

## 말기신질환 환자에서 Lysophosphatidylcholine Oxidized LDL과 심혈관질환 발생

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### Lysophosphatidylcholine, Oxidized LDL, and Cardiovascular Disease in Patients with End-stage Renal Disease: Analysis at 5 Years of Follow-up

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**Background:** Unlike general population, there is less of an association between dyslipidemia and the presence of cardiovascular disease (CVD) in patients with end-stage renal disease (ESRD). Although oxidized low-density lipoprotein (LDL) and lysophosphatidylcholine (LPC) has been proposed as an important determinant of the atherosclerosis, the long-term relative contribution of oxidized LDL and LPC to CVD has not been evaluated in maintaining hemodialysis patients. The objective of this study was to analyze whether or not oxidized LDL and LPC are the risk factors of CVD during long-term follow-up.

**Methods:** Oxidized LDL and LPC levels were evaluated in three groups (69 hemodialysis, 51 diabetic controls and 33 healthy controls). And a prospective observational study of 69 stable, chronic hemodialysis patients was conducted during 5 year periods from August 2004 to July 2009. The endpoint was the fatal and non-fatal cardiovascular events requiring admission. Analysis was performed using Cox regression analysis.

**Results:** Oxidized LDL and LPC levels were lower in hemodialysis patients than in diabetic and healthy controls. In a prospective follow-up study, there were 18 cardiovascular events (26.1%) including 6 deaths among the hemodialysis patients. Serum LPC levels were lower in patients with CVD than in patients without CVD, but oxidized LDL were not significant different between groups with CVD and without CVD. In adjusted Cox analysis, previous CVD (hazard ratio (HR)=5.68, 95% confidence interval (CI):1.94, 16.63, p=0.002) and low LPC level ( $\leq 255 \mu\text{mol/L}$ ) (HR=3.45, 95% CI: 1.04, 11.42, p=0.04) had significant independent risks for development of CVD.

**Conclusion:** This study demonstrates that low LPC, but not oxidized LDL, is the principal risk factors for CVD in a population of hemodialysis patients who were follow-up for 5 years.

**Key Words:** 심혈관질환, oxidized LDL, LPC

Cardiovascular disease, Oxidized LDL, Lysophosphatidylcholines