

## 복막투석 환자에서 생체임피던스법을 이용한 체수분량과 심혈관계 위험성

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### Does Volume Status using Bioimpedance Spectroscopy Help to Predict Cardiovascular Risk in Peritoneal Dialysis Patients?

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**Background:** The main cause of death in end stage renal disease is cardiovascular complication. Because there is correlation between cardiovascular mortality and body fluid status of dialysis patients, assessing volume status would be a critical process to reduce the cardiovascular risk. Bioimpedance spectroscopy (BIS) has been worth notice to be a useful tool for body composition analysis in dialysis patients. We investigated the efficacy of BIS for detecting hypervolemia and its cardiovascular risk in CAPD patients.

**Methods:** 68 patients with maintenance peritoneal dialysis participated in our study. Body composition analysis using BIS technique (50 frequencies, the Body Composition Monitor, BCM) and 24 Overhydration (OH) in liter was used as volume index. At the same time, serum N-terminal pro-brain natriuretic peptide (NT-proBNP) was measured.

**Results:** Mean age was  $55 \pm 14$  years and PD duration was  $46 \pm 36$  months. 45.5% was male and 33% has diabetes mellitus. Mean OH and NT-proBNP were  $2.3 \pm 2.0$  L and  $9441 \pm 7834$  pg/ml. Patients with hypertension had higher OH value ( $0.78 \pm 0.97$  L vs.  $2.8 \pm 2.0$  L,  $p < 0.01$ ) comparing with patients not having hypertension. OH was significantly correlated with mean systolic blood pressure ( $R^2 = 0.44$ ,  $p < 0.01$ ) and NT-proBNP ( $R^2 = 0.41$ ,  $p < 0.01$ ) in linear regression analysis.

**Conclusion:** Our results showed that BIS can be a useful tool for assessing the body fluid status and it may be used as a predictor of cardiovascular mortality in CAPD patients.

**Key Words:** 복막투석, 생체임피던스법, 심혈관계 위험성

Peritoneal dialysis, Bioimpedance, Cardiovascular risk