

혈액투석환자에서 Rosuvastatin과 Gemfibrozil이 Small Dense LDL-cholesterol 에 미치는 영향

울산의대 서울아산병원 신장내과, 간호부

김보형 · 한승희 · 김윤지 · 김순배

Effects of Rosuvastatin and Gemfibrozil on Small Dense LDL-cholesterol in Chronic Hemodialysis Patients

Bo Hyung Kim, Seung Hee Han, Yoon Ji Kim, Soon bae Kim

Univ. of Ulsan, Asan Medical Center, Nephrology, Nursing Dept.

Background/Aims: Small dense-low density lipoprotein cholesterol (sd-LDL-C) is associated with enhanced cardiovascular risk and is often elevated in chronic hemodialysis (CHD) patients. We tried to determine the effects of rosuvastatin and gemfibrozil on sd-LDL-C and LDL particle size in CHD patients.

Methods: This study was designed as a prospective randomized controlled trial. After a 4-week washout period, fifty four patients with triglycerides (TG) >150 mg/dL were randomized to control group or gemfibrozil group (received 300 mg twice a day for 8 weeks). Fifty eight patients with LDL-C >100 mg/dL were randomized to control group or rosuvastatin group (received 10mg once daily for 8 weeks). Laboratory evaluation was performed at baseline and 8 weeks post-treatment. Sd-LDL-C was measured by the Quantimetrix Lipoprint™ System LDL Subfraction Kit.

Results: Gemfibrozil reduced TG by 44.9% ($p < 0.001$) and increased HDL-C by 20.4% ($p < 0.05$). Gemfibrozil had no significant effect on LDL-C concentration. However, gemfibrozil decreased sd-LDL-C by 25.0% ($p < 0.05$) and increased lb-LDL-C by 20.8% ($p < 0.05$) and LDL particle size (from $263.2 \pm 4.7 \text{ \AA}$ to $267.4 \pm 4.1 \text{ \AA}$, $p < 0.001$). Rosuvastatin reduced LDL-C by 43.3% ($p < 0.001$) and decreased both sd-LDL-C (49.0%, $p < 0.001$) and lb-LDL-C (43.8%, $p < 0.001$). Rosuvastatin did not change TG, HDL-C concentrations and LDL particle size.

Conclusion: These results suggest that rosuvastatin reduce all LDL subfractions, including sd-LDL-C and lb-LDL-C, by similar amounts. However, gemfibrozil selectively decrease sd-LDL-C and may induce a shift from small dense LDL particles to larger, more buoyant LDL particles in CHD patients.

Key Words: Gemfibrozil, Rosuvastatin, 저밀도지단백

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