

복막투석환자에서 좌심실 비대와 생체 표지자의 연관성

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The Association between Left Ventricular Hypertrophy and Biomarkers in Continuous Ambulatory Peritoneal Dialysis Patients

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Background/Aims : Left ventricular hypertrophy (LVH) is a major cardiovascular complication and an important predictor for mortality in patients with end stage renal disease. Some reports have shown that the serum aldosterone levels were correlated with LVH in non-diabetic hemodialysis patients. The objective of the present study was to elucidate the relationships between serum biomarkers including aldosterone and echocardiographic findings as LVH in patients on peritoneal dialysis.

Methods : Thirty patients on continuous ambulatory peritoneal dialysis for over twelve months at soonchunhyang university cheonan hospital were included. Transthoracic echocardiography was performed and the left ventricular mass index (LVMI) was calculated using the Devereaux formula. Serum Biomarkers (N-terminal pro B-type natriuretic peptide (NT-proBNP), troponin T, C-reactive protein, renin, and aldosterone) were measured.

Results : Sixteen out of thirty patients had LVH Using the LVMI. Serum aldosterone levels were 62.53 ± 60.73 pg/mL (range 5.03–250.68). The serum aldosterone levels were not correlated with LVMI. Serum aldosterone levels were not associated with echocardiographic findings regardless of the presence of diabetes mellitus. The LVMI had a negative correlation with the hemoglobin ($r = -0.405$, $p = 0.029$), hematocrit ($r = -0.374$, $p = 0.042$), and a positive correlation with the NT-proBNP ($r = 0.560$, $p = 0.002$). The other biomarkers (renin, aldosterone, troponin T, and C-reactive protein) were not correlated with the LVMI. However, the LVMI was correlated with the left atrium volume index ($r = 0.675$, $p < 0.001$). The residual glomerular filtration rate was negatively correlated with the NT-proBNP ($r = -0.456$, $p = 0.011$) and troponin T ($r = -0.460$, $p = 0.011$).

Conclusion : NT-proBNP is good marker to correlated with LVMI. The serum aldosterone levels are not correlated with LVMI regardless of the presence of diabetes mellitus.

Key Words : 복막투석, 좌심실 비대, 생체 표지자

Peritoneal dialysis, Left ventricular hypertrophy, Biomarkers