KSN 2017 Abstract

KSN-17-P107

The change of peritoneal protein clearance is an independent risk factor for predicting mortality in a large cohort of PD patients with peritonitis

Kyoung sook PARK[1], Song eun KIM[2], Tae ik CHANG[2], Sug kyun SHIN[2], *Ea wha KANG[2]

[1] Internal Medicine,, New Korea hospital, Korea,South, [2]Internal Medicine, NHIS Medical Center, Ilsan Hospital, Korea,South

Objectives : The relationship between peritoneal protein clearance (PPC), representing large pore flow, and mortality has been controversial because of susceptibility of PPC influenced by peritonitis in peritoneal dialysis (PD)-patients . And, the long-term follow-up and large study still have not been. Therefore, by following the change of PPC, we investigated the prognostic value of PPC for predicting all-cause mortality in patients with or without PD peritonitis.

Methods : This prospective, observational study included a total of 332 patients who initiated PD at NHIS Ilsan Hospital, from January 2000 to December 2009. PPC was measured from 24 hours-PD effluent at initiation PD and after 2 years. We divided the patients into two groups according to presence of peritonitis event within PPC follow-up period; Group1, no peritonitis (N=127); Group 2, peritonitis (N=205). Cox proportional hazard analysis was performed to investigate the association of PPC with all-cause mortality in patients with or without peritonitis.

Results : Among a total 332 of incident PD patients, 174 (52.4%) was male and 164 (49.4%) was diabetes mellitus (DM). The PPC levels trend to increase only in group 2 (86.56mg/d to 93.49mg/d, $p = 0.099$ vs. 85.38mg/d to 80.15 mg/d, $p = 0.45$ in group I). Correlation analyses revealed that PPC was positively correlated with frequency of peritonitis ($r = 0.123$, $p = 0.025$), the presence of DM ($r = 0.227$, $p < 0.001$) and congestive heart failure (CHF) ($r = 0.130$, $p = 0.018$). While, PPC was inversely correlated with initial serum albumin ($r = -0.296$, $p < 0.001$). During a median follow-up duration of 45 months, 103 patients were died (31.0%). In multivariate Cox proportional hazard analysis, PPC at 2years later was an independent risk factor in only group 2 [Hazard Ratio (HR) = 1.007, confidential interval (CI) = 1.002-1.012, P = 0.004)]. Moreover, increasing of ΔPPC was a significant independent predictor of mortality in only group 2 (HR = 1.005, CI = 1.000-1.009, P = 0.032), even after adjusted with age, serum albumin, DM, CHF, frequency of peritonitis and C-reactive protein.

Conclusions : The change of PPC was a significant prognostic factor for all-cause mortality in only PD patients with peritonitis. Serial measurement of PPC could be useful tool for predicting survival, especially in patients with PD peritonitis.

Keywords : Peritoneal protein clearance, peritoneal dialysis related peritonitis, mortality