

인슐린 저항성을 가진 복막투석 환자에서 HMG-CoA Reductase Inhibitor의 효과

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The Effect of HMG-CoA Reductase Inhibitor on Insulin Resistance in Patients Undergoing Peritoneal Dialysis

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Background: Insulin resistance is associated with the progression of atherosclerosis and is reported to predict cardiovascular mortality in patients with end-stage renal disease (ESRD). Although statins exert pleiotropic effects, it is uncertain whether statin therapy improves insulin resistance in these patients.

Methods: We conducted a prospective randomized controlled trial to evaluate the effects of statin on insulin resistance in 70 patients undergoing peritoneal dialysis (PD). Patients were randomized into a statin group (n=35) or a control group (n=35). The statin group received 10 mg/day of rosuvastatin for 6 months. Insulin resistance was determined using homeostatic model assessment-IR (HOMA-IR). We also measured serum concentrations of adipokines and inflammatory markers.

Results: Compared to baseline values, statin treatment significantly decreased HOMA-IR index (2.37 ± 1.08 to 2.05 ± 0.82 , $p=0.014$). In addition, there was a concordant decrease in high sensitive C-reactive protein (hsCRP) levels in the statin group (2.05 ± 1.57 to 1.21 ± 0.84 mg/L, $p<0.001$). Such improvements were not observed in the control group. When between-group differences in these parameters were compared, hsCRP levels were more decreased in the statin group than in the control group ($p=0.021$ for between-group difference), whereas HOMA-IR index was not ($p=0.189$ for between-group difference). During this period, altered adipokine profiles did not improve in either group.

Conclusion: This study showed that statin therapy failed to improve insulin resistance in PD patients despite a significant decline in hsCRP level after statin treatment. Our finding suggests that reducing inflammation by statin is of limited help to fully attenuate insulin resistance in these patients.

Key Words: 인슐린 저항성, 복막투석, 만성 염증

Insulin resistance, Peritoneal dialysis, Chronic inflammation