INFLAMMATION IS INCREASED IN NON-CALCIFIED / MIXED LEFT MAIN CORONARY PLAQUES AND IS MODIFIABLE BY STATINS: A MULTI-CENTER PET-CT STUDY

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Saturday, March 24, 2012, 9:30 a.m.-10:30 a.m.

Background: Non-calcified or mixed coronary plaques without dense calcification (NCP/MP) are associated with increased atherothrombosis risk. Here we tested the hypothesis that atorvastatin (atorva) results in a reduction in left main (LM) inflammation within NCP/MP.

Methods: Adults with risk factors for or with established atherosclerosis, who were not on high dose statin (n= 83, age 37-78 yrs), were randomized to 10 vs. 80mg of atorva in a double-blinded manner. LM inflammation was assessed with FDG-positron emission tomography (FDG-PET) at 0 and 12 wks, and LM FDG signal was recorded as a target to background ratio (TBR). LM segments were assessed using coronary computed tomography (CTA) and were characterized as having or lacking NCP/MP by a separate investigator.

Results: Complete datasets were available for 42 subjects, of whom 40% had NCP/MP and 60% no plaque or heavily calcified segments (without NCP/MP). LM TBR was higher in segments with (vs. without) NCP/MP (1.97 ± 0.11 vs. 1.69 ± 0.07, p=0.036, fig 1). After 12 wks of atorva, while PET activity did not change across all segments, PET activity was reduced in segments with (vs. without) NCP/MP (Δ TBR = -0.18 ± 0.08 vs. 0.10 ± 0.08, p=0.02, fig 2). Within NCP/MP, atorva 80 was associated with a reduction in TBR within NC/MP (-0.25 ± 0.10, p=0.03), while atorva 10 was not (-0.09 ± 0.12, p=0.69).

Conclusion: We observe a higher inflammatory signal in LM plaques that contain NCP/MP and a reduction in that inflammatory signal within those segments after atorvastatin.