

The role of residual renal function in diabetic peritoneal dialysis patients

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Abstract

Peritoneal dialysis (PD) is a treatment method used in home renal replacement therapy. Recently, there has been greater focus on residual renal function (RRF) in PD patients. RRF in PD patients is clinically significant, as it contributes to survival of the treatment, as well as patient mortality rates. Not only does decreased RRF cause poor management of water removal, but also increases risk of mortality as well as PD withdrawal due to over hydration. Diabetic patients are at higher risk of mortality/comorbidities and loss of RRF than patients with other diseases. Loss of RRF is the main cause of over hydration, poor quality of life (QOL), withdrawal of PD, and high mortality rate in dialysis patients; therefore, it is clinically important to maintain RRF. Control of blood pressure, inhibition of the renin-angiotensin system, decreased proteinuria, dietary intervention, avoidance of nephrotoxins, and glucose control should be considered for maintaining RRF in dialysis patients. Additionally, sarcopenia and frailty are issues of significant importance, especially in patients with end-stage renal disease (ESRD). As metabolic acidosis can be a complication of ESRD, anemia, uremia and appetite loss are side effects; loss of appetite and inflammation are also associated with mortality. To ensure good QOL, PD survival, and low mortality risk, it is imperative to maintain RRF. Aside from the use of icodextrin or large amounts of diuretics, tolvaptan – often used at initiation of PD in patients with overhydration – may also be beneficial in maintaining RRF. RRF that is positively maintained aids in enhancing the appetite and improving malnutrition and inflammation, both of which contribute to loss of RRF. Moreover, enhanced appetite may improve QOL and prevent the possibility of sarcopenia and frailty in PD patients. In hemodialysis patients, tolvaptan also may be useful in the preservation of RRF and decreased mortality rate, as well as improved QOL.

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Biography

Takeyuki Hiramatsu is Specialist in Specialists in the study of the kidney and its diseases and subcategories. He occupies a place in history as the leading pioneer in dialysis and kidney transplantation.