72 The predictive value of hyperuricemia in residual diuresis decline in peritoneal dialysis patients

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Introduction & Objectives: It has been demonstrated that residual diuresis (RD) in peritoneal dialysis (PD) patients is an independent risk factor for technique failure, chronic inflammation and mortality. Hyperuricemia plays a causal role in hypertension, cardiovascular disease and progression of chronic kidney disease. But, at present, the association between serum uric acid (UA) and residual urine volume has not been reported yet.
The aim of our work was to study the influence of serum UA level on residual diuresis in PD patients.

Materials & Methods: The data of 58 PD patients from a single center were analyzed retrospectively. The data on baseline levels of serum UA and the urine volume were collected from the patients' medical records between 2010 and 2017. All patients had been undergoing continuous ambulatory PD for more than 3 months (median was 43.4 [28.3-64] months). Among the examined patients, there were 37/58 (63.8%) men and 21/58 (36.2 %) women. Average age was 47.1[30.7-56.2] at the start of CAPD.
Hyperuricemia was defined as serum UA concentrations above 7 mg/dL (measured by automated enzymatic methods).
The status of RD (urine volume ≥ 300 ml/day or ? 300 ml/day, or anuria after 3 years of PD therapy) was considered as the outcomes of interest in the study. The patients who were transferred to hemodialysis or transplantation were excluded from the study.
The predictive value of hyperuricemia in RD decline was estimated using multi-factor regression analysis (the Cox proportional hazard model) with adjustments for age, gender, comorbidities and diabetes mellitus. The hazard ratio (HR) and 95% confidence interval (CI) were calculated.

Results: 16/58 (27.6%) PD patients had hyperuricemia at baseline. The average urine volume before PD initiations was 800 [600-1600] ml/day. After 3 years of PD treatment, the decline of RD was observed in 22 patients: 12/16 (75%) patients with hyperuricemia and 10/42 (23.8%) in the normouricemic one (χ^2 = 12.7; p = 0.0004).
In the multivariate Cox regression models, hyperuricaemia at baseline was significantly associated with a higher risk of RD decline: log-rank test: χ^2 = 5.1; p = 0.02 (HR 2.52; 95% CI 1.96 to 10.2) (Fig. 1).

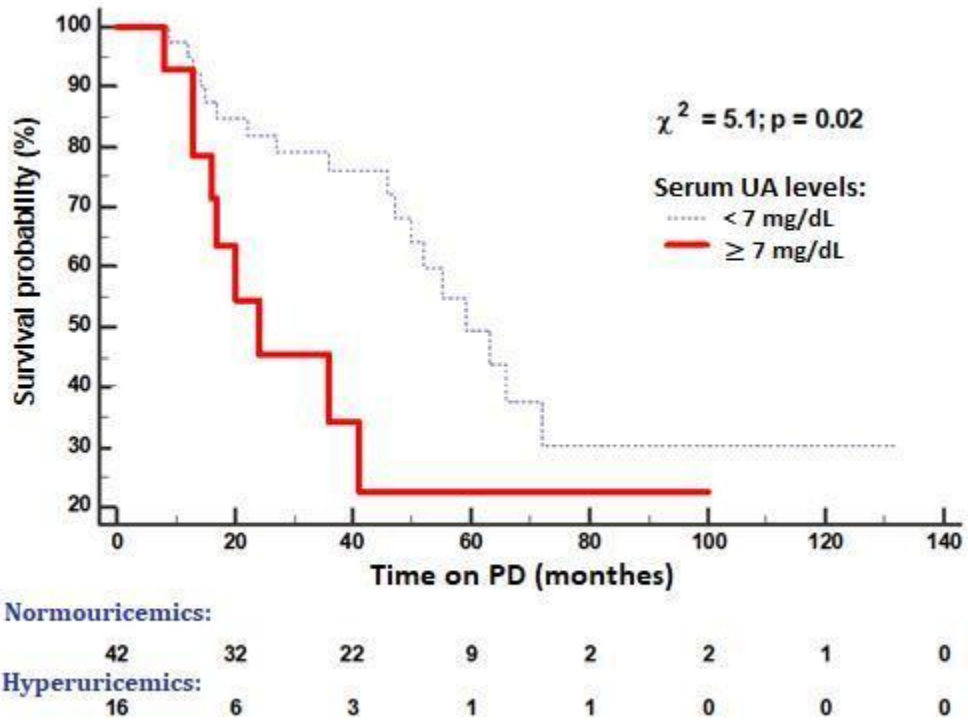

Fig. 1. Kaplan-Meier survival curves in PD patients dichotomized according to serum UA level.

Conclusions: Hyperuricemia is an independent risk factor for RD decline in PD patients.