

## 비당뇨 복막투석 환자에서 대사성 증후군과 환자 생존률 사이의 관계

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### Metabolic Syndrome Predicts Mortality in Non-diabetic Patients on Continuous Ambulatory Peritoneal Dialysis

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**Background :** Metabolic syndrome is associated with higher morbidity and mortality in the general population, but the corresponding effects in patients on dialysis have not been clearly defined. Moreover, most components of metabolic syndrome are known to be protective in dialysis patients.

**Purpose :** We prospectively investigated the effect of metabolic syndrome and its individual components on outcome in non-diabetic peritoneal dialysis (PD) patients.

**Methods :** The study subjects included 106 stable non-diabetic PD patients who had been on PD for more than 3 months. We measured baseline characteristics, blood pressure, fasting blood glucose, lipid profiles, and high-sensitivity CRP (hsCRP), and defined metabolic syndrome using the modified National Cholesterol Education Program (Adult Treatment Panel III) criteria. Mortality, technical failure, and hospitalization were evaluated during the follow-up period.

**Results :** Metabolic syndrome was present in 50 patients (47.2%), and these showed higher baseline hsCRP levels (0.67; 95% CI: 0.50 to 0.94 vs. 1.78 mg/dL; 95% CI: 1.21 to 2.57;  $p < 0.001$ ). There was no difference in 3-year survival rate between patients with metabolic syndrome and without (98% vs. 91%,  $p = 0.12$ ). However, patients with metabolic syndrome experienced significantly lower 5-year survival rate than patients without (93% vs. 73%,  $p = 0.02$ ), although these groups did not differ in peritonitis rate ( $0.7 \pm 1.4$  vs.  $0.4 \pm 0.7$  times/patient-years,  $p = 0.22$ ), technical survival (63% vs. 71%,  $p = 0.66$ ), or hospitalization ( $9.4 \pm 18.6$  vs.  $6.4 \pm 14.4$  days/patient-years,  $p = 0.35$ ). A Cox proportional hazards analysis revealed independent increases in mortality risk with metabolic syndrome (RR: 7.65; 95% CI: 1.36 to 43.03;  $p = 0.02$ ), baseline albumin (RR: 0.041 95% CI: 0.01 to 0.30;  $p = 0.002$ ), baseline hsCRP levels (RR: 1.12; 95% CI: 1.02 to 1.22;  $p = 0.02$ ), and systolic blood pressure (RR: 1.04; 95% CI: 1.01 to 1.08;  $p = 0.04$ ). However, BMI (RR: 1.02; 95% CI: 0.84 to 1.24;  $p = 0.84$ ), fasting glucose levels (RR: 1.03; 95% CI: 1.00 to 1.06;  $p = 0.09$ ), diastolic blood pressure (RR: 1.06; 95% CI: 0.99 to 1.14;  $p = 0.10$ ), and triglyceride levels (RR: 1.00; 95% CI: 0.99 to 1.01;  $p = 0.92$ ) did not influence mortality.

**Conclusion :** Metabolic syndrome is prevalent even in non-diabetic PD patients, and is independently associated with long-term survival in these patients.

**Key Words :** 복막 투석, 대사성 증후군, 사망률

Peritoneal dialysis, Metabolic syndrome X, Mortality