GENDER DIFFERENCE IN CHANGES OF PLAQUE CHARACTERISTICS IN RESPONSE TO INTENSIVE LIPID-LOWERING THERAPY: SERIAL OPTICAL COHERENCE TOMOGRAPHY AND INTRAVASCULAR ULTRASOUND ANALYSIS

Poster Contributions
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Background: Previous trials demonstrated that lipid-lowering therapies significantly reduced the incidence of major cardiovascular events in patients with coronary artery diseases. However, the gender difference in plaque morphologic change in response to the statin dose remains unclear.

Methods: From a randomized trial (NCT01023607), we identified total 97 lipid-rich plaques (39 female, 58 male) from total 69 patients (26 female, 43 male) who were randomized to receive atorvastatin 60mg (AT60), rosuvastatin 10mg (RT10), or atorvastatin 20mg (AT20). Serial OCT and IVUS imaging were performed at baseline, 6-month, and 12-month. We compared the percent change in fibrous cap thickness (%FCT) by OCT and the percent change of percent atheroma volume (%PAV) on IVUS among three statin dose groups in female and male.

Results: The baseline characteristics were similar between female and male except for age (60.0 ± 6.47 vs. 53.1 ± 10.0, years old, P<0.01), and HDL value (54.6 ± 11.6 vs. 46.1 ± 11.7, mg/dl, P<0.01). In female, %FCT was not significantly different among three groups. On the other hand, %FCT was significantly different in AT60 vs AT20 at 6-month and in AT60 vs AT20 and in R10 vs AT20 at 12-month in male. No significant change in %PAV was seen among three groups in both male and female.

Conclusion: Higher dose statin was favorable for stabilizing coronary lipid-rich plaque by increasing FCT in male. On the other hand, female patients need lower dose of statin for stabilizing plaque compared with male patients.

![Figure 12-month %FCT change from baseline](image-url)