IMPACT OF OXIDIZED LOW DENSITY LIPOPROTEIN CHOLESTEROL UNDER EZETIMIBE OR ROSUVASTATIN THERAPY ON ENDOTHELIAL FUNCTION

ACC Poster Contributions
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Background: Previous studies showed that statins improved endothelial function by mechanisms independent of lipid lowering. However, the effects of ezetimibe remain under question. We investigated the effects of ezetimibe and rosuvastatin on endothelial function via oxidized low density lipoprotein (LDL).

Methods: Twenty untreated patients with dyslipidemia were enrolled and randomly assigned into 10mg ezetimibe (E) or 5mg rosuvastatin (R). Blood was sampled for measurement of lipid profiles including malondialdehyde-low density lipoprotein (MDA-LDL). Endothelial function was assessed by brachial artery flow mediated dilation (FMD). The parameters were measured again after 12 weeks treatment.

Results: At baseline, MDA-LDL was inversely correlated with FMD (r= -0.565, p<0.05). MDA-LDL and FMD were improved in both groups (MDA-LDL: E; pre 155.7±73.8mg/dl, post 120.6±46.4mg/dl, p<0.05, R; pre 148.7±48.2mg/dl, post 104.2±28.9mg/dl, p<0.05), (FMD: E; pre 4.9±3.1%, post 7.6±2.5%, p<0.05, R; pre 4.3±1.8%, post 7.6±3.0%, p<0.01). Although the improvement of LDL was better in rosuvastatin group, variation of MDA-LDL and FMD were not different between the groups (MDA-LDL: E; 35.1±41.1mg/dl vs R; 44.4±52.8mg/dl, ns, FMD: E; 2.6±3.0% vs R; 3.3±2.3%, ns). The improvement of FMD was correlated with variation of MDA-LDL (r= 0.586, p< 0.01).

Conclusion: The mechanism was different, but ezetimibe and rosuvastatin have antioxidant effect at the same level, and it might be possible to improve FMD.

![Graph showing LDL, MDA-LDL, and FMD levels before and after treatment with ezetimibe and rosuvastatin.](image-url)