ELEVATED LEVELS OF OXIDIZED PHOSPHOLIPIDS ON APOLIPOPROTEIN B-100 PREDICT RECURRENT CEREBROVASCULAR EVENTS: A STROKE PREVENTION BY AGGRESSIVE REDUCTION IN CHOLESTEROL LEVELS (SPARCL) SUBSTUDY

Poster Contributions
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Authors: Young Sup Byun, Xiaohong Yang, Bao Weihang, David DeMicco, Rachel Laskey, Joseph Witztum, Sotirios Tsimikas, University of California San Diego, San Diego, CA, USA, Inje University Sanggye Paik Hospital, Seoul, South Korea

Background: Biomarkers to predict recurrent stroke are lacking. Elevated levels of oxidized phospholipids on apolipoprotein B-100 lipoprotein (OxPL/apoB) predict increased risk in patients without and with prior cardiovascular events, but have not been evaluated in patients with prior cerebrovascular events.

Methods: In a random sample from the Stroke Prevention by Aggressive Reduction in Cholesterol Levels (SPARCL) Trial, OxPL/apoB levels were measured in 3017 patients with stroke or transient ischemic attacks within the last 6 months of enrollment at baseline and in 1738 patients at 5-years after being randomized to placebo or atorvastatin 80mg. The change in OxPL/apoB with atorvastatin therapy and the association between OxPL/apoB and recurrent cerebrovascular events was examined.

Results: Patients with recurrent cerebrovascular events had higher baseline levels of OxPL/apoB than those without events (17.9 vs 17.3 nM in median, p=0.019). Baseline levels of OxPL/apoB predicted recurrent cerebrovascular events (hazard ratio, 95% confidence interval (HR, 95% CI) 1.54 (1.18-2.00, p=0.0014) comparing the highest quartile to lowest quartile. This HR was 1.81 (1.27-2.58, p=0.0011) in the placebo group, and 1.26 (0.85-1.87, p=0.252).

Conclusion: Elevated OxPL/apoB levels predict recurrent cerebrovascular events in patients with prior stroke or transient ischemic attack and high dose atorvastatin significantly decreased this risk.