

잔여신기능이 당뇨병성 지속성외래복막투석환자의 체성분 변화과 임상결과에 미치는 영향

영남대학병원 내과

조규향, 도준영, 서준혁, 최은우, 강석희, 박종원, 윤경우, 허정윤, 석윤미, 신계림, 조태영

Impact of Preserving Residual Renal Function on Body Composition Changes and Clinical Outcomes in the Diabetic CAPD Patients

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Background: Preservation of residual renal function (RRF) in peritoneal dialysis (PD) patient is essential to improve clinical outcomes. Fluid overload are postulated to contribute significantly to cardiovascular mortality in PD. A recent study showed that a glucose sparing dialysis regimen reduced serum albumin level and might be associated with an increased risk of extracellular fluid volume expansion in diabetic PD patients.

Methods: Among new diabetic continuous ambulatory peritoneal dialysis (CAPD) patients from May 2001 to December 2014 in our hospital, 132 patients (71 male, mean age 53±10 years) finished a 12-month protocol. They were assigned to one of the four kinds of dialysis solution, lactate-based high GDP solution (Dianeal[®], n=28), bicarbonate/lactate-based low glucose degradation products (GDP) solution (Physioneal[®], n=55), lactate-based high GDP solution (Stay • safe[®], n=11), and lactate-based low GDP solution (Balance[®], n=38). Among them, 68 patients used icodextrin once daily more than 6 months. Clinical indices, 4.25% PET (peritoneal equilibration test) and BIA (bioimpedance analysis) were performed at the first month and 12th month.

Results: Ninety patients (68%) showed decreases RRF over time. Eighty-eight patients (67%, non-edema group) showed decreases in edema index (ECF/TBW) over time. However, 44 patients (33%, edema group) showed increases in edema index at the 12th month than at the 1st month. There were significant negative correlations between RRF and edema index at the 12th month. RRF showed significant positive correlations with KT/V and nPCR (normalized protein catabolic rate) at the 12th month. Serum albumin level and plasma hemoglobin level were negatively correlated with edema index at the 12th month. There was no difference in use of icodextrin between non-edema group and edema group. The significant factors associated with changes of edema index were RRF and serum albumin level.

Conclusions: Preserving RRF is needed to control adequate volume status and nutritional status in diabetic CAPD patients. It is speculated that low serum albumin level is associated the dilution effect by fluid overload. We need further studies to investigate the factors associated with changes of fluid volume status in diabetic PD patients.

Key Words: 복막투석, 당뇨병, 잔여신기능

Peritoneal dialysis, Diabetes mellitus, Residual renal function