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### **USE OF SKIN TISSUE CHOLESTEROL IN COMBINATION WITH HDL IN RISK ASSESSMENT OF ANGIOGRAPHIC CORONARY ARTERY DISEASE AND PREVIOUS MYOCARDIAL INFARCT.**

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Skin tissue cholesterol (SkinTc) has been correlated with coronary artery disease (CAD) as measured by exercise treadmill testing and coronary angiography. Accordingly, this marker may have utility in global risk assessment for CAD. We determined SkinTc levels in 633 individuals (mean age 63±11, 67% male) scheduled for coronary angiography who also had serum lipids determined (mean total cholesterol 189±40, LDL-c 116±32, HDL-c 42±14). HDL-c was categorized as low if <40 mg/dL and SkinTc was scored high if >109 units (>1<sup>st</sup> tertile). SkinTc and HDL-c were evaluated individually and in combination relative to angiographic burden (defined as additive score for 3 coronary vessels with each scored as 0 if no stenosis, 1 if <50% stenosis or 2 if ≥50 stenosis) and history of myocardial infarct (MI). Angiographic burden was higher in individuals with either elevated SkinTc (2.61±2.22) or low HDL-c (2.88±2.04) relative to subjects with neither risk factor (2.27±2.04). The highest angiographic burden was seen when both risk factors were present (3.39±1.95, p<0.001 overall and p=0.04 vs low HDL-c alone). Similarly, incidence of prior MI was higher in subjects with either elevated SkinTc (27.8%) or low HDL-c (33.3%) relative to those with neither risk factor (18.6%). The highest incidence of prior MI was seen in subjects with both risk factors (50.2%, p<0.001 overall and p=0.006 vs low HDL-c alone). Thus, SkinTc significantly discriminates risk of angiographic disease and prior MI in the setting of low HDL-c. This simple, non-invasive test could be used clinically to facilitate treatment decisions in patients with low HDL-c.

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