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# 복막투석을 시작하는 환자에서 사망률 예측인자로서의 NT-proBNP의 역할

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# NT-proBNP Predicts All-cause and Cardiovascular Mortality in Incident Peritoneal Dialysis Patients

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**Background:** Numerous previous studies have demonstrated that cardiac and inflammatory biomarkers are significant predictors of cardiovascular (CV) and all-cause mortality in end-stage renal disease (ESRD) patients. However, these studies were limited by retrospective analyses, inclusion of small numbers of patients, mostly prevalent dialysis patients, and measurement of one or two biomarkers. Therefore, the aim of this study was to investigate the association between three cardiac biomarkers and mortality in incident continuous ambulatory peritoneal patients (CAPD).

**Methods:** A prospective cohort of 335 incident PD patients from 36 centers of the Clinical Research Center for ESRD in Korea was followed for up to 33 months. According to baseline NT-proBNP, cTnT, and hsCRP levels, the patients were stratified into tertiles, and all-cause and CV mortality were compared.

**Results:** During a mean follow-up of 21.5 months, all-cause deaths occurred in 29 patients (25.7%) in the third tertile of NT-proBNP compared to 6 patients (5.4%) and 4 patients (3.6%) in the first and second tertile ($p<0.001$). In addition, patients in the third tertile of hsCRP exhibited higher all-cause mortality rate than those in other tertiles ($p<0.05$). There was a trend for increasing mortality in patients in the third tertile of cTnT, but this difference was not statistically significant. In a multivariate Cox regression analysis adjusted for age, gender, MAP, comorbidity disease and other biomarkers, Ln NT-proBNP and Ln hsCRP, but not Ln cTnT, were independently associated with an increased risk of all-cause mortality, whereas only NT-proBNP significantly predicted CV mortality. Moreover, among these biomarkers, NT-proBNP provided the highest positive predictive value for all-cause (AUC=0.865, $p<0.001$) and CV mortality (AUC=0.826, $p=0.004$).

**Conclusions:** This study showed that NT-proBNP predicted all-cause and CV mortality better than hsCRP and cTnT in incident PD patients, suggesting that NT-proBNP is the most useful biomarker for the future adverse outcome in these patients.

**Key Words:** NT-proBNP, 복막투석, 사망인자
NT-proBNP, Peritoneal dialysis, Mortality