

복막투석 초기 환자에서 저 GDP 투석액이 복막 용질 이동율에 미치는 영향에 대한 1년 추적관찰 결과

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Effect of Low GDP Fluid Use on Peritoneal Solute Transport Rate in Incident Peritoneal Dialysis Patients Over 1-Year Period

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Background : High peritoneal solute transport rate (PSTR) has been attributed to numerous factors such as comorbid disease, duration of peritoneal dialysis (PD), exposure to high glucose, and systemic inflammation. However, the effect of low glucose degradation product (GDP) PD fluid on PSTR has not been investigated so far.

Methods : We randomized 118 new PD patients from 4 centers for treatment with either low GDP fluid (LF, Balance[®], Fresenius, n=75) or conventional fluid (CF, Stay safe[®], Fresenius, n=43) over 12-month period. Among them, 83 patients completed the study (n=50 for LF, n=33 for CF). Primary end points were high/high average transporter status (H/A) and net ultrafiltration(UF) at 12 months. Multiple logistic regression was employed, including age, sex, diabetes, daily glucose exposure, PD fluid, and number of peritonitis episodes as covariates.

Results : At baseline, LF and CF groups were not different in age, gender, comorbidity index, dialysate-to-plasma creatinine at 4 hr (D/Pcr), and net UF. During 1-year follow-up, number of peritonitis episodes, averaged C-reactive protein, and glucose loading amounts were not different between the two groups. At 12 months, 22 (44%) among 50 LF patients had H/A transporter status, while 4 (12%) among 33 CF patients had H/A (p=0.02). In multivariable logistic regression analysis, LF use was related to the H/A at 12 months(odds ratio [OR], 4.37; 95% confidence interval [CI], 1.25- 15.27). At 12 months, net UF from the LF group was lower than that from the CF (690±226 ml vs 833±281 ml, p=0.017 by ANCOVA).

Conclusion : Our study from the incident PD patients suggests that low GDP PD fluid may influence on increase of PSTR and decrease net UF over one year period.

Key Words : 복막투석, 복막용질 이동율, GDP

Peritoneal dialysis, Peritoneal solute transport rate, GDP