

복막투석 환자에서 경동맥내중막 두께에 영향을 미치는 요인: 산화스트레스 포함

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Factors Affecting Carotid Artery Intima Media Thickness in Peritoneal Dialysis: Oxidative Stress Included

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Objective : Oxidative stress (OS) is accepted as nonclassical cardiovascular risk factors in end-stage renal disease patients. To clarify the role of OS in the atherosclerotic process, we investigated if OS is associated with common carotid artery intima media thickness (CIMT) in peritoneal dialysis (PD) patients and to explore relation between carotid artery intima media thickness (CIMT) and oxidative stress markers.

Methods : Twenty patients undergoing chronic maintenance PD, 20 patients with decreased renal function (GFR 15–50 ml/min), and 20 healthy subjects were included. Hydroxyl radical and lipid peroxide were determined as oxidative stress markers. Superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GPx) activities were measured as antioxidants. CIMT was assessed by carotid artery ultrasonography.

Results : Both chronic PD and predialytic uraemic patients had enhanced oxidative stress indicated by lower levels of GPx compared to controls. PD patients had significantly higher CIMT compared to predialytic uremic patients. There was a significant positive correlation between CIMT and age ($r=0.547$, $p<0.001$), dialysis duration ($r=0.571$, $p<0.001$), BMI ($r=0.273$, $p=0.041$), hsCRP ($r=0.454$, $p<0.001$) and ferritin ($r=0.375$, $p=0.004$), while there was a significant negative correlation between CIMT and Hct ($r=0.351$, $p=0.0006$) and albumin ($r=0.508$, $p<0.001$). There was a linear regression analysis showed that age, dialysis duration and diastolic BP were still significantly and positively correlated with CIMT ($p<0.001$), while PTH level was significantly and negatively correlated with CIMT ($p=0.008$). None of the markers of oxidative stress was independently associated with CIMT.

Conclusions : CIMT as a marker of structural atherosclerosis is higher in PD patients compared to predialytic uremic patients. We propose that age, dialysis duration and diastolic BP can be used as positive determinants, while oxidative stress markers were of limited clinical value as determinants of atherosclerosis assessed by CIMT in PD patients.

Key Words : 경동맥내중막두께, 복막투석, 산화스트레스
CIMT, Peritoneal Dialysis, Oxidative stress