

## 복막투석환자에서 고GDP투석액이 초기 신기능 소실에 미치는 영향 분석

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### Impact of High GDP Solution on Early Loss of Residual Renal Function in the Incident CAPD Patients

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Preservation of residual renal function in peritoneal dialysis patient is essential to improve clinical outcomes. The correlation between GDP (glucose degradation products) and residual renal function in PD was not definitely defined at the moment. To verify the factors associated with rapid loss of residual renal function (RRF) within initial 12 months in PD patients, we kept the protocol, prospectively. Among 338 incident CAPD patients from May 2001 to July 2007 in our hospital, 247 patients who finished 12 months protocol (male: 140, mean age:  $49.9 \pm 8.5$  years, DM: 116) were analyzed. Daily ultrafiltration volume and urine volume, daily peritoneal glucose absorption, adequacy and clinical indices such as C-reactive protein (hs-CRP) were measured at the 2nd week, 1st month, 6th months and 12th months. Residual renal function (RRF) was calculated from averaging the urea and creatinine clearance by 24-h urine collection. We defined early anuria group as less than 100 mL urine volume per day at 2 weeks or 1 month (ARF on CKD) and late anuria group as anuria more than 2 months between 6 to 12 months (early loss of RRF) after initiation of PD. We compared the incidences of anuria (early and late) between low GDP solution (Physioneal and Balance, n=100) and high GDP solution (Dianeal and stay safe, N=147) groups. We analyzed the data with independent t-test. Results can be summarized as follows. 1) Baseline characteristics between low and high GDP groups were not significantly different at 2 weeks. 2) Incidence of early anuria was 7.7% (19/247 patients) and the numbers of high and low GDP patients among 19 patients were 16 and 3 patients ( $p < 0.05$ ). 3) Early anuric group showed significantly lower RRF at 1st, 6th and 12th months ( $1.0 \pm 1.2$ ,  $2.2 \pm 2.5$  and  $1.4 \pm 1.4$  vs.  $4.2 \pm 3.6$ ,  $3.7 \pm 3.0$  and  $3.3 \pm 3.6$  mL/min,  $p < 0.001$ ,  $p = 0.04$  and  $p = 0.019$ , respectively) and also significantly higher CRP ( $1.2 \pm 2.9$ ,  $0.9 \pm 1.5$  and  $1.2 \pm 2.6$  vs.  $0.7 \pm 2.0$ ,  $0.3 \pm 0.5$  and  $0.4 \pm 0.9$  mg/dL, at 1st, 6th and 12th months,  $p = 0.31$ ,  $p < 0.001$  and  $p = 0.002$ , respectively) than non anuric group. 4) Incidence of late anuria (early loss of RRF within 12 months) was 6.1% (15/247 patients). Among 15 patients, 13 patients were high GDP and 2 patients were low GDP patients ( $p < 0.05$ ). In conclusion, early anuria within 1 month could be associated with early loss of RRF within 1 year and lower incidence of acute renal injury in low GDP solution could be a beneficial mechanism for better preservation of RRF in CAPD patients.

**Key Words** : 고GDP투석액, 복막투석, 잔여신기능  
CAPD, High GDP solution, Residual renal function