**Changes in dialysis prescription affect the time course of solute transport in peritoneal dialysis**

**Objectives:** Long term peritoneal dialysis (PD) is associated with increased peritoneal solute transport rate (PSTR), which correlates with hard outcomes. Whether different clinical approaches affect PSTR rate of increase is unclear.

**Methods:** This is a single centre retrospective longitudinal analysis, collecting data from 01/01/1990 to 31/12/2016 from PETs routinely performed twice a year in all PD patients at the Royal Stoke University Hospital. Using a linear mixed model approach, 3889 PETs from 865 patients were analysed, follow-up being up to 12.7 years, median 1.6. A random intercept/slope model was fit to assess whether the exposure to different clinical practice patterns (PD type, average glucose exposure, long dwell strategy) had an effect on the PSTR rate of increase, adjusting for patients’ demographics, comorbidities, residual renal function (RRF) and peritonitis episodes.

**Results:** Mean predicted PSTR at PD start was 0.723, average increase 0.012 per year. Average glucose exposure affected PSTR absolute value, but not its rate of increase. The use of icodextrin was associated with higher PSTR at PD start (+ 0.055, 95%CI 0.040/0.070) and slower increase over time (0.005 per year, p=0.002). A dry long dwell resulted in lower PSTR at PD start (- 0.090, 95%CI -0.114/-0.067), but faster increase (0.029 per year, p<0.0001). The pattern of PSTR changed with starting-period too (p<0.001), the starting PSTR being lower in 1990-95 (0.723) and rising until 2005-2010 (0.824), and lower starting values were associated with greater increases over time. The change with starting-period was only partially explained by changes in practice pattern.

**Conclusions:** Both the initial PSTR and the subsequent change over time are associated with different PD prescription strategies.