# Longitudinal increasing of small-molecule solute transport rate is associated with mortality and technique failure in peritoneal dialysis patients

Tao Lin, Jingyuan Xie, Xiaomin Huang, Chunyan Zhang, Li Yang, Tian Xu, Xiao Li, Hong Ren, Nan Chen
Department of Nephrology, Ruijin Hospital, Institute of Nephrology,
Shanghai Jiao Tong University School of Medicine, Shanghai, PR China

Objective: During peritoneal dialysis(PD), longitudinal change of peritoneal small-molecule solute transport rate(PSTR) varies among PD patients. In this study, we investigated trend of change of PSTR in PD patients and association between the change of PSTR and prognosis of patients.

Methods: We retrospectively enrolled incident PD patients followed up for more than 24 months between January 2007 to October 2015. demographic information, clinical parameters and standard peritoneal equilibration test (sPET) were recorded. The endpoint was a composite of death and technique failure. Based on the quartiles of 4h D/Pcr of first sPET, patients were divided into four groups. We observed developing trend of PSTR of four groups. Based on D-value of 4h D/Pcr value(value at 24month minus value at baseline), 155 patients with baseline L/LA transport status were divided into two groups: group 1(D-value<0.1, n=87), group 2(D-valued$\geqslant$0.1, n=68). Survival between two groups was calculated by Kaplan-Meier method and comparison was performed using Log-rank test. Multivariate Cox regression model was established to investigate risk factor(s) of death and technique failure.

Results: Totally 222 incident PD patients followed up for more than two years were recruited, consisting of 115 males (51.8%) and 107 females (48.2%). The mean age is 54.51±17.68 years. We observed that PSTR of patients in four groups tend toward the middle in the first five years of dialysis, especially in 1st and 2nd quartiles D/Pcr value increased significantly. In 155 patients with baseline L/LA transport status, The patients in group 2 had higher all-cause mortality and technique failure (log-rank $\chi$ (2) = 7.195, P = 0.007) than group 1. After adjustment of age, gender, rGFR, MAP, hemoglobin and baseline D/Pcr value, age（HR=1.033 95% CI:1.01-1.06，p=0.02），hypoalbuminemia（HR=0.93 95% CI:0.88-0.99，P=0.01），increase of PSTR（HR=2.26 95% CI:1.13-4.54，P=0.02），diabetes mellitus（HR=2.72 95% CI:1.10-6.71，P=0.03）and CVD（HR=2.04 95% CI:1.06-3.95，P=0.03）were risk factors for all-cause mortality and technique failure.

Conclusion: In PD, PSTR of PD patients converge onto a middle level. In patients with baseline L/LA peritoneal transport status, increase of PSTR was an independent factor associated with all-cause mortality and technique failure, which indicated that dynamic assessment was necessary and specific attention should be given to these patients.

54TH ERA-EDTA CONGRESS
Madrid, Spain
June 3rd-6th 2017

SP 505

54 ERA 505--SP

Peritoneal dialysis I

Tao Lin

DOI: 10.3252/pso.eu.54ERA.2017

ePosters supported by F. Hoffmann- La Roche Ltd.