**BORDERLINE HIGH LDL-C AND ENDOTHELIAL VASOCONSTRICTOR TONE**

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Borderline-high low density lipoprotein cholesterol (LDL-C) (130-159 mg/dL) is associated with a two-fold increased risk of coronary heart disease. We recently demonstrated that endothelium-dependent vasodilation is impaired in adults with borderline-high LDL-C compared with adults with optimal/near optimal LDL-C

(<130 mg/dL). Endothelin (ET)-1 is a potent vasoconstrictor peptide released by the endothelium that contributes to endothelial vasomotor dysfunction and increased coronary risk. Currently, it is unknown whether ET-1 system activity is elevated in adults with borderline-high LDL cholesterol. This study determined whether borderline-high LDL-C is associated with increased ET-1 mediated vasoconstrictor tone. Forearm blood flow (FBF; plethysmography) responses to intra-arterial infusion of ET-1 (5 pmol/min), selective ETA receptor blockade (BQ-123: 100 nmol/min for 60 min), and non-selective ETA/B blockade (BQ-123 + BQ-788: 50 nmol/min for 60 min) were determined in 40 middle-aged and older adults: 20 with optimal/near optimal LDL-C (11M/9F; age: 59+2 yrs; BMI:27.2+0.8 kg/m2) and 20 with borderline-high LDL-C (9M/11F; age: 59+2 yrs; BMI: 26.3+0.9 kg/m2). Subjects were free of other cardiometabolic risk factors. FBF response to ET-1 was not significantly different between the two groups. Both groups demonstrated a 8% (NS) reduction in FBF to ET-1. BQ-123 and BQ-123+788 elicited a modest, but significant, increase in FBF (~15-20%) in each group. Importantly, there were no group differences in the FBF response to ET-1 receptor blockade. In summary, borderline-high LDL-C is not associated with increased ET-1 mediated vasoconstrictor tone. Elevations in ET-1 system activity may not contribute to the increased vascular risk in adults with borderline-high LDL-C.