

INCREASED RESIDUAL RENAL FUNCTION AFTER START OF PERITONEAL DIALYSIS

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Objectives:

Preservation of residual renal function (RRF) is one of the most important aims in peritoneal dialysis (PD) patients (pts). In the last decade, consensus was reached about the positive effect of RRF on outcomes [1,2,3]. Avoidance of nephrotoxic exposure is therefore strongly recommended in PD patients. Volume depletion and volume overload also should be avoided since both can be responsible for functional decrease in RRF. We conducted a retrospective observational study to investigate the trend of RRF in our PD pts during the first 6 months of follow up.

Methods:

Data was collected from 37 adult pts admitted to a chronic program of peritoneal dialysis between 2009 and 2012. All patients in the PD program were initiated on continuous ambulatory peritoneal dialysis (CAPD). PD modality was eventually changed to automated PD (APD) in accordance to the results of modified peritoneal functional test (glucose 3.86%), performed 1 month later. Glomerular filtration rate (GFR) was estimated by calculation of the arithmetic mean of urea and creatinine clearance. A 15% variation in GFR from baseline was considered a cut off value to define a significant change in RRF. We considered a GFR increment greater than 15% as an increase in RRF, a GFR reduction more than 15% as a decrease in RRF and a GFR variation in the range of +15% and - 15% as a stable RRF. Hydration status was evaluated using bioimpedance through the Body Composition Monitor (BCM; Fresenius Medical Care).

Results:

37 patients were included in the analysis. Baseline GFR was 6.6 ± 2.7; 3 and 6 months GFR value was 6.8 ± 3.5 and 7.6 ± 4.5 respectively (p=ns). Urinary volume at baseline was 1746 ± 617; after 3 months a significant reduction occurred (1474 ± 608, p= 0.04). During the study period 17 pts (45%) showed an increase in RRF: 13 pts had an increase in GFR after 3 months, while the remaining 4 pts showed an increase after 6 months. Mean variation in GFR was 68% ± 58% (19% -222%), which corresponds to an absolute variation of 3.18 ± 2.62 ml/min (0.9-11.2 ml/min). No association between the increase in RRF and age, gender, comorbidities or hydration status at baseline was found. No significant correlation was found between increase in RRF and baseline GFR, even though 12 pts (70%) with increased RRF had baseline GFR < 7 ml/min.

Conclusions:

Renal and dialysis clearance are not interchangeable in their implications on outcomes. In the last few years many efforts have been made to find a strategy to further decrease the slope of RRF reduction in PD pts.

Our preliminary results show that a clinically relevant increase in RRF during the first 6 months of follow up is indeed possible [4]. It is reasonable to believe that the hemodynamic improvement expected after starting dialysis can be responsible for better heart performance and increased renal perfusion that can in turn lead to an increase in RRF. However, further investigation is needed to identify factors which may be related to an increase in RRF in PD pts

References:

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