

below normal value according to gender. The correlation of prealbumin and the other nutrition parameters was shown in the table.

	prealbumin	albumin	HGS	CRP	lean body mass	body cell mass
prealbumin	1.000	0.484 ^b	0.443 ^b	-0.419 ^b	-0.016	-0.012
albumin	0.484 ^b	1.000	0.218	-0.347 ^a	0.052	0.073
HGS	0.443 ^c	0.218	1.000	-0.112	0.401	0.406 ^a
CRP	-0.419 ^b	-0.347 ^a	-0.112	1.000	0.128	0.114
lean body mass	-0.016	0.052	0.401	0.128	1.000	0.997 ^b
body cell mass	-0.012	0.073	0.406 ^a	0.114	0.997 ^b	1.000

^a $p < 0.05$

^b $p < 0.01$

^c $p < 0.001$

We concluded that HGS may be a comfortably and non invasive alternative technique used to indicate nutrition status in CAPD patients.

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A HIGH RATHER THAN LOW PLASMA ADIPONECTIN PREDICTS HIGHER MORTALITY AND MORE ADVERSE CARDIOVASCULAR OUTCOMES IN INFLAMMED PERITONEAL DIALYSIS PATIENTS

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Plasma adiponectin (ADPN) is markedly elevated in end-stage renal disease (ESRD) patients compared to healthy controls. In this study, we aimed to evaluate clinical correlates of plasma ADPN and its importance in predicting clinical outcomes in chronic peritoneal dialysis (PD) patients. Furthermore, we evaluated the relationship between ADPN and C-reactive protein (CRP) in predicting outcomes of these patients. We prospectively measured plasma ADPN, CRP and other biochemical parameters and body composition in 238 ESRD patients on maintenance PD ≥ 3 months. Patients were followed for a median of 48 months. The plasma ADPN was 24.6 (13.9, 39.8) and 23.0 (13.9, 32.7) $\mu\text{g/ml}$ for men and women, respectively ($P=0.42$). Multiple linear regression analysis showed that log-transformed ADPN was correlated with body fat mass ($P=0.008$), residual glomerular filtration rate ($P=0.005$), log-CRP ($P < 0.001$), serum albumin ($P=0.004$), triglyceride ($P < 0.001$) and HDL-cholesterol ($P < 0.001$). Univariate Cox regression analysis showed that plasma ADPN showed no significant association with all-cause mortality and cardiovascular death. However, stratifying patients into 4 groups on the basis of high or low CRP and high or low ADPN (stratified by their median levels), those with high CRP and high ADPN were dialyzed for the longest duration, had the lowest serum albumin, lowest LDL-cholesterol and residual GFR but highest CRP among the four groups. Body mass index and body fat mass were the highest among patients with high CRP, low ADPN. In the multivariable Cox regression analysis controlling for confounding covariates, patients with high CRP and high ADPN showed a 2.33-fold (95% CI, 1.24–4.35; $P=0.008$) and 2.47-fold (95% CI, 1.09–5.63; $P=0.031$) increased risk of mortality and cardiovascular death, respectively compared to those with low CRP and high ADPN while those with high CRP and low ADPN were not associated with a significantly increased risk of mortality and cardiovascular death.

In conclusion, our data suggests that high rather than low plasma ADPN is predictive of higher mortality and more adverse cardiovascular outcomes in association with inflammation in PD patients.*Correspondence address: Medicine, Queen Mary Hospital, University of Hong Kong, Hong Kong

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SELF REPORTED POOR APPETITE SHOWS INDEPENDENT ASSOCIATION WITH CARDIAC DYSFUNCTION AND CARDIOVASCULAR DISEASE IN CHRONIC KIDNEY DISEASE

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Anorexia is common in patients with chronic kidney disease (CKD) and predicts poor survival. We performed this prospective study with an aim to determine factors associated with poor appetite in patients with stage 3–5 CKD. A cohort of 296 stage 3–5 CKD patients (168 men and 128 women) was invited to grade their own appetite in the recent one month on a scale from 1 to 4 (namely, very good, good, fair, and poor appetite, respectively). In addition, these patients underwent echocardiographic examination and other clinical and biochemical assessments. The mean age of these patients was 60 ± 10 years with an average estimated glomerular filtration rate (eGFR) of 32 ± 14 ml/min per 1.73 m^2 . Appetite was graded as very good, good, fair and poor in 61, 114, 110 and 11 patients, respectively. Patients who graded their own appetite as poor were noted to have the lowest eGFR ($P=0.047$), lowest left ventricular (LV) ejection fraction ($p=0.006$), lowest midwall fractional shortening ($p=0.004$), highest prevalence of diabetes ($P=0.19$) and symptomatic atherosclerotic vascular disease (AVD) ($P=0.003$). Notably, serum albumin in the poor appetite group did not differ from the other 3 groups. In the multiple logistic regression analysis, LV ejection fraction [Odds ratio (OR), 0.92, 95% confidence intervals (CI), 0.86–0.98; $P=0.014$] and symptomatic AVD [OR, 4.56, 95% CI, 1.16–17.96; $P=0.03$] showed independent association with poor appetite and their significance appeared to outweigh that of eGFR [OR, 0.94, 95% CI, 0.89–1.00; $P=0.058$].

In conclusion, poor appetite in CKD patients is frequently associated with the presence of cardiovascular co-morbidity and cardiac dysfunction. These data suggest that a simple subjective scoring of appetite may be useful in identifying CKD patients with underlying cardiac disease. Further study is needed to determine the exact mechanism linking cardiac disease and anorexia in CKD patients.

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IS THERE A LINK BETWEEN SUNLIGHT EXPOSURE AND 25-HYDROXYVITAMIN D DEFICIENCY IN CHRONIC KIDNEY DISEASE PATIENTS?

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There is an increasing global recognition of nutritional vitamin D deficiency in patients with chronic kidney disease (CKD). Yet, there is not much data in the Chinese population. We performed this prospective cross-sectional survey, with an aim to determine the prevalence of vitamin D deficiency (defined as serum 25-hydroxyvitamin D [25(OH)D] level $< 30\text{ng/ml}$) in a cohort of Chinese stage 3–5 CKD patients and factors associated with its deficiency. Two-hundred and fifty (157 men and 93 women) stage 3–5 CKD patients (mean age: 57 ± 12 years) were invited to have blood taking for 25(OH)D levels and other biochemical parameters and were asked to record the average number of hours of outdoor sunlight exposure per day during weekday and weekend in the week before blood taking. The mean glomerular filtration rate (GFR) estimated by the MDRD equation was 25 ± 13 ml/min per 1.73m^2 , with 84, 91 and 75 patients having stage 3, 4 and 5 CKD. Two hundred and twenty-six patients (90%) were confirmed to be 25(OH)D deficient with 97% of the women having 25(OH)D deficiency as compared to 87% of men. In the univariate analysis, both weekday and weekend outdoor sunlight exposure showed significant positive association with serum 25(OH)D levels. In the multiple linear regression analysis, younger age ($P < 0.001$), fewer weekday sun exposure hours ($P < 0.001$) and female gender ($P=0.001$) were found to be the most significant factors associated with lower serum 25(OH)D levels.

In conclusion, our study confirmed an extremely high prevalence of vitamin D deficiency and an important association between outdoor sunlight exposure and 25(OH)D deficiency in Chinese stage 3–5 CKD patients. Further study is needed to determine whether increasing daily outdoor sunlight exposure may represent a cost-free treatment for correcting nutritional 25(OH)D deficiency in the CKD population.

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