

복막투석환자에서 생체적합 투석액과 일반투석액의 비교연구

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Comparative Study on the Clinical Outcomes between Patients with Biocompatible Low-GDP and Conventional CAPD Solutions

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Background : Bioincompatible PD fluids (PDFs), which are characterized by low pH, lactate, glucose, glucose degradation products (GDPs), and osmolality, have detrimental effects on peritoneal membrane. PDFs with neutral pH and low GDPs are now commercially available. The aim of this study is to investigate the clinical outcomes of biocompatible PDFs in CAPD patients.

Methods : A total of 452 patients who started CAPD from Jan 2001 to Dec 2005 in our single kidney center were included. Patient and technique survival, peritonitis free survival and peritonitis rates were compared in 149 patients treated with biocompatible PDFs and in 303 patients treated with conventional PDFs. Also, we evaluated the effects of biocompatible PDFs on cardiovascular outcomes and residual renal function between the two groups. To assess the effects of biocompatible PDFs on inflammation and nutritional status, the longitudinal follow-up data of C-reactive protein (CRP), and serum albumin were collected in 117 patients for 24 months after CAPD initiation.

Results : The patients were well matched for sex, age and diabetes. Technique survival, peritonitis free survival and peritonitis rate were not different significantly between two groups. Univariate analysis showed that patient survival was higher and cardiovascular deaths were lower in biocompatible PDFs patients group. However, multivariate analysis adjusted for sex, age and diabetes showed that mortality rate were not different between two groups (HR 0.67; $p=0.13$). Biocompatible PD PDFs group showed better preservation of residual renal function, maintenance of lower CRP and higher serum albumin levels compared to conventional PDFs group with statistical significances.

Conclusion : Although survival benefit was not seen on multivariate analysis, biocompatible PDFs showed favorable effects on the preservation of residual renal function, anti-inflammation and nutritional status. A larger and randomized controlled study with longer duration may be needed to clarify the effects of biocompatible PDFs in PD patients.