

# KSN 2016 Abstract Submission

*Clinical Nephrology*

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## Renoprotective effects of Ketoanalogues of amino acids in patients with chronic kidney disease without training on low-protein diet

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**Background:** Low protein diets are recommended the patients with chronic kidney disease (CKD) to slow the progression. But, this is hard to educate and monitor well because of poor compliance for restriction of diet. So, we evaluated the renoprotective effects of ketoanalogues of amino acids (KAA) the patients with CKD without strict reduction of protein diet.

**Methods:** This is the retrospective study. 101 patients with CKD stages 3 to 5 who refused the diet education by nutritionist and received KAA prescription were enrolled and reviewed medical record and laboratory findings. Progression was defined as reduction in estimated glomerular filtration rate (GFR) by CKD-EPI formula. 37 of them were man. The mean age was  $59.5 \pm 4.4$  year old. The duration before KAA prescription was  $1.72 \pm 0.64$  years and the duration of KAA prescription was  $1.87 \pm 0.32$  years.

**Results:** The serum creatinine (sCr) before and after KAA prescription were  $2.94 \pm 0.26$  and  $4.30 \pm 0.54$  mg/dL, respectively. The rate of decline in GFR after KAA prescription was significantly decreased compared with that before KAA prescription ( $-3.7 \pm 2.1$  vs.  $-17.3 \pm 2.47$  mL/min/1.73 m<sup>2</sup>,  $p < 0.001$ ). Serum albumin was increased after KAA prescription ( $3.5 \pm 0.2$  vs.  $3.8 \pm 0.2$  g/dL,  $p < 0.001$ ) but, the body weight was decreased after KAA prescription significantly ( $64.1 \pm 3.4$  vs.  $63.0 \pm 3.7$  kg,  $p = 0.001$ ). Multivariate analysis revealed that the change of the rate of decline in GFR by KAA was independently related to the level of initial serum albumin ( $p = 0.02$ ) and the age of patients ( $p = 0.003$ ).

**Conclusion:** Our data suggest that the use of KAA without low protein diet is useful for delaying the reduction of GFR in the patients with CKD and the level of initial serum albumin and the age of patient are related to this protective effect of KAA.

**Keywords:** CKD, hronic kidney disease, KAA, ketoanalogues of amino acids, Low protein diets