

복막투석환자에서 사망의 위험인자로써 Onodera's prognostic nutritional index

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Onodera's Prognostic Nutritional Index as a Risk Factor for Mortality in Peritoneal Dialysis Patients

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Background: Nutritional indices are important indicator for mortality in peritoneal dialysis (PD) patients. The Onodera's prognostic nutritional index (OPNI) is composed of combinations of serum albumin and total lymphocyte count. The aim of this study was evaluate the clinical relevance and usefulness as a prognostic factor in PD patients.

Methods: We reviewed the medical records and identified all adults who received PD. We enrolled 522 patients. The clinical and laboratory data were collected at first month after PD initiation. OPNI was calculated based on serum albumin and total lymphocyte count, using the following equation: $OPNI = 10 \times \text{albumin (g/dL)} + 0.005 \times \text{total lymphocyte count (/mm}^3\text{)}$. Patients were divided into three groups with respect to OPNI; high group ($n=186$, >45), middle group ($n=150$, $40-45$), and low group ($n=186$, <40). Edema index (extracellular water/total body water) and fat mass (kg) were measured using bioimpedance analysis and dual-energy X-ray absorptiometry.

Results: The mean age at the start of PD were 56.2 ± 13.2 years in the low, 54.1 ± 13.5 in the middle, and 49.6 ± 14.4 years in the high groups ($p < 0.001$). There were no significant differences in C-reactive protein, body mass index, and total cholesterol between three groups. Fat mass, serum creatinine, and edema index were increased along with increment of OPNI. Kaplan-Meier curve showed that mortality was higher in the low than in the middle and high groups. On multivariate analysis, old age, high comorbidity, high edema index tertile, and low OPNI were associated with mortality in the incident PD patients. However, multivariate analysis adjusted for age, comorbidity, and edema index tertile, low albumin tertile per se was not associated with mortality in PD patients.

Conclusions: The OPNI is a simple method for predicting nutritional status and prognosis in PD patients.

Key Words: 복막투석, 영양상태, 사망
Peritoneal dialysis, Nutrition, Mortality