cohort study (KoreaN Cohort Study for Outcome in Patients With Chronic Kidney Disease : A 10-year Longitudinal Cohort Study of the Chronic Kidney Disease (KNOW-CKD)). Adiponectin level was measured using ELISA.

**Results:** The serum adiponectin levels were higher in patients on CKD stage 4 to 5 than in those on CKD stage 1 to 3. The serum adiponectin levels were increased in the advanced albuminuria (9.5±5.8 ug/ml in patients with normoalbuminuria, 12.2±9.2 ug/ml in patients with microalbuminuria, 15.0±10.6 ug/ml in patients with macroalbuminuria, p<0.001 respectively). Multiple stepwise regression analysis disclosed that estimated glomerular filtration rate, gender differences, body mass index, serum albumin, high-density lipoprotein, low-density lipoprotein, triglycerides and urine albumin to creatinine ratio were independently associated with serum adiponectin levels (r=0.53).

**Conclusion:** The serum adiponectin concentrations was higher in patients with macroproteinuria, and these levels were also associated with renal insufficiency and urine albumin to creatinine ratio.

**Key Words:** Adiponectin, Albuminuria, CKD