

## 복막투석환자에서 적혈구막 지방산 조성에 미치는 오메가-3 지방산의 효과

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### The Effect of Omega-3 Fatty Acids on Fatty Acid Contents of Erythrocyte Membrane in Peritoneal Dialysis Patients

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Patients who are treated with dialysis have a high incidence of coronary artery disease (CAD). A greater intake of omega-3 fatty acids (FAs) has been recommended to reduce risk for CAD. FAs such as oleic acid are related with acute coronary syndrome but there is no reports about the effect of n-3 FAs on FA contents of erythrocyte membrane in peritoneal dialysis (PD) patients. The aim of this study is to investigate the effect of omega-3 FA on FA contents of erythrocyte membrane and to evaluate the effect of omega-3 FA on inflammation or lipid profile in PD patients.

In a double-blind randomized placebo-controlled design, a total of 14 patients treated with PD for at least 6 months, were randomized to treatment for 12 weeks with omega-3 FA (Omacor, 3 gram/day) or a control treatment (olive oil, 3 gram/day). Erythrocyte membrane fatty acid contents were measured by gas chromatography at baseline and after 12 weeks.

The mean age of the patients was  $52.1 \pm 10.1$  years and the mean PD duration was  $46.9 \pm 25.9$  months. The erythrocyte membrane contents of eicosapentaenoic acid (EPA), docosahexaenoic acid and omega-3 index were significantly increased in omega-3 FA supplemented group after 12 weeks compared to baseline. The contents of total saturated FAs, monounsaturated FA, oleic acid, omega-6 FAs to omega-3 FA ratio and arachidonic acid (AA) to EPA ratio were significantly decreased in omega-3 FA supplemented group after 12 weeks compared to baseline. The erythrocyte membrane contents of arachidonic acid was not changed in omega-3 FA supplemented group after 12 weeks compared to baseline. Total iron binding capacity ( $p=0.063$ ) was increased and triglyceride and C-reactive protein levels were decreased in n-3 FA supplemented group after 12 weeks compared to baseline but was not significant.

FA contents of erythrocyte membrane were significantly changed by omega-3 FA treatment for 12 weeks in PD patients and clinical trials of longer period or larger scale will be needed to confirm a clinical benefit.

**Key Words :** 복막투석, 오메가-3 지방산, 지방산  
 Peritoneal dialysis, Omega-3 fatty acid, Fatty acid