THE ASSOCIATION BETWEEN SPLA2 INHIBITION AND ENDOTHELIAL FUNCTION. A SUB-STUDY OF THE SPIDER-PCI TRIAL

ACC Poster Contributions
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Background: Inflammation is important in the pathophysiology of atherosclerosis and endothelial dysfunction and is seen following PCI. Secretory phospholipase A2 (sPLA2) may be involved in this process and its levels are predictive of cardiovascular events. We sought to evaluate whether endothelial function is impaired following PCI and if inhibition of sPLA2 activity affects vascular tone, endothelial function and coronary flow reserve (CFR) in these patients.

Methods: In the Spla2 Inhibition to Decrease Enzyme Release after Percutaneous Coronary Intervention (SPIDER-PCI) study, patients undergoing elective PCI were randomized to receive Varespladib, an inhibitor of sPLA2, or placebo 3-5 days prior to PCI and for 5 days following PCI. In this sub-study, vascular function was assessed by low-flow-mediated constriction (FMC), and flow mediated dilation (FMD) of the radial artery before elective PCI and the day following PCI. CFR was assessed using a Doppler guidewire during the PCI.

Results: 31 patients were enrolled in this substudy. Baseline and procedural characteristics were comparable in both groups. Troponin I, normal at baseline, was elevated post PCI in more than 50% in both groups. hsCRP increased by more than 100% in both groups following PCI. sPLA2 activity was similar at baseline. Following PCI, sPLA2 activity decreased only in the Varespladip group (2.9±0.9 to 0.5±0.4). FMD at baseline was 3.66±2.45 and 3.37±1.73 with non-significant increase in both groups following PCI. The effect of Varespladib on FMD, adjusted for pre-PCI FMD, was −1.16±1.68, p=0.5. FMC, a measure of resting vascular tone, was not affected by Varespladib (p=0.32). CFR was 2.45±0.66 and 2.77±0.85 in the Varespladib and placebo groups (p=0.36).

Conclusions: Vascular tone and endothelial function are preserved after PCI despite myocardial injury and inflammatory response. Inhibition of sPLA2 activity does not affect endothelial function or CFR.