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복막 투석 환자에서 연속 측정된 혈중 Cystatin C 변화량이 가지는 잔여신기능 예측 지표로서의 의의

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Residual Renal Function May be Predictable by Using Measures of Serial Serum Cystatin C in Peritoneal Dialysis Patients

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Background and Objectives: Serum cystain C has emerged as a new and potentially reliable marker of kidney function. The primary aim of this study is to investigate the association between residual renal function(RRF) and cystatin C in peritoneal dialysis(PD) patients by using measures of serial urine volume and serum cystatin C for more than 3 months. Urine volume was evaluated as parameter reflecting RRF. The another ain is to investigate correlation between rate of increase serum cystatin C and cardiovascular event.

Material and Methods: Serum cystatin C, serum Creatinine levels and urine volume were estimated in 31 PD patinets monthly. The mean age of patients was 52.7±9.2 years, time on PD was 30.4±25.8 months. 45 percent were incidental patient, 55 percent prevalent. The patinet were devided into two groups (high and low slope groups) by slope of serum cystatin C change (slope=degree of change in cystatin C/time).

Results: The mean of follow up period was 16.18±6.14 months (median range [3.00−35.07]). There was no difference between high and low slope groups in sex, age, time on PD, patient type(incidental or prevalent), PD modality, body surface area, body mass index, diabetes, BP, mean of serum cystatin C, mean of urine volume, mean of serum creatinine. Slope of urine volume change(slope=degree of urine volume change/time) was found to have negative correlation with slope of cystatin C change ($r=-0.404$;p value<0.05). But there was no significant difference between high and low slope group in cardiovascular event.

Conclusion: In patient ith chronic kidney disease on PD, slope of serum cystatin C level change was found to have negative correlation with slope of urine volume change. It means increasing or decreasing tendency of serum cystatin C reflect change of residual renal function with negative correlation. Therefore variations of serial serum cystatin C levels measured at different time may be used as a method for predicting of change of residual renal function.

Key Words: 혈중 씨스타틴, 잔여신기능, 복막투석
Serum cystatin C, Residual renal function, Peritoneal dialysis