PERITONEAL DIALYSIS IN ACUTE KIDNEY INJURY: TRENDS IN THE OUTCOME ACROSS TIME PERIODS

Daniela Ponce¹, Dayana Bittencourt¹, Cassiana Goes¹ and Andre Balbi¹
¹Botucatu School of Medicine, Internal Medicine, Botucatu, Brazil

Introduction and Aims: Peritoneal dialysis (PD) should be considered as a suitable method of continuous renal replacement therapy in patients with acute kidney injury (AKI). As PD for AKI is predominantly practiced in developing countries where the infrastructure for quality research is often lacking, good data on PD in AKI are limited. The present study is the largest cohort providing patient characteristics, clinical practice, patterns and their relationship to outcomes in a Brazilian center. The objective of the present study was to characterize the cohort and to describe the main determinants of patient and technique survival, including trends over time of PD treatment in AKI patients.

Methods: This was a Brazilian prospective cohort study in which all adult AKI patients on PD were studied. Patient demographics and laboratory values were followed from January 2004 to January 2014 and, for comparison purposes, divided into 2 groups according to the year of treatment: 2004-2008 and 2009-2014. Patient survival and technique failure (TF) were analyzed using the competing risk model of Fine and Gray. Significance was set to a p level of 0.05.

Results: A total of 301 patients were included. The main cause of dropout was death (59.8%), followed by TF (16.9%). The main cause of TF was mechanical complication (47%) followed by peritonitis (41.2%). There was change in TF during the study period: compared to 2004-2008, patients treated at 2009/2014 had a relative risk reduction of 0.86 (95% confidence interval [CI] 0.77 - 0.96) and three independent risk factors were identified: catheter implanted using trocath technique, sepsis and age > 65 years. Sepsis (58.3%) was the main cause of death and the overall patient survival was 41% at 30 days. Patient survival improved along study periods: compared to 2004-2008, patients treated at 2009-2010 had a relative risk reduction of 0.87 (95% CI 0.79 - 0.98). The independent risk factors for mortality were sepsis, diabetes, age > 70 years, ATN-ISS > 0.65 and positive fluid balance.

Conclusions: As conclusion, we observed an improvement in patient survival and TF along the years. This finding was sustained even after correction for several confounders and using a competing risk approach.